Swiss Centre for Development Cooperation
in Technology and Management

HCA -

The Household-centred Approach

- ***a new way to increase the sustainability of water and sanitation projects?***

A report on the 16th AGUASAN Workshop,

June 26 to 30, 2000

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1 Introduction to the Report

This report is about a concept and a workshop.

The concept is called the “Household-centred Approach” and it concerns the way we plan development projects. The basis is that planning should start by considering the needs and perspectives of the smallest possible unit, and should seek to solve problems as close as possible to this level. This report explains this idea, describes how it can be applied to environmental sanitation in urban and peri-urban contexts, and investigates whether it can usefully be applied to various other kinds of projects.

The Workshop was subtitled with a question:

A new way to increased sustainability of water and sanitation projects ?

The Household-centred Approach (HCA) is new, and so there were many questions and comments about its requirements and implications, and how it could be used in various situations. These reactions have been recorded in this report, because they will provide useful guidance for trainers and resource persons who are preparing to explain the HCA to other groups.

The Workshop, one of a series that started in 1984, was held in Switzerland in June 2000 and attended by 30 people from 17 countries. The aim of the Workshop was to consider how the Household-centred Approach could be employed in different situations and for different purposes, using four diverse case studies as examples. Considerable effort had already been devoted to understanding how the Household-centred Approach can be applied to environmental sanitation in urban and peri-urban areas. The case studies and experience of the participants allowed consideration of how effective the HCA might be in rural contexts and for water supply. The driving force is the desire to find solutions and approaches that are sustainable, achieving lasting improvements for the communities that currently have inadequate water supply and sanitation.

The methods used in these workshops have developed and improved over time and could be applied with great benefit by organisers of similar workshops elsewhere, and so brief descriptions of the structure and procedures of the Workshop are included in Chapter 2. The discussions and presentations made by the participants are summarised or, in some cases, presented in their original form.

The report contains a number of annexes. Most readers are likely to be interested by at least some of them. However, it is not necessary to read these to follow the main theme of the report.

This document will be of interest to all who are involved in providing safe and reliable water supplies and environmentally sensitive sanitation systems to the less prosperous households on this planet. It will be especially useful to professionals who are concerned about the failure of conventional "top-down" approaches to development planning. It should also be of benefit to those with interests in other aspects of development, and to

planners of workshops who are concerned to take the maximum benefit from the potential synergy that such occasions provide.

The Workshop was sponsored by the Swiss Agency for Development and Co-operation (SDC) and their generous support is gratefully acknowledged. The contributions of particular individuals are acknowledged in Annex 1.

This document is not the final word on the subject, but a contribution to the ongoing sharing and evolution of ideas and understanding. Therefore, the workshop organisers welcome correspondence from readers with comments, questions, suggestions for improvements, and relevant case study experience. Names and addresses can be found in Annex 1.

Synergy

2 The Workshop – Objectives and procedures

2.1. Background and objectives of the Workshop

2.1.1. Background Information

(Adapted from the introduction to the Workshop that was written by Karl Wehrle and Roland Schertenleib.)

The previous Aguasan workshop (in 1999) looked into the potential of private sector involvement in water supply and sanitation services. Participants concluded that the private sector has a substantial role to play, and that this role must increase. But it was also recognised that water must continue to be regarded as a public good so that even the poorest sectors of society have sufficient access to this basic need. Private sector involvement can become very efficient and effective if there is a balance between the risks involved and the benefits obtainable – on one side a regulatory framework that defines the rules of the game, and on the other side a favourable environment for the private sector operator. We also became aware that the system will only become sustainable if the services provided respond to the demands of the users and suit their management capacity (institutional and economic) to operate and maintain the services.

In many instances, efforts have been made to decentralise the functions of central government and to give local communities the responsibility for running their own services. Demand-responsive approaches are advocated, requiring the choice for technologies to be in the hands of the people concerned. Unfortunately, the delegation of responsibilities has not always been accompanied by the simultaneous transfer of authority (such as for levying fees for services). In many instances the choice of technology resembles a farce, since options are limited because of rigid technical standards set by the authorities, or simply because users lack knowledge about alternatives. As a consequence, in many cases services have not improved; indeed, they have deteriorated.

In view of such situations, the workshop preparation team looked for practices which provide answers to these challenges. The historical development of water supply in Switzerland shows us that many successful community-managed installations started at the level of the individual household. There was no outside agency to tell the community what was good for them, but individual households took the initiative. Their common interest led them to join forces to solve problems which were beyond their individual capacities. Thus, step by step, systems developed. The authorities at higher levels became involved by providing the legal framework and other forms of backup. It must be remembered that this was a very slow process, developing over an extended period of time. Although the pressure to solve today's challenges does not allow such a slow pace, the success of this approach shows the importance of the household as motivator and planner.

Coincidentally, the Environmental Sanitation Working Group (ESWG) of the Water Supply and Sanitation Collaborative Council (WSSC) was proposing a new model for promoting

Environmental Sanitation. This model takes as its fundamental premise the need to put people and their quality of life at the centre of any environmental sanitation system, and it suggests that the first steps to solve problems should be taken at the lowest possible level (i.e. by the household). The new approach can be visualised as a set of concentric circles with the household at the centre. The planning process begins at the household level – the level at which consumers decide what level of service they want and can afford. To make such decisions they must have comprehensive and usable information about costs, benefits and operational responsibilities. The next circle of activity is the neighbourhood or community, to which the household passes on those functions that it is not itself able to undertake. The community, in turn, passes on those responsibilities it is unable to meet to the next circle, and so on. In passing responsibilities from one circle to another, the principle to be followed is that only tasks beyond the capacity of one circle are handed on to the next, moving outwards. A more detailed presentation of this Household-centred Approach is provided in Chapter 3.

Two apparently similar abbreviations will be used throughout the report – HCA and HCES.

- "HCA" refers to the Household-centred Approach in a general sense. This Approach could be applied to the planning of a variety of development issues, including water supply and sanitation, but also to other aspects such as forestry or road maintenance.
- "HCES" denotes the Household-centred Approach applied to Environmental Sanitation. (An explanation of the term "Environmental Sanitation" is provided in Chapter 3.) This is therefore an application of the HCA, and the one that had been given most attention.

2.1.2. The objectives of the Workshop

The overall aim of the Workshop was to assess the value of the Household-centred approach in the planning of projects in rural areas and in the planning of water supply projects.

Whilst a full assessment would require extensive field trials, much can be learned from considering the Approach in the context of ongoing projects, and providing the opportunity for development professionals with a range of backgrounds and experiences to discuss the Approach and its implications.

In more detail, the objectives were to find answers to the following questions:

- How can the Household-centred Approach for Environmental Sanitation (HCES) be applied also to drinking water supply?
- Can HCES, which has primarily been developed for the use in urban and peri-urban areas, be adapted so that it can be used in rural areas?
- How does the Household-centred Approach (HCA) affect the social, institutional, financial, technical and norms/knowledge strategies of SDC's water and sanitation policy?

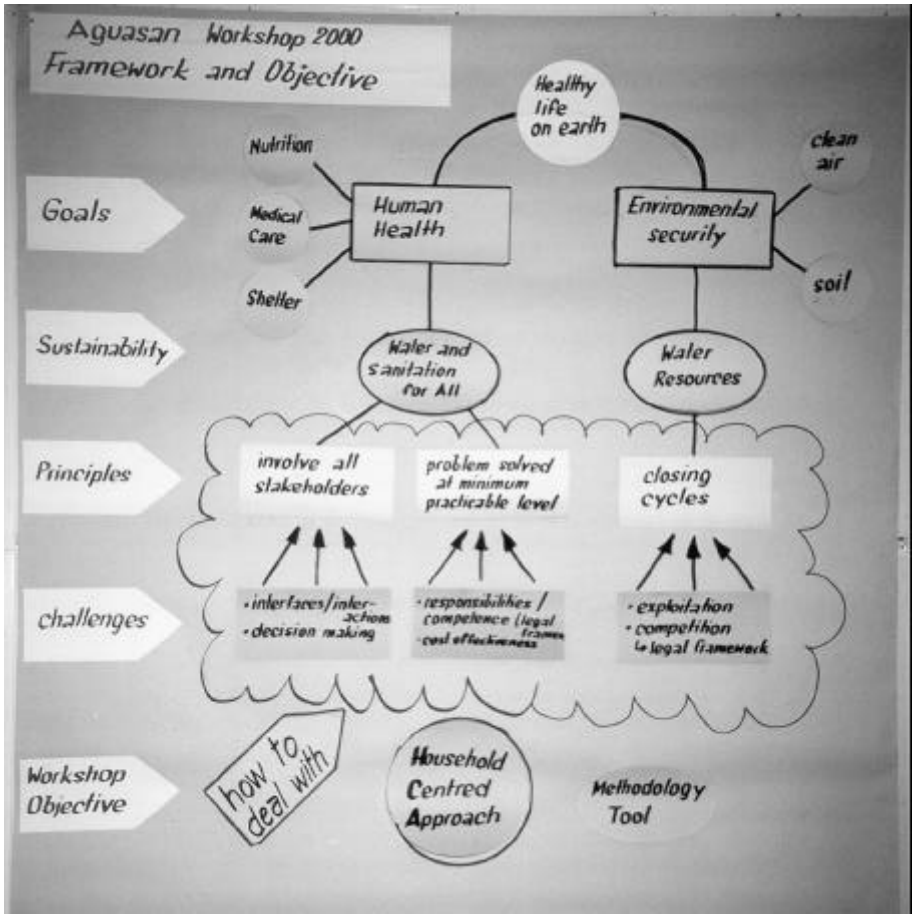
- How can it be decided whether any particular problem or issue can – or should – be solved at household level or at higher levels? How can the various stakeholders actively be involved and motivated?
- How do stakeholders interact within a specific zone (or level) and how are the interfaces between different zones regulated and functioning?
- To what degree does the HCA enhance the sustainability of the services?

2.2. Workshop procedures

2.2.1. Introduction

Participants were welcomed to Rotschuo, one of the most beautiful corners of Switzerland, by Karl Wehrle of SKAT. He explained that two-thirds of the participants were newcomers, bringing new ideas, and one third had been to at least one previous Aguasan workshop, and so were able to provide continuity. More than half had come from the field, and they were charged with ensuring that discussions kept in touch with reality. The names and addresses of all participants are in Annex 1, and the programme of the Workshop can be found in Annex 3.

Karl Wehrle then introduced a poster which described the framework within which the Workshop would be operating. This poster was referred to on several occasions during the following days. It is reproduced in Photograph 2.1.



Photograph 2.1 Framework and Objective of the Workshop

2.2.2. Outline of the programme

a) Introducing the HCA

The next step was to explain the Household-centred Approach and ensure that the participants understood the key elements of this Approach, both in its general application and as applied to Environmental Sanitation. To meet these needs a presentation was made by the principal Resource Person – Roland Schertenleib of SANDEC – who concluded the session with an opportunity to raise questions and comments. The presentation is summarised in Chapter 3.

Following brief introductions to four case studies, participants were invited to select one that they wished to follow in more detail. The case studies are summarised in Chapter 4. They provided a good representation of a range of projects, as the following list shows.

Title of case study	Country	Start	Outline description
Rural water supply in Northern Mozambique	Mozambique	1980	water supply rural well established
Banja Luka Regional Water Supply and Sanitation Programme	Bosnia and Herzegovina	2000	water supply mainly urban, started recently
Self-Reliant Drinking Water Support Programme	Nepal	1992	water supply rural well established
Community Action Programme, Faisalabad	Pakistan	1996	sanitation urban relatively new

Not all questions about the HCA had been answered in the initial session, and there were reservations about the Approach. Therefore, before participants divided up into groups to consider the case studies in more detail, there was a follow-up session on HCES, again presented by Roland Schertenleib. He reacted to some of the questions and comments that had been submitted at the end of his previous talk, and used two examples to explain the benefits of HCES. The content of this session also can be found in Chapter 3.

b) Working groups – case studies and the HCA

The participants were then asked to select which case studies they would like to follow, indicating a first and second choice. On this basis, and following some negotiation, participants were divided into four equal working groups, each group to learn about one case study in more detail. The assignments that the groups were given in the four working sessions are reproduced in Boxes 2.1 to 2.4.

Box 2.1

1. Get acquainted with the cases.

- The resource person presents the case to his/her group. (1 hour)
- Your visualisation should show the levels involved in your case.
- Identify the areas of observation, mark them on your diagram and give the reasons why you chose each one.
- Case, areas of observation and reasons must be visualised so as to be understood by the plenary.

The areas of observation were selected parts of the HCA Diagram (Figure 3.2) that indicated which development policy fields (institutional, economic, technical etc.) and which zones or levels (household, village, district etc) were being considered. Figure 4.3 shows an example of such a visualisation. It was necessary to select these areas of observation, because there would not be time to study every aspect of a case study. The discussion leading to agreement on the areas of observation was very useful in transmitting a deeper understanding of the case to the members of the working group.

The second working group session was structured using the questions and instructions in Box 2.2.

Box 2.2

2. Towards a shared understanding of the HCA

What are the requirements/conditions for the Household-centred Approach to be effective?

- Keep in mind the various levels.
- The five fields of the sector policy might serve as entry points.

Consideration of the requirements in this way helped the participants to think carefully about the content and the new features of the Household-centred Approach. A list of the points that were suggested by the groups can be found in Section 3.7.

It is easier to produce a long list than a short one. Selecting the most important or most relevant requirements from a long list forces one to consider the items themselves and the context in which they are to be applied. Box 2.3 shows the next stage for the working groups, in which the groups were asked to identify the most important requirements and consider how difficult they would be to meet or realise.

Box 2.3

3. Assessing the requirements

Question

Within the selected areas of observation, which are the most crucial requirements for the HCA to be effective?

Task

List the 5 to 7 most important and assess them according to the following example.

Requirement	already met	easy to meet	possible to meet	difficult to meet
1.				
2.				
3.				
4.				
5.				
.				
.				

Tables 4.3 and 4.10 show two formats for outputs from this exercise.

The main working group session, lasting nearly the whole afternoon on the penultimate day, was devoted to inserting the newly acquired understanding of the Household-centred Approach into the situation of the case study, according to the guidelines provided by the questions in Box 2.4.

Box 2.4

Towards implementing the HCA

Questions

- What elements of the case (in planning and implementation) reflect the principles of the HCA?
- What would be different in your case if the programme/project had been planned according to the HCA?
- What are the necessary actions for implementing the HCA in your case?
- Would it be possible to introduce the HCA partially or must it be taken as a whole package? Explain.
- Does the partial implementation of the HCA improve the overall situation in your case? How and why?

Towards the end of the afternoon, the groups were required to prepare their ideas for presentation to the other participants on the following day. Most of the groups built up their posters on large sheets of paper by writing their ideas on cards and fixing them in appropriate places. Most of Chapter 4 is devoted to the presentations that were made by the working groups and the discussions that followed.

c) *Other aspects of the programme*

A field trip was arranged to see a village water supply system in Switzerland where the participants could learn how it had developed from individual household water supplies into a community-managed system. This visit enabled the participants to examine a process which had been evolving over many decades and which was in many ways similar to the Household-centred Approach. More information about this visit can be found in Annex 4.

Each morning was started with a light-hearted review of the highlights of the previous day. The standard of these presentations was very high. They provided a hilarious start each morning, but also helped to remind the participants of the sessions of the previous day.

Photograph 2.2
The weather was not completely dry during all of the site visit…

…as we were reminded during the review of the day that was presented the next morning
Photograph 2.3

A variety of stimulating methods was used during the course of the Workshop to provide variety and effective interaction. For example, groups presented their interim findings to other groups by the “Carousel” method. Each group prepared a display of its ideas and conclusions. Carousel groups, each comprising members of all working groups, toured the various displays, and explanations were provided by the designated member (from the particular working group) of each Carousel group. Since there were four Carousel

groups, four members of each working group had the opportunity of explaining their discussions to other participants.

In addition to the formal programme relating to the Household-centred Approach, there were some informal evening sessions during which a range of projects and initiatives was presented. The topics that were covered were:

- Mvula Trust, South Africa – Learning and Moving Forward
- GTZ activities in ecological sanitation
- Solid waste management programme in Khulna, Bangladesh
- Family latrines in Benin
- Low-cost terra cotta water filter for domestic applications
- Development of the rag-picker community in Faisalabad

Summaries of these presentations are provided in Annex 7.

2.2.3. Operating principles

The Workshop was guided by the facilitator according to the following principles:

- to proceed in an open and participatory way – with ample opportunity for discussion, questions, and comments regarding the steering of the Workshop;
- to review the progress of the Workshop regularly – to maintain a clear awareness of the logical progression of the Workshop process;
- to include and discuss contributions from specialists – since the participants had a range of skills and geographical backgrounds;
- to make a reality check of the Workshop findings in each participant's own field of activities – in order to try to assess if the ideas and proposals were realistic and feasible in situations known to the participants;
- to adapt the methodology to the subject, working in groups and in plenary sessions;
- to allow sufficient time for informal discussions and exchange of experiences,
- to use visual aids and a variety of teaching materials – with encouragement to express concepts in graphical forms.

2.2.4. Evaluation and conclusion

On the last day of the Workshop, each working group presented its findings and answered questions from other participants. Then, in small groups, participants were invited to prepare a list of personal conclusions from the Workshop, and also write down possible *next steps* in the personal context. These are presented in Chapter 4. Participants were asked to make suggestions for topics for future workshops; they have been reproduced in Annex 9. Comments about the Workshop were also invited, and they are shown here in Box 2.5.

Box 2.5

Participants' comments about the Workshop

I really liked:

- the facilitation, organisation & resources
- the friendly atmosphere, candid discussions, and having enough time;
- the venue – there were no distractions;
- It was a challenge to have a new look at existing projects
- the proportions of lectures, plenary and group work
- the field trip was very relevant
- the composition of the participants (having different views and backgrounds)
- the Carousel method;
- the numbers were optimum 30 participants, 4 case studies, 7 per group;
- the meal arrangements allowed a chance to meet different people at each meal;
- the openness to admit mistakes and problems;
- good food;
- the mix of levels of participants;
- the professional moderation;
- the absence of cell phones.

Suggested improvements for next time:

- Documentation on cases studies to be given in advance.
- More information about the accommodation arrangements to be given beforehand.

In the concluding session, the principal Resource Person, Roland Schertenleib, said that he was pleased with the Workshop. He also confided that personally he had learned how difficult it is to communicate a complicated message – in this case presenting the HCA. Therefore, he was pleased that participants had shown that they had understood the main ideas of the Approach, reflecting a holistic view in their discussions of the cases. The main points of his concluding comments are summarised in Chapter 5.

3 What is the *Household-centred Approach*?

– an introduction by Roland Schertenleib

3.1. HCA or HCES?

This chapter is concerned with explanations of the Household-centred Approach (HCA). It is largely a summary of presentations by the principal Resource Person, Roland Schertenleib, with the addition of points raised in discussion by the Workshop participants. The Household-centred Approach has so far been applied mainly to Environmental Sanitation (to be defined later on this page), and Dr Schertenleib used this application as an example to convey the essential ideas of the Household-centred Approach. HCES denotes the Household-centred Approach applied to Environmental Sanitation.

3.2. The context

This section is a summary of the introduction to the Workshop theme. A background paper providing a more detailed introduction, that had been given to the participants before the start of the programme, can be found in Annex 2.

The HCES is a baby. The baby can partly be recognised – it has some features we have seen elsewhere, but it is a new creature that needs to grow and mature. It was conceived when the Water Supply and Sanitation Collaborative Council asked the Environmental Sanitation Working Group to define a new policy. This baby will grow and develop as it is discussed and used in connection with actual projects.

The situation with regard to sanitation is getting worse. It is estimated that 3 billion people do not have access to a satisfactory means of excreta disposal, and this number is increasing, in spite of current efforts to provide sanitation. If we continue with the current approaches and methods it will continue to increase. A change is needed. We need a new approach, and the HCES method has been developed to meet that need.

Environmental sanitation is defined as

Interventions to reduce peoples' exposure to disease by providing a clean environment in which to live, with measures to break the cycle of disease. This usually includes

- disposal of or hygienic management of human and animal excreta, refuse and wastewater,
- the control of disease vectors, and
- the provision of washing facilities for personal and domestic hygiene.

Environmental sanitation involves both behaviours and facilities which work together to form a hygienic environment.

WSSCC Working Group on Promotion of Sanitation

Environmental sanitation includes

- Management of human excreta and wastewater
- Management of municipal solid waste
- Drainage of stormwater

Water supply should be integrated with environmental sanitation because of the hygiene-related factors mentioned in the definition above, and because the supply of water can cause environmental problems if there is inadequate drainage.

The main deficiencies of the conventional approaches in urban environmental sanitation are:

- They are generally too expensive for economically less-developed countries.
- There is often a lack of competent institutions and manpower for designing, constructing and operating these conventional systems.
- Serious environmental problems are caused by treatment deficiencies.
- There is a lack of synergies between excreta disposal and wastewater management, solid waste management and stormwater drainage.
- They are ecologically not sustainable because of their
  - high energy consumption,
  - waste of valuable nutrients, and
  - unknown effects on the environment because of the trace elements and hormones that are discharged in WWTP effluents.

These factors also make conventional systems not sustainable in industrialised countries.

Why is there a shortfall in the provision of sanitation? Some of the reasons are

- Lack of political will
- Low prestige and recognition for professionals in the field
- Poor policy, at all levels
- Poor institutional frameworks
- Inadequate and poorly-used resources
- Inappropriate approaches
- Neglect of consumer preferences
- Ineffective promotion and low public awareness
- “Women and children last” – a failure to consider their needs.

The main objectives of environmental sanitation are to create and maintain conditions whereby:

- people lead healthy and productive lives;
- the natural environment is protected and enhanced.

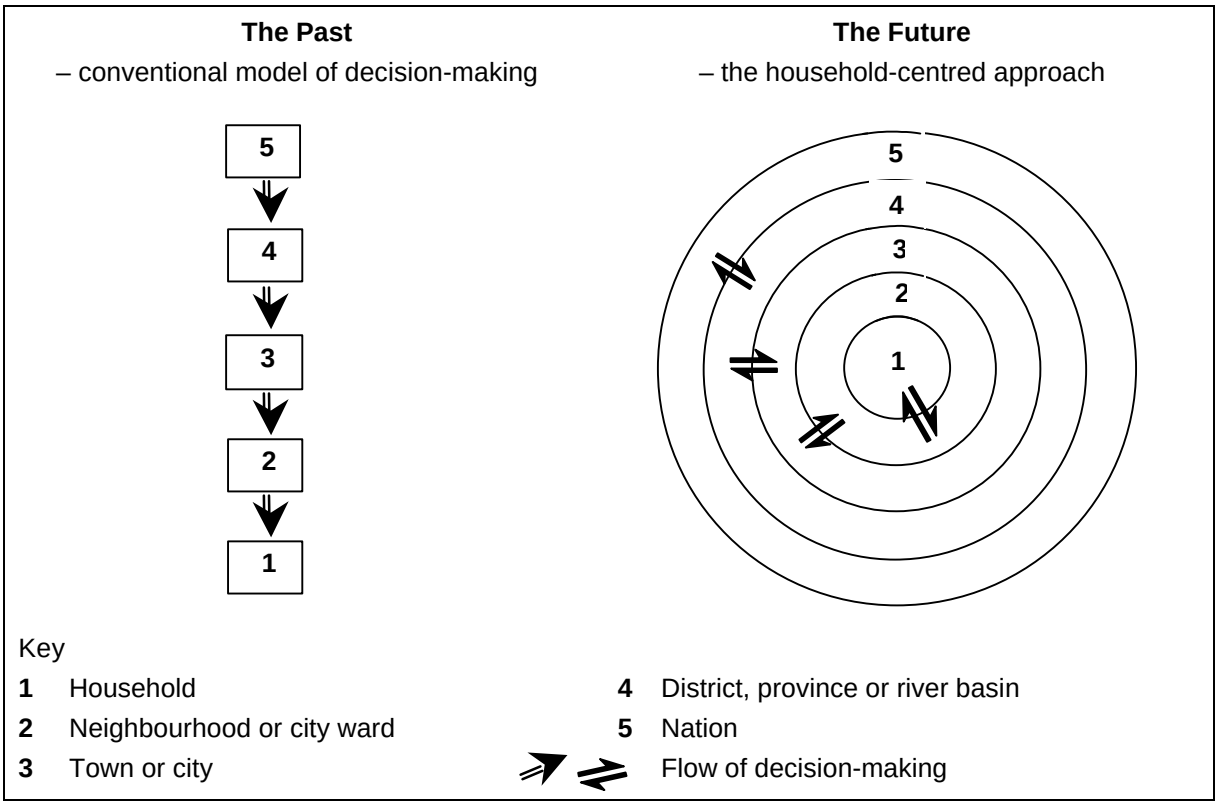
The *universal goal* of environmental sanitation can be expressed as providing water and sanitation for all within a framework which balances the needs of people with those of the environment in order to support healthy life on earth. This requires the promotion of services which

- focus on people,
- meet basic needs,
- serve the unserved,
- improve public health,
- reduce the impact of poverty,
- are responsive to demand,
- are sustainable socially, institutionally, technically, ecologically, economically and financially,
- respect the need to preserve and protect the resource base, and
- protect or enhance ecological integrity.

3.3. The Household Centred Approach applied to Environmental Sanitation (HCES)

The conventional hierarchy of decision-making is contrasted with the Household-Centred Environmental Sanitation model (HCES model) in Figure 3.1

Figure 3.1 Decision-making systems



In the Household-centred Approach, the flow of decision-making is in both directions – not only out from the centre, but also in towards the centre. For example, waste collection

in densely populated areas – the primary collection system at neighbourhood level influences what must be done at household level.

The Principles of the HCES approach can be summarised in the three following points

- The household is the focal point of environmental sanitation planning
- There should be a circular system of resource management
- Environmental sanitation problems should be solved as close as possible to where they originate.

Conventional water and nutrient systems in industrialised countries are linear – starting with the fertiliser factory and ending at the wastewater treatment plant. In Latin America only 2% of wastewater is treated, so the linear system not only fails to utilise nutrients but also causes pollution and health risks. The HCES approach seeks to recycle both nutrients and water.

Problems should be solved as close as possible to the source. Problems (such as wastes requiring treatment) should only be exported to the next zone (usually moving outwards in the circles shown in Figure 3.1) if there are good reasons for doing this. As much as possible the first priority should be to solve problems in the zone where they are created. (For example, conventional sewerage and wastewater treatment systems are normally regarded as the ideal, but they convey the wastewater to another zone – wastewater from the neighbourhood being conveyed to a city-wide site. The HCES approach instructs us to first consider how the wastewater might be managed and utilised in the household where it is generated, or, if this is not feasible, in the local neighbourhood. There is a need for more research into decentralised wastewater treatment systems.)

HCA means
The thinking *starts* at the household level.
The *solution* to the problem might be at any level

The advantages of the HCES model are that it

- encourages households to look at environmental issues in an integrated way,
- balances human and environmental needs and so is likely to be more sustainable than any model currently in use,
- it can be applied regardless of political system, but in order to be sustainable there is an implied commitment to decentralised, participatory structures, and
- the basic concept and approach of the model is applicable in industrialised as well as to developing countries. (Currently industrialised nations are telling developing nations that centralised wastewater collection and treatment systems are not appropriate and not sustainable, and that the developing nations should seek to implement on-site systems. The developing nations regard anything less than full conventional systems as second-class, seeing that industrialised nations have sewerage in all their towns and cities, and consider the advice that favours on-site systems as hypocrisy – “Do what I say, not what I do”. Since the HCES approach recommends the same objectives for all situations, whether in industrialised or in

developing countries, there is a unity between North and South, the basic principles and approach being valid for all.)

The SDC Sector Policy[1] defines five related fields which interact towards sustainability of water supply and sanitation systems. These fields are:

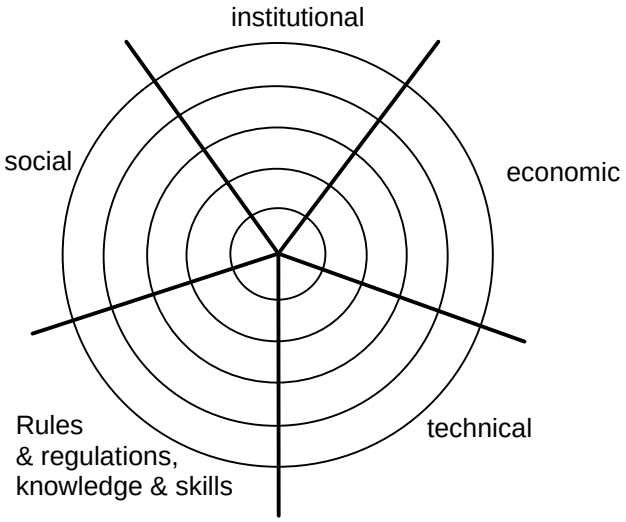
- the social field, including cultural aspects, motivation and community participation,
- the institutional field, covering the division of tasks between Government, other institutions and the community,
- the economic field, covering all aspects of financing and resource management,
- the technological field, and
- the field of rules and regulations, and knowledge and skills, covering rights and responsibilities, and training and transfer of know-how.

Figure 3.2 shows how these fields can be represented in a useful way on the HCES diagram. Although useful, this representation is not perfect, because the dividing lines are not always clearly defined and each field has an interface with each of the other fields, not just with the adjacent policy field as shown in the figure. (In other words, there is no special order for the arrangements of the policy fields, since all the interfaces should be considered). Nevertheless, this representation can be a very helpful planning tool. As is shown in Chapter 4, Workshop participants located organisations and initiatives according to the concentric zones and the sectors that they occupied, and showed decision-making processes and inputs using arrows. This method of representation helped to clarify the roles played by actors in the cases considered.

External support agencies (ESAs) were shown as clouds which straddled the boundaries shown in the diagram.

[1] *SDC Sector Policy on Water Supply and Sanitation*; Series SDC Sector Policies, May 1994

Figure 3.2 The five SDC sector policy fields integrated into the HCES diagram



Following this presentation, Workshop participants were asked to react to what they had heard with questions and comments. They were also asked their views on how the HCES approach might apply to water supply and rural sanitation (since it had mainly been used in the context of urban sanitation). The comments and questions were discussed later and these exchanges are reviewed in Section 3.6.)

3.4. Two examples of applying the HCES

a) *Solid waste management for a city of 200,000 people.*

The conventional approach would be to design a city-wide collection system and a sanitary landfill. The HCES approach would involve first considering what could be done with the solid waste within the household, such as preparing compost in the yard for use by the household. If this were not feasible it might be possible to set up decentralised community composting and recycling schemes in some areas – such a scheme would need to have a collection service and an organisation to collect fees and manage the system. Even if most of the city's waste were to be taken to a central disposal facility, different neighbourhoods might opt for different collection systems (different frequencies of collection, for example).

b) *Excreta disposal for a city.*

The conventional approach would be a sewerage system taking wastewater for treatment at a central facility. The HCES approach would be to first consider excreta disposal at household level, perhaps with a dry latrine or other on-site sanitation system that would produce nutrient-rich, safe organic material for enriching the soil. If this were not feasible, decentralised treatment systems would be considered. There would be cases where a

central treatment plant would be selected, in spite of the extra costs involved, and the high water demand. It is often considered that water-borne sewerage is safer in heath terms, but this is not true if on-site facilities are well designed and maintained. In dry climates households may wish to use wastewater for irrigating their gardens and plots.

3.5. Summary

Roland Schertenleib first reminded participants of the goals mentioned in Section 3.2, and stated that he was investigating the hypothesis that the HCES model is a better approach than others in current use.

The need is not that we make minor adjustments to current approaches, but instead we need a radical re-think. Sometimes we may be trying to optimise the wrong solution rather than ensuring that our fundamental starting points are sound.

At the time of the Workshop the Household-centred Approach had not been applied fully and systematically, though elements of the approach had been used.

The participants were reminded that one of the main features of the HCES approach is that the thinking starts at the household level. This should be the "default setting" of our thinking. We should normally start thinking and planning at the household, whereas currently we usually first think of large centralised solutions. This does not mean that centralised solutions are never considered – the solution that is finally selected could be at any level from household to national.

Another important principle is that there should be closed cycles for nutrients and water; solutions should be ecologically sound. Some proponents of ecological sanitation argue that faeces should never be mixed with water, but this restriction was seen as too dogmatic since there are situations when waterborne sewerage is appropriate.

HCA means:

- The thinking starts at the household level
- The solution to the problem might be at any level.

3.6. Discussion of the Household-Centred Approach

Questions and comments were put forward by Workshop participants, and discussed by the principal Resource Person, Roland Schertenleib. The following is a summary of this discussion.

- *The HCES is complex and time-consuming*. The need to take time to inform households and discover their opinions was agreed, but the potential benefits make this investment worthwhile. Time must be invested in informing households (much more than in conventional approaches), but because the dependency on

outside financial help for technical implementation is less, there is a greater chance that the rate of coverage of sanitation services can be increased. Initially progress may seem slow, but as systems for passing on information are developed, the coverage can increase more rapidly, as the rate of coverage by HCES overtakes implementation by conventional methods. The HCES is a long-term vision, and one of the problems is that politicians usually want solutions in the short term. Conventional approaches need large injections of external finance; the HCES needs more social involvement but is less dependent on external finance.

- *Why limit the Household-centred Approach to water supply and sanitation?* There is no need to limit it to these fields. Indeed the London School of Hygiene and Tropical Medicine has recommended that this approach be used for health education.
- *Households may not want a household solution – for example, households may prefer a centralised sewerage system. Households may not want what we want them to demand.* It is important to explain to households what the options are, including the cost implications. If households are asked for their opinions without such information being available it would be expected that they would always ask for conventional solutions.
- *What are some of the requirements of the HCES?* It requires a change of behaviour, regulations to ensure quality control, and training and education so that households can make informed decisions. (More requirements are included in section 3.7.)
- *How are the roles of stakeholders defined?* This will become clear in the consideration of the Workshop case studies.
- *Are we considering HCA or HCES?* HCES is the application of the HCA in the field of environmental sanitation.
- *How is the term "household" to be understood in connection with institutions, commercial operations and apartment blocks?* The household can be defined as the smallest cell of decision. In peri-urban areas, which are the main focus of the HCES at present, this problem does not arise since most households live in individual dwellings. In this sense "Household-Centred Approach" is not an ideal name, and suggestions for alternative names will be received gratefully.
- *How can the HCA be applied to water supply?* A typical per capita urban demand is considered to be 100 litres per day, yet of this only 10 litres need to be of good quality. One example of the Approach would be to supply each person with 100 litres of poor quality water and require each household to treat 10% of this for drinking and cooking.
- *How is the HCES different from a good participatory approach?* NGOs have used participatory techniques to set up good community-based schemes, but often these schemes fail because of the poor interface with the outer circles. For example, many good schemes for primary collection of solid waste have had problems be-

cause there is no good secondary collection or disposal service. The links across zone boundaries are very important in HCES.

- *Will market forces exclude consideration of environmental factors?* There is a risk that environmental factors will be ignored, so mechanisms are needed to prevent commercial pressures from sidelining environmental issues.
- *At this stage we must not concentrate too much on problems and details, but focus on the vision and the whole picture, and think freely.* Yes, we need "out-of-the-box" thinking – a new approach to the old problems.

Other comments and questions that followed the introductory presentation were:

☺ It is a holistic and comprehensive approach

☹ There may be a tension with the DRA (Demand-responsive approach).

☹ The training and education that are needed will require a massive input of resources.

☹ Egoism, laziness and the lack of a global view will reduce the effectiveness of HCA.

☹ The approach is highly dependent on the regulatory framework and enforcement capacity at all levels. It may be easy to implement the HCA at project scale, but very difficult at the national level.

😐 External support agencies could be seen as the 6th circle.

😐 The capacities and willingness of stakeholders at all levels must be taken into account.

😐 The private sector and civil society must be considered at all levels.

😐 We should consider the impact of human behaviour on the HCA.

😐 It will require a change in the direction of the flow of money.

? How will the external support agencies make contact with the different levels?

? What are the roles of the stakeholders in the different zones, how will these roles be defined, and how can co-ordination between them be ensured?

? With the decentralisation of wastewater treatment and solid waste disposal functions, how can we ensure that satisfactory pollution control standards are met and that resource recovery is promoted?

? What are the implications for people working in the water and sanitation sector?

? How can the links between the different levels be assured – e.g. between NGOs and CBOs, and between communities and district and local government?

3.7. Requirements for effective planning with HCES

Participants, working in groups, were asked to suggest requirements for effective application of the Household-Centred Approach. A long list was developed. The points have been grouped, as much as possible, according to the five fields of the SDC Sector Policy. The list, with a few words of explanation, follows.

3.7.1. Institutional aspects

For successful use of the Household-Centred Approach, the following institutional factors are thought to be important:

- Co-operation instead of competition (between sectors or ministries). Whilst the lack of co-operation is sometimes deliberate, it is often due to inadequate communication. It is important that all agencies involved are concerned to operate in a household-centred way, otherwise householders and others in the inner zones will become very confused.
- National and donor policies should be favourable. Donors and national governments may set timetables that are too rushed to allow effective transfer of information to the household level, and to give an opportunity for householders to make and communicate their decisions.
- Clear definition and understanding of the roles of the various stakeholders. Since the planning concept is new, there will be a need for clear definition of roles and responsibilities, and a readiness to review them after a short time in the light of experience.
- Mechanisms of “upward delegation”. Local organisations are accustomed to receiving information and orders from higher levels in the bureaucratic hierarchy, but with the HCA it is necessary for information to flow from lower levels to higher levels (or, from the inside of the circle towards the outside). Mechanisms and procedures will be needed for this “reverse” flow of information to happen effectively, and in some cases a radical change of attitude may be required for senior bureaucrats to act on the ideas and recommendations of their juniors.
- Lower levels should have sufficient autonomy, and be allowed to make decisions. If decisions are to be made at the lower levels, individuals and officials at these levels should be given the authority to make these decisions. In cultures where all decisions are made at high institutional levels, this change may create initial difficulties at both high and low levels.
- Openness to demand management (e.g. rainwater harvesting, dug wells). There must be a willingness to consider new solutions to old problems.

3.7.2. Political aspects

The political environment should be supportive and encouraging. For successful use of the Household-centred Approach, the following political factors are thought to be important:

- Political will – the desire to achieve sustainable solutions even if implementation time is longer and initial results take more time to appear. Readiness to think in the longer term. Political systems encourage politicians to think in the short term, but if the electorate becomes more aware of the importance of sustainability, it may be possible to encourage politicians to consider longer-term approaches.
- Political will to accept decentralised solutions, and devolution of power and financing. Political figures often like to keep control of finances, so that they can use disbursements to personal advantage, but there is also electoral advantage in involving voters in decisions that affect their lives.

- Political willingness to bear the cost implications of HCA. In the early stages, there will need to be a considerable investment in training and dissemination of information, with no concrete objects to point to as the result of the investment.

3.7.3. Social and cultural aspects

- The project approach should be adapted to suit the local social-cultural environment. An awareness of local cultural practices and beliefs is essential, so that options that are presented to householders are effective, relevant and potentially acceptable.
- There must be an understanding of who is able to make decisions, according to custom and social factors. What is the lowest level of decision-making (for example in the case of houses in a compound or a high-rise apartment block)?
- Compared with conventional top-down approaches, HCA projects need larger inputs to understand social structures, inform households and determine wishes and priorities.
- User associations and lobby groups should be involved to provide support to households.
- Lower levels should be empowered, and a sense of self-reliance should replace dependence. This change in attitude may take considerable time and effort to develop, but it will have great benefits, not only in planning but also in taking responsibility for maintenance.
- Civil society actors should be considered. All stakeholders and potential sources of support should be considered when planning the implementation of the HCA.

3.7.4. Financial and economic aspects

- Costs for the different options should be known, so that these costs can be communicated to the people who are making decisions. This is particularly important in cases where householders might be very enthusiastic to have a particular kind of service but will realise its unsuitability when they understand the cost implications.
- Flexible financial arrangements, to allow the appropriate level to manage the proposed activity. Regulations that restrict decisions about spending to a particular institutional level may need to be modified to take account of decisions made at lower levels.
- Cost sharing by all stakeholders, even if there is a degree of cross-subsidy. All beneficiaries should participate in paying for services and facilities, to increase the sense of ownership and responsibility, and to gain the maximum benefit from the available finances.

3.7.5. Technical aspects

- Decentralised solutions should be possible and available. Engineers and technicians may not be familiar with some non-conventional methods, and so may need training and reorientation to enable them to participate effectively in the HCA.
- Sufficient understanding of technical requirements and project context. There should be close co-ordination between technical and social inputs to ensure that

the proposed solutions are suited to the situation. The technology should consider gender aspects and the needs of children

- Criteria for selection of technologies are needed, together with a reliable estimation of the degree to which particular technologies are suited to particular situations.

3.7.6. Rules and regulations

- There should be appropriate regulations and standards. Examples are discharge standards and quality criteria for the reuse of wastes to prevent adverse impacts on health and the environment.
- Technical standards should be sufficiently flexible to allow improvements in a wide variety of situations. Often technical standards are too high to allow affordable incremental improvements, so the result is that no improvements are made. Technical managers need to be a little adventurous, taking an empirical approach and observing the effects of relaxing standards, so that more appropriate standards can be set. Networking can also provide guidance as to more appropriate standards based on experiences elsewhere.
- The rights and duties of all levels are clear and known. The HCA may generate new situations and relationships that need to be clarified from a legal position. Organisations may need to be legitimised, either by registering them according to existing arrangements, or modifying the legal requirements.
- Transparency regarding procedures, decisions, responsibility and competence is important in the new institutional arrangements that are developed. Access to information and meetings are two aspects to consider.

3.7.7. Training, awareness

- Households must have the knowledge that is needed for them to make appropriate decisions. There must be sufficient understanding so that there is a demand, especially at lower levels. Waste should be seen as a resource, not a nuisance. In order that sufficient information reaches all target households, there must be a considerable input of resources.
- Organisational, planning, management and monitoring capabilities. Personnel involved in these activities will need training in the new approach.
- Professionals to be trained to consider a wide variety of approaches, not just conventional methods. Many will also need to be persuaded of the importance of this new approach.
- Successful case studies are needed to demonstrate possibilities, encourage the use of the HCA, and stimulate demand.

3.7.8. Other aspects

Environment

- Means should be developed for ensuring the integration of environmental issues into project concept and design. This will include raising the awareness of house-

holders and decision-makers regarding environmental issues, and guarding against commercial pressures that oppose environmental protection.

Project management

- There needs to be a willingness to try a new approach – "Out-of-the-box" thinking. In many ways, the HCA is a very different way of thinking, so there must be a willingness to experiment.
- It may be necessary to work with existing institutions, including traditional institutions, which must also be prepared to try out new ideas.
- The method of implementing the project should be appropriate to the context, so there needs to be a flexibility in the project management and a readiness to consider particular factors which may call for a particular approach.

3.7.9. Requirements for particular cases

This issue of requirements was looked at again in the context of the case studies. Up to seven requirements were identified as being most important for the success of the HCA, and an assessment was made regarding how difficult it might be to assure each requirement. The results of this exercise are shown on a case-by-case basis in Chapter 4.

4 Applying the *Household-centred Approach* in different cases

Four case studies were presented, initially briefly to the whole Workshop, and later each one was described in more detail in its own working group. The case studies were then the focus of discussions concerning the Household-centred Approach. In this Chapter, a brief summary of each case is given, and this is followed by the outputs of the particular working group. More details about each case study are provided in Annex 5.

4.1. Rural water supply in Northern Mozambique

4.1.1. Introduction to the case study

by Melchior Lengsfeld, Helvetas

a) Background information

Mozambique is on of the least developed countries. In this country, the life expectancy is 40 years, which is six years under the average life expectancy in sub-Saharan Africa. The under-five mortality rate is 25%. The illiteracy rate is 72%.

b) Project objectives

- To increase the coverage of drinking water supplies and sanitation,
- To implement an integrated approach for the improvement of health, and

- To promote the institutional development of the water sector.

c) *Stakeholders*

The stakeholders include the Water Department, construction enterprises, village mobilisation workers and villagers. Tables 4.1 and 4.2 show a list of key actors and their main roles.

d) *Method of operation*

The basic principle is the Demand Responsive Approach – communities are supported only if they make an active request.

Full responsibility generally rests with the villagers – only in exceptional cases will the private sector or the project give assistance.

e) *Achievements*

1,500 water points have been constructed and rehabilitated, and 2/3 are of these are currently operational.

f) *Main challenges and questions*

- The influence of centralised politics – combining centralised planning with local initiatives.
- The Demand Responsive Approach may conflict with project objectives. For example, the project may require that a particular number of water or sanitation installations should be implemented, but if the demand is insufficient, this number cannot be achieved, according to the DRA.
- Collaboration on the village and district level.
- Who should decide which aspect should be handled at which level?

4.1.2. Discussions and decisions of the working group

In the discussions, only water supply was considered, not sanitation.

The main challenge was seen to be to involve the users to a greater extent. A major problem is the lack of communal tradition.

One of the first steps was to list the various actors at the different levels. (In presenting this list in plenary, the concentric circles representation was used, but since radial links were not shown, the list is presented in a table format in Table 4.1. Looking at the list of actors, the following issues were raised:

- How can the programme be co-ordinated *between* the different levels?
- How can the programmes be co-ordinated at the village, district, and provincial levels?
- How can the HCA be combined with a project intervention?
- How does the upward delegation of responsibility operate?

Table 4.1 Actors at the different levels

Level	Actors
Village	Users, health & hygiene groups; Village water committees, Sanitation activists
District	District Administration, PEC regional centres and facilitators, Sanitation animators, Spare part shops, Local mechanics and masons
Provincial	Water department, Provincial PEC, Rural sanitation programme, State-owned construction firm (EPAR), Helvetas, Technical consultants (planning), Pumps and spare parts importer, Construction enterprises, Construction supervisors
National	National Sanitation Programme, Rural Water Directorate, SDC, Helvetas

In order to have a better understanding of the existing situation, the roles of some of the key actors were listed, as shown in Table 4.2.

Table 4.2 Actors and their roles in the project cycle

	Stages		
Actor	Planning & promoting involvement	Construction	Follow-up
Water Department	Concepts & co-ordination; Contracting	Supervision; Monitoring of contracts	Monitoring Support as needed
Helvetas	Finance, Concepts, Monitoring	Finance, Monitoring	Finance, Concepts, Monitoring
Village mobilisation programme	Disseminating information, Facilitating participatory planning	Train village water committee	Continuous support to village water committees
Technical consultants	Support villagers' choice of sites	Supervision	
Construction enterprises	Technical planning	Construct waterpoints	Rehabilitation as contracted
District shops		Sale of pumps	Sale of spare parts
Local masons & mechanics			Repair pumps according to demand
Villagers	Make requests Collect contributions Participate in construction	Contribute to capital cost	Contribute to O & M and make small repairs
Village water committees	Organise village contribution	Participate in training	Request project assistance for bigger repairs Contract local mechanics

One of the first group work exercises, with the aim of developing an understanding of the Household-centred Approach, was to develop a list of key requirements that are needed for the Approach to be successfully implemented. Part of the exercise was to assess how easy or difficult it would be to meet these requirements. The output of this working group is reproduced in Table 4.3.

Table 4.3 Priority requirements for implementing the Household-centred Approach

Requirement	Already met	Easy to meet	Possible to meet	Difficult to meet
Lower levels have autonomy to make decisions (e.g. *contracting)	(X*)		X	
Flexible access to funds at different levels				X
Professionals trained in a wide array of approaches; flexible technical solutions at different levels			X	
Political will to support slower, bottom-up solutions				X
Successful case studies to encourage use of HCA		X		
Sufficient understanding to create demand; empowerment and self-reliance at lower levels; projects need higher input to understand context and inform households				X
Local organisations should be considered		X		

Next, the conditions and requirements for implementation of the Household-centred Approach were considered in some detail. Most were grouped according to the five SDC policy fields. The requirements were presented to the other participants in a large circle divided into the five sectors, but, since no links across sector boundaries (radii) were indicated, and the concentric circles were not shown, the requirements are shown in Table 4.4 in tabular format.

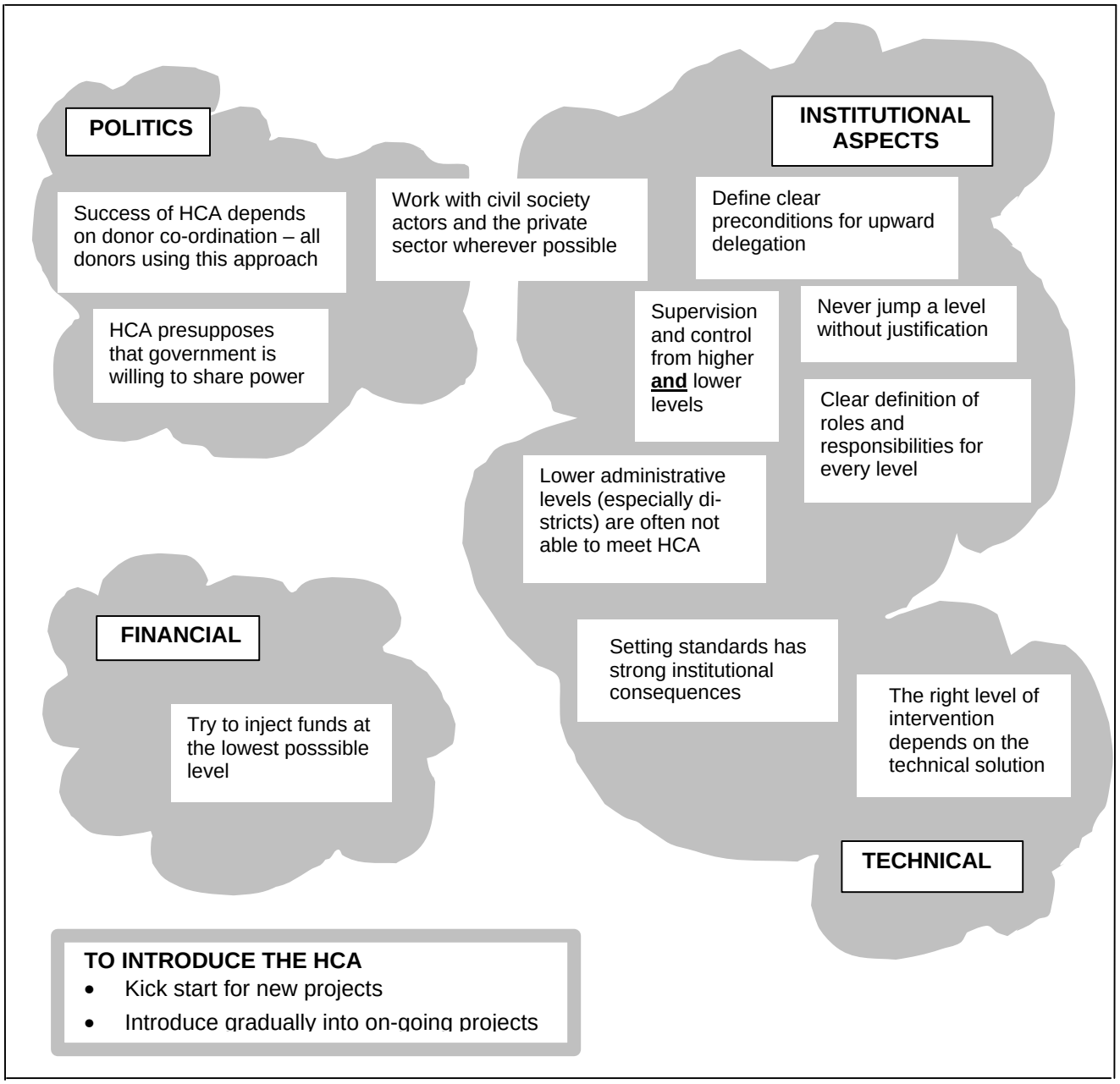
Table 4.4 General conditions and requirements for implementing the Household-centred Approach

Policy field	Requirements
Institutional	▪ Legitimised organisations at all levels, ▪ Co-ordination and transparent communication (a big challenge), ▪ Defined models of upward delegation, ▪ Legal framework for organisations at different levels, ▪ Working with local (existing or traditional) organisations
Economic & financial	▪ Access to funds at different levels (own + government + external), ▪ Flexible financial terms
Technical	▪ Selection criteria for technical solutions, ▪ Development and adoption of decentralised solutions, ▪ Acceptable official technical standards for decentralised solutions.
Social & cultural	▪ Approach should be adapted to social and cultural environment, ▪ Consider civil society actors, ▪ Social empowerment, a sense of self-reliance, ▪ An understanding of decision-making within the household – how household decisions are actually made.
Rules & regulations, skills and knowledge	▪ Education of professionals to be changed, ▪ Technical (quality) standards to be modified, ▪ Capacity building on how to relate to different levels
Political	▪ Political will ▪ Acceptance of decentralisation – devolution of power – power sharing among all actors – clear policy
Other	A very important requirement is TIME. It takes time to prepare the institutional, technical and legal framework. Then it requires more time to build the implementing capacity and pass on information to the household level. Often external support agencies insist on tight deadlines, so the requirement of time could be a major issue.

Figure 4.1 shows the group's thinking moving towards the actions that are needed to implement the HCA in the situation being considered by the Mozambique working group. The representation indicates that the boundaries between the different policy fields are not clearly defined, and that one policy field can merge with another. This suggests that the radial boundaries in the HCA diagram (Figure 3.2) are not as well-defined as they appear, and also that one policy field might have interfaces with several or all of the others.

Figure 4.1 Crucial points affecting HCA implementation

(Note the use of "clouds" rather than precisely defined borders to show that some issues are interrelated, particularly the institutional and technical.)



Actions and activities are getting more concrete in Table 4.5, as a framework for an action plan begins to be developed

Table 4.5 Activities involved in implementing the HCA

HCA Principle	Stage 1	Stage 2
Stakeholders involved	▪ Stakeholders involved in implementation and co-ordination ▪ Good co-ordination at provincial level	▪ Government co-ordinates village-level decisions instead of deciding ▪ No government role in implementation ▪ Capacity-building for NGOs ▪ Different roles and responsibilities for villagers
Problem solved at minimum level	▪ Villagers have to apply for project support ▪ O&M at the village level – higher levels only if necessary	▪ More support to upgrading existing solutions ▪ More attention to intermediate zones (e.g. districts) ▪ More attention to follow-up phase ▪ Decision making more decentralised
Closed cycles	(Quantities of water are small, therefore not applicable)	
	Short term	Medium term	Long term
Institutional	▪ Stronger supervisory role of community during construction. ▪ Promote civil society organisations on district level	▪ Capacity building and empowerment for district administration. ▪ District commission (involving villagers) to co-ordinate activities	▪ Tendering & contracting for water supply at district level. ▪ Lobby for political support for decentralised water & sanitation.
Economic & financial	District funds for village water supply, with provincial approval.	District management agency to plan/administer district funds (based on demand).	
Social & cultural	Initiate village discussion to promote self-help solutions	Much more social work on a continuous basis to promote women's involvement.	
Technical			▪ Initiate discussion about flexible standards at national & provincial levels. ▪ Propose range of technical options for villages.
Strategies for implementation In an ongoing project, it is better to introduce the HCA partially, to allow for a learning process. For a new project, it would be possible to start directly with the HCA.		

4.1.3. Plenary discussion of the findings of the Mozambique working group

In the discussion of this presentation the following issues were raised:

- The introduction of the HCA needs careful thought; it could perhaps be introduced with new aspects of the project, such as new technological approaches.
- Considerable work would be needed in public education to encourage acceptance of the Approach.
- In the current political situation, there might be difficulties in persuading central government to pass on funding to lower levels. Financing could be passed on to strengthened district bodies and private sector management agencies. Cash would not be given directly to households.

- Upward delegation requires that users are able to define their needs and formulate their demands, and then ask higher levels for assistance in meeting these demands.
- This decentralisation means that the people at the top – senior officials in national government – must be willing to share and lose their power. Many may resist this.
- On the institutional level, devolution has been shown to be difficult to achieve in practice. An important issue is the capacity of the lower levels to provide the necessary accounting and technical skills.
- Since the project is concerned only with water supply, one of the principles of the HCA – closing the cycles – is not being implemented. Decisions about sanitation are currently being made at the household level, but usually the preferred method is pit latrines, which normally do not recycle nutrients and so leave the nutrient cycle open. Concerns about prevention of disease may be given a higher priority than the recycling of nutrients.

4.2. Faisalabad: Community action to solve wastewater problems

4.2.1. Introduction to the case study

by Shahid Mahmood, Community Action Programme (CAP)

This case study is about a small, community drainage project in the city of Faisalabad in Pakistan. It describes the part played by the Community Action Programme (CAP), which is working to bridge the gap between service providers and users.

Faisalabad is the third largest city in Pakistan, with a population of 2 million, covering an area of 122 sq. km. Sixty percent of the population is served by conventional sewerage, provided by the Water and Sanitation Agency (WASA).

A community in Faisalabad requested WASA to provide them with drainage, but were told that there would be a long delay before the system could be constructed. So they built their own local drainage system, comprising street drains and a main drain that led the wastewater to a pond, from where it was pumped into an irrigation canal. (It was not possible to link it into the existing sewerage network.) The system was not designed or constructed according to official standards and so was not officially recognised. The use of substandard materials resulted in premature deterioration, but the system is operating and has significantly improved living conditions in the neighbourhood.

Further background information is given in Annex 5.2, which mentions the successes and failures of a community's efforts and suggests why the official government agency should have been involved.

Problems and issues There are concerns about the efficiency and sustainability of WASA. There are severe problems relating to the financial sustainability since the income is less than operating expenditure, and that the situation does not seem to be getting better. Faced with this lack of funds, WASA is unable to provide efficient operation and maintenance and cannot cover unserved areas.

Community initiatives struggle because of the communities' isolation and lack of technical know-how. Topography is a crucial factor in determining the feasibility of community initiatives.

The conventional top-down approach to planning, implementation and operation has proven to be not sustainable in the context of urban environmental services in Faisalabad. An alternative approach is needed, and this case study provides useful guidance regarding the role that community initiatives can play.

The objective of the Community Action Programme (CAP) is to improve the efficiency and sustainability of environmental sanitation services by combining the strengths of the government agency and the initiatives of communities. CAP has identified that this can be done by acting as an intermediary between the government agency and the community. In this role the CAP can

- help the community to ask for services from the government agency,
- negotiate with the agency on behalf of the community, and
- assist in solving problems and raising issues.

4.2.2. Discussions and decisions of the working group

The case study focused on an initiative that was taken by the community because a strongly felt need was not met by the formal government channels. It therefore represented an approach very similar to the HCA in many ways. (A key difference is that the resulting system was not accepted by the Government because it did not conform with the official standards and government planning.)

One of the first steps was to analyse the existing situation, considering the different development policy fields and the various actors. Strengths and weaknesses were identified, as shown in Table 4.6, where weaknesses are shown as shaded rectangles. Concentrations of weaknesses suggest where action is most urgently needed.

Table 4.6 Strengths and weakness for various stakeholders in each policy field

	Households/ users	CBOs	WASA	Farmers	CAP	Dept of Agriculture
Economic & financial	☹ Difference in user fees between WASA and local solutions	☺ Financial sustainability through community particip[n]	☹ Limited resources for improvements & extensions	☺ More water available for irrigation		
		☺ Sound financial management	☹ Weak economic management	☺ Recovery of nutrients		
Technical	☹ Recycling of wastewater at household level not considered	☹ Technical options not available	☹ Limited number of suitable solutions	☹ No knowledge of safe use of wastewater	☹ No technical skills in agriculture	☹ No technology for wastewater irrigation
	☹ Reduction of water consumption not considered	☹ Wastewater is not treated	☹ Weak O & M	☹ Hazards of wastewater		
	☹ Risk of overexploitation of groundwater		☹ No sufficient wastewater treatment	☹ Pond is a health hazard		
	☺ Sewage system functional			☹ Technical solution not adapted to treatment objective		
	☺ DRA adopted					
Legal aspects	☹ Sewerage system illegal (not approved)	☹ No land use planning	☹ Legal framework for local solution missing			☹ No regulations for use of wastewater
	☺ Private ownership of land	☺ CBO legally registered				
Institutional/ organisational	☺ Local organisation (CBO) formed	☺ Local solution to local problem (No external funding)	☹ No structured contact with NGOs CBOs		☹ No lobby for farmers	☹ Water pollution & health risks
	☺ O & M functioning	☺ CAP plays role of facilitator	☹ Strong political influence			
Social & cultural	☺ Very good community participation			☹ Lack of awareness of health aspects	☺ Accepted as intermediary by users and WASA	
	☺ Decision-making process					
	☺ Initiative by users					
	☺ Empowerment of the community					

Table 4.7 looks for elements of the Household-centred Approach in the existing arrangements. Successful experiences of using aspects of the HCA can provide guidance and encouragement in the development of this Approach. The table looks at two aspects of the Faisalabad case – the collection and removal of wastewater, and the use of that wastewater for irrigation. It also considers in which ways and to what extent the HCA could be incorporated in future.

Table 4.7 What elements of the existing case already reflect the HCA principles? What would be the effect of employing the HCA?

		The existing situation			Potential
		☺	😐	☹	
	Component	Similar to HCA	Some aspects employed peripherally	Nothing in common with the HCA	To what extent could the HCA potentially be integrated?
Involvement at lowest possible level?	*Irrigation*			No participation – not yet included	☺
	Wastewater	Organisation and household-based initiative			
			Study and choice of technical options		☺
All stakeholders involved?	*Irrigation*			No participation – not yet included	😐
	Wastewater	Households, CBO, CAP			
				WASA, local authorities, governmental institutions	😐
Closing cycles?	*Irrigation*	Use of wastewater			
				Health hazards	☺
	Wastewater			Not yet included	☺

The next stage was to consider in more detail the actions that would be needed to implement the HCA in the Faisalabad case. The actors were classified in the same way as in Table 4.6, and the following list was prepared:

Actions for implementing the Household-centred Approach

Households / service users

- Assess needs and skills
- Discuss and develop sustainable and affordable technical solutions.
- Develop and disseminate information about technical options and costs.
- Create awareness about environmental and hygiene aspects.
- Disseminate information about saving and reusing water at household level.
- Collect information about preferences and willingness to pay.
- Implement improved technical solutions.

CBOs with CAP Activities that these organisations will be required to undertake can be divided into two groups – those related to the sewerage system (urban sanitation) and those related to the use of the wastewater for irrigation. For urban sanitation the suggested activities are as follows:

- Capacity building within CAP for technical options and improvements.
- Inform others about possible technical solutions (including costs, pros and cons).
- Define communications strategies towards different stakeholders.
- Improve communication skills.
- Establish communications and exchange mechanisms between different levels.
- Motivate WASA to participate in a workshop on technical options.
- Conduct informal meetings on the issue of closing cycles.
- Incorporate solid waste management into the sanitation strategy.
- Investigate external financial support for practical pilot research and improved options.
- Provide micro-credit schemes.
- Strengthen the capability for joint decision-making.
- Implement improved technical solutions.

CAP is presently providing an important bridging function between householders and WASA. CAP's vision is that this role should diminish and that householders should be able to relate directly to WASA without an intermediary.

In connection with the use of wastewater for irrigation, CBOs and CAP should consider the following activities:

- Find out about the perceptions and priorities of the farmers who will have access to the wastewater.
- Conduct awareness workshops for selected farmers.
- Seek to develop collaboration with farmers' organisations.
- Establish a lobbying group for farmers' interests.
- Build up capacity and knowledge on all aspects related to using wastewater for irrigation.
- Incorporate agricultural activities into the programme and develop additional marketing channels.
- Implement co-ordination links between the residents who generate wastewater and the farmers who use it.

WASA (Faisalabad Water and Sanitation Agency) Engineers and senior officials within WASA may prefer to completely disregard the drainage system that has been built by the community association, and eventually implement a conventional system in the manner that they are accustomed to. However, it is hoped that they will learn some important lessons from the initiatives described in the case study and work together with the community to find a win-win solution. In more detail, suggested activities are:

- Make an evaluation of the environmental and public health risks associated with the existing sewerage scheme.
- Evaluate the costs of upgrading and improving the existing system.
- Arrange for the existing sewer system to be legalised.
- Establish contacts and co-operation with the Department of Agriculture to develop satisfactory mechanisms for reusing wastewater for irrigation. (This might involve a joint field study.)
- Define possible options for wastewater disposal.
- Prepare a catalogue of acceptable technical options.
- Develop a mechanism for quality control for decentralised systems.
- Develop links between decentralised initiatives and central planning.
- Develop marketing strategies for wastewater and recyclables.
- Implement improved technical solutions.

Farmers will need to be informed about safe ways of using wastewater for irrigation. They will need to be made aware of the possible risks to their own health and to the health of consumers of their produce, and to be informed about the benefits of using wastewater, techniques for using it safely, and appropriate land use practices. If dry composting toilets have been introduced, they will need to know how to use the urine and the compost.

Department of Agriculture

- Establish monitoring and quality control procedures.
- Establish standards for reuse.
- Assess crop needs in terms of water and nutrients.
- Propose appropriate treatment systems for wastewater, if necessitated by the types of crops which will be irrigated with it.
- Set up an advisory service.

4.2.3. Plenary discussion of the findings of the Faisalabad working group

The following points were made in open discussion:

- Considering the HCA in this way has encouraged CAP to go to WASA to try to develop a model of planning and implementation that involves the community.
- The emphasis in the HCES about not exporting pollution, but rather closing the nutrient and water cycles, has added a new dimension to the thinking about wastewater management.
- The sharing of information is the key to making any changes or improvements. A strategy and a mechanism are required.

- This is a classical example of community participation, but it is unfortunate that the problem of water pollution has been exported or displaced, rather than solved, and therefore it is not a long-term solution.

4.3. Rural water supply programme of Helvetas in Nepal

4.3.1. Introduction to the case study

Presented by Achyut Luitel

Nepal is still at a very low level of development, with a per capita income of only about US$ 200 – eighth lowest in the world, and a ranking of 152 out of 174 countries in the Human Development index. In terms of water supply and sanitation, about 80% of the population have no access to sanitation and almost 40% have no convenient supply of potable water.

Helvetas has been working in Nepal since 1956, a year after its establishment. Twenty years later, Helvetas started its support for drinking water by providing technical and material assistance to His Majesty's Government (HMG) of Nepal. The Programme, Community Water Supply and Sanitation Programme (CWSSP), implemented drinking water schemes in 16 Districts of the Western Development Region. Initially CWSSP was purely a technical programme. Gradually it began to emphasise the participation of communities, integrated hygiene and sanitation education in the drinking water project activities and encouraged women's involvement in the project activities.

Helvetas evaluated the CWSSP in 1989, and concluded that still the ownership feeling in the community was not adequately achieved, and effective community management was not seen at the field level. As a result, CWSSP was phased out in 1994, and the Self-Reliant Drinking Water Support Programme (SRWSP) evolved in 1992. Basically, SRWSP was transformed from CWSSP by adding a strong social component to support the already better technical component of the programme. It is this SRWSP that is the subject of the case study.

SRWSP works for the provision of safe and reliable drinking water in the rural communities with the ultimate aim to have the communities empowered and help them understand the self-reliant philosophy. The project area for the SRWSP includes a population of 22 million. When SRWSP was started, it had as its overall goals:

- to reduce the burden of water collection of especially women and (girl) children by providing drinking water within relatively easy carrying distance; and
- to reduce the incidence of water- and sanitation-related diseases by providing adequate quantities of clean drinking water and promoting environmental sanitation.

A key element in the approach is partnership. SRWSP entertains two types of partnership; dual and multiple. A dual partnership approach entails co-operation between SRWSP and beneficiaries represented by a Water and Sanitation Management Committee (WSMC). The multiple partnership approach involves a broad range of partnership, by

establishing co-ordination and co-operation with NGOs, consultants, VDC, DDC, DWSO and other eligible partners.

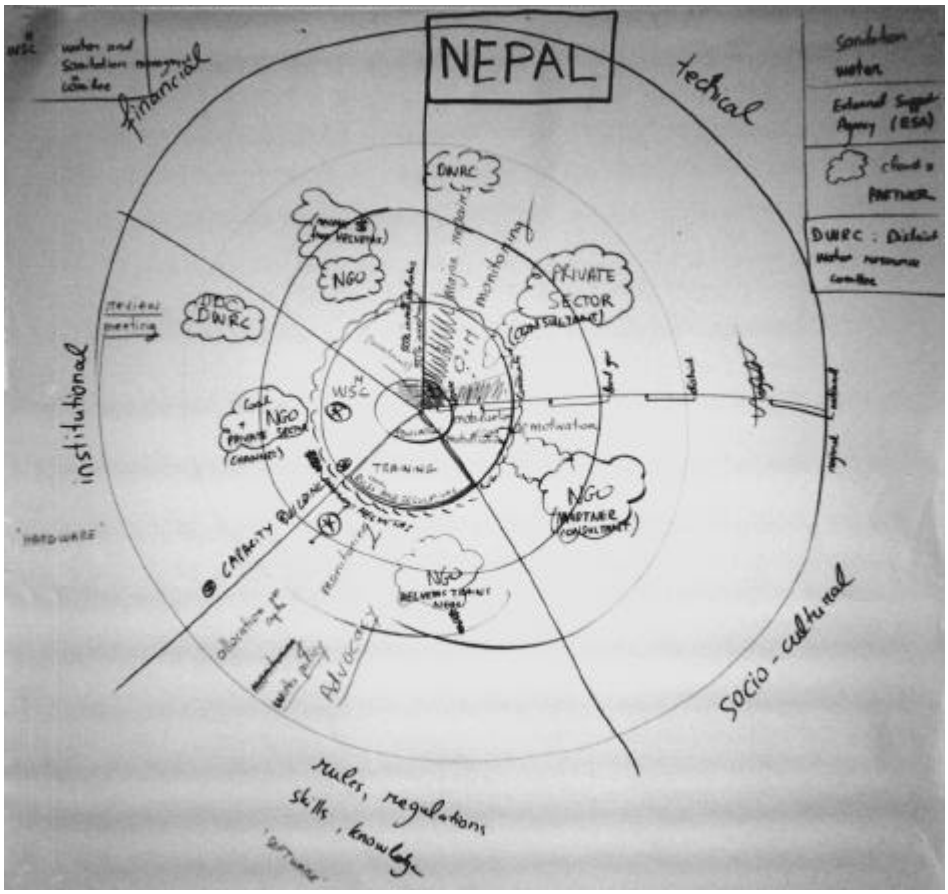
The evaluation of the Programme has been very favourable, largely because of the emphasis on social preparation and the involvement of future users in planning.

Posters have been successfully used in educating the public. A poster showing 25 steps was shown. It is called the participatory monitoring poster. The poster helps the beneficiaries to know about the status of their project and the pending activities at any moment. (This poster has been included in the new Helvetas/SKAT publication "*25 steps to safe water and sanitation*".) Further information about the Programme can be found in Annex 5.3

4.3.2. Discussions and decisions of the working group

The HCA diagram that was produced by this group is shown as Photograph 4.1. It clearly shows that this representation of actors and interrelationships is a useful focus for discussions and a powerful way of describing a complex situation.

Photograph 4.1
The HCA diagram used by the Nepal working group to understand and discuss the case study



a) Key requirements for HCA in this context

Table 4.8 Priority requirements for the Nepal case

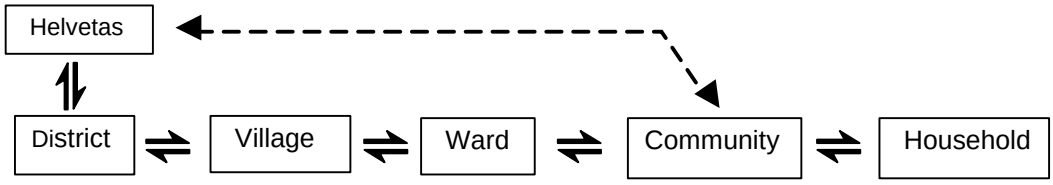
Requirement	Already met	Easy to meet	Possi-ble to meet	Difficult to meet
Organisations exist within a legal framework (WSMC)			X	
Choice of technology linked to Administration and O & M	X			
Project approach adapted to local social/cultural context			X*	
Supportive and stable political environment at all levels				X
Regular flow of information			X	
National and donor policies favourable			X	
Capacity at all levels				
- household	X			
- intermediate			X	
- national				X

* In the case of latrines

b) Elements of the Programme that are similar to the HCA approach

1. Dissemination of information about the project
   This was explained using the following simple diagram (Figure 4.2):

   Figure 4.2 Flow of information in Nepal case



   Helvetas staff are relating mainly to community leaders, but there are channels of communication between the different levels.

2. The planning could be described as a community-centred approach with representation of the households.
3. The Water and Sanitation Management Committees (WSMC) has links at higher levels
   – To the Village Development Committees (VDC)
   – To the District Development Committees (DDC).
4. There are contacts at the household level to motivate householders to improve their sanitation and to collect charges.
5. Local NGO skills at the District level are used and enhanced.
6. Administration, and operation and maintenance are at the Community level.

7. Communities contribute to investment costs. On average 50% of investment costs comes from the communities.

c) *What would have been different if the programme had been planned according to the HCA approach?*
What actions would be necessary for implementing the HCA in this case?

1. Different options for water supply could be identified and offered to the households so that they could chose the level of service they desire at the cost they are willing to pay.
2. The Water and Sanitation Management Committees would need to have a legal status. (Currently they do not have a legal status and so there would be problems if internal conflicts arise.)
3. A monitoring system would need to be set up to verify that information is actually reaching the households.
4. There would need to be capacity building and training beyond the community level, reaching down to the households.

d) *Would partial implementation of the HCA be possible and beneficial?*

1. Components of the Project already comply with HCA principles.
2. Further partial introduction of HCA could further improve the project.
3. The project demonstrates that partial adherence to the principles of HCA is possible.

4.3.3. Plenary discussion of the findings of the Nepal working group

The following points were made in the discussion after the presentation:

- The District Water Resources Committees were set up by the Government, not by the project. They comprise representatives of different types of users and were set up to manage the competition between users.
- The HCA is currently at the stage of being a vision, and it will be some time before concrete tools are available.
- Monitoring of the HCA would include checking to what extent the households are involved in the process.
- The project was working well at the village level, but some of the higher level institutions were not involved satisfactorily.
- It seems that sanitation projects often replace old pit latrines with new ones rather than attempting to reuse the nutrients. In Nepal 60% if the villagers build their own latrines before the project starts, so the project has little influence on sanitation decisions.
- The programme was based on the demand-responsive approach. Monitoring has been undertaken for two years – the committees are active, and 90% of the caretakers are doing their job well. (Each tapstand has its own caretaker.)
- The cycle of implementation is long, averaging 4.5 years, because involvement continues for the first two years of the operation and maintenance phase. The aim

is to get district administrations more involved during these last two years of O & M. In addition, the detailed preparation stage contributes to sustainability.

4.4. Banja Luka Regional Water Supply and Sanitation Programme

4.4.1. Introduction to the case study

by Snezana Rovcanin, FRISA Engineering SA

This case study concerns a project in the Republic of Srpska (formerly part of Yugoslavia). It started in January 2000 and is to run for two years. It has three phases in terms of geographical scope:

1. A pilot project in the municipality of Laktasi (population 35,000, mostly urban),
2. As a regional project to serve the region of Banja Luka City (population 250,000), and
3. Ultimately at the level of the Vrbas River Basin (population 500,000).

The water and sanitation sector had suffered greatly in the war that ended with the Dayton Agreement in 1995.

The first stage in the project has been to strengthen the capacity of the staff, in managerial, administrative and technical fields. This has included the collection of data about the system, and building a database of customers, meters and connections. One objective was to have a billing system that is clear and transparent. Both unaccounted for water and payment default rates were regarded as unacceptably high. Booklets are to be provided to all households to inform them about the utility company and the programme.

The next stage includes strengthening the capacity to maintain the system, and make small improvements. This serves to ensure that when the system is extended, the new works will be well maintained, and also to demonstrate to customers that improvements are being made and a better service will be provided. After these stages some extensions will be made to the network. When this approach has been demonstrated satisfactorily it will be extended to the City of Banja Luka.

At this stage the project is only concerned with water supply, and has no inputs related to sanitation.

4.4.2. Discussions and decisions of working group

The first assignment of the group was to consider which policy fields and aspects they would focus on in later discussions. The most important policy field was seen to be the institutional policy field, and the least important was the issue of rules and regulations. Table 4.9 summarises the thinking behind this opinion.

Table 4.9 Areas planned for observation in Banja Luka case study

Area or policy field	Reasons
Basic conditions or requirements	HCA can only work if these conditions are fulfilled.
	They will allow a cross check
Technical/social/economic	Institutional arrangement will depend on them.
	Ability and willingness to pay depends on them
Institutional	Currently links are weak, especially to inner circles

After visiting other groups the lack of social interaction in this case was noted. There was no intermediary between the water agency and the customers. Better channels of communication would favour increased awareness and a change of attitude towards the water undertaking, leading eventually to a greater willingness to pay water charges.

An important step in understanding how the HCA would change the situation is to understand the existing situation. The working group prepared a representation of the existing arrangements using the concentric circles chart shown in Chapter 3. The chart is reproduced in Figure 4.3. As well as showing the existing arrangements, it also indicates the “Areas of observation” that the group decided to concentrate on during their discussions. It can be noticed that most of the arrows are pointing inwards, showing a typical top-down flow of decisions and resources. The only arrow pointing away from the centre is the money collected as water charges, which only a minority pay regularly.

Figure 4.3 Representation of the current situation and the areas of observation in the pilot project area using the HCA diagram

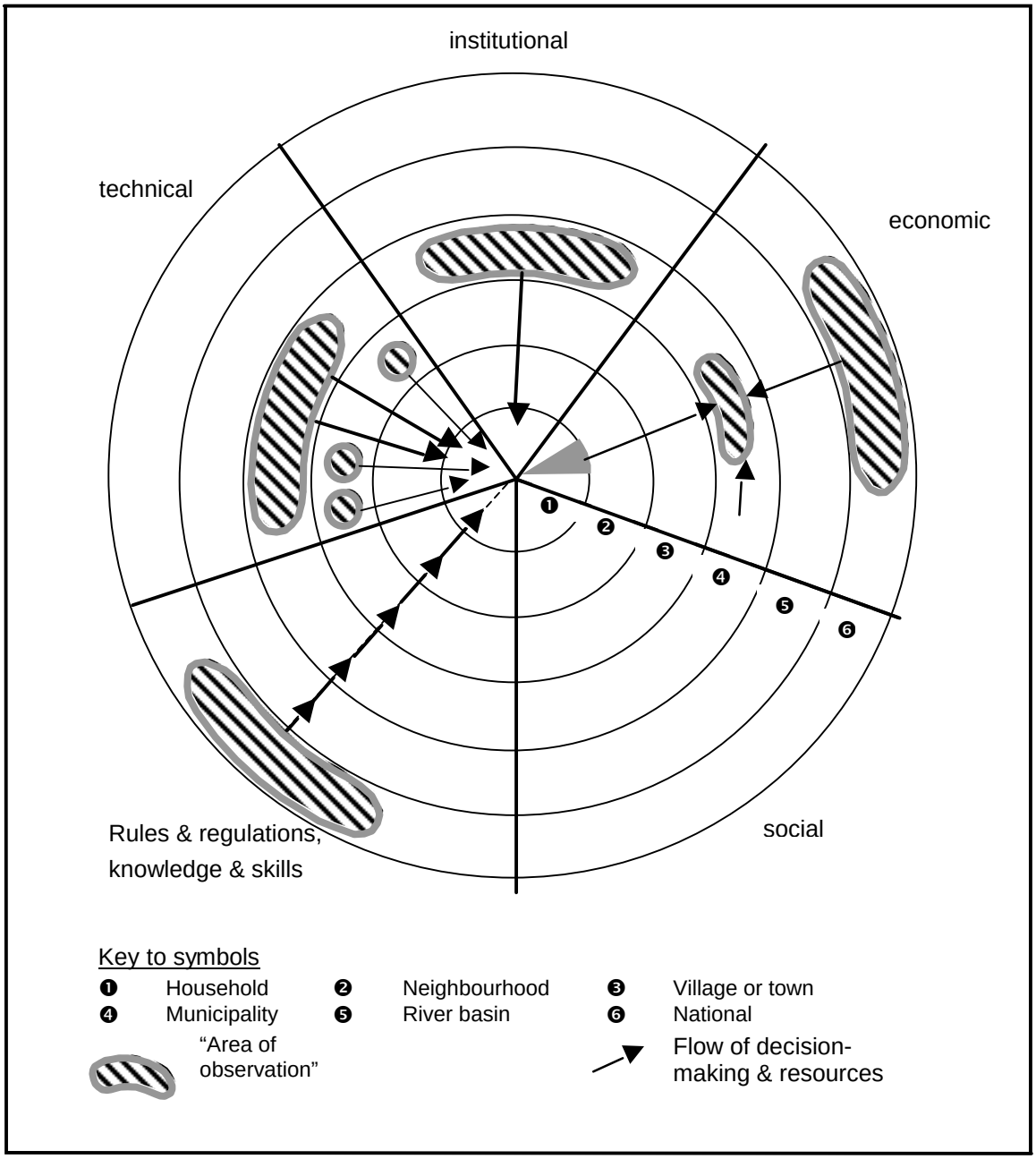
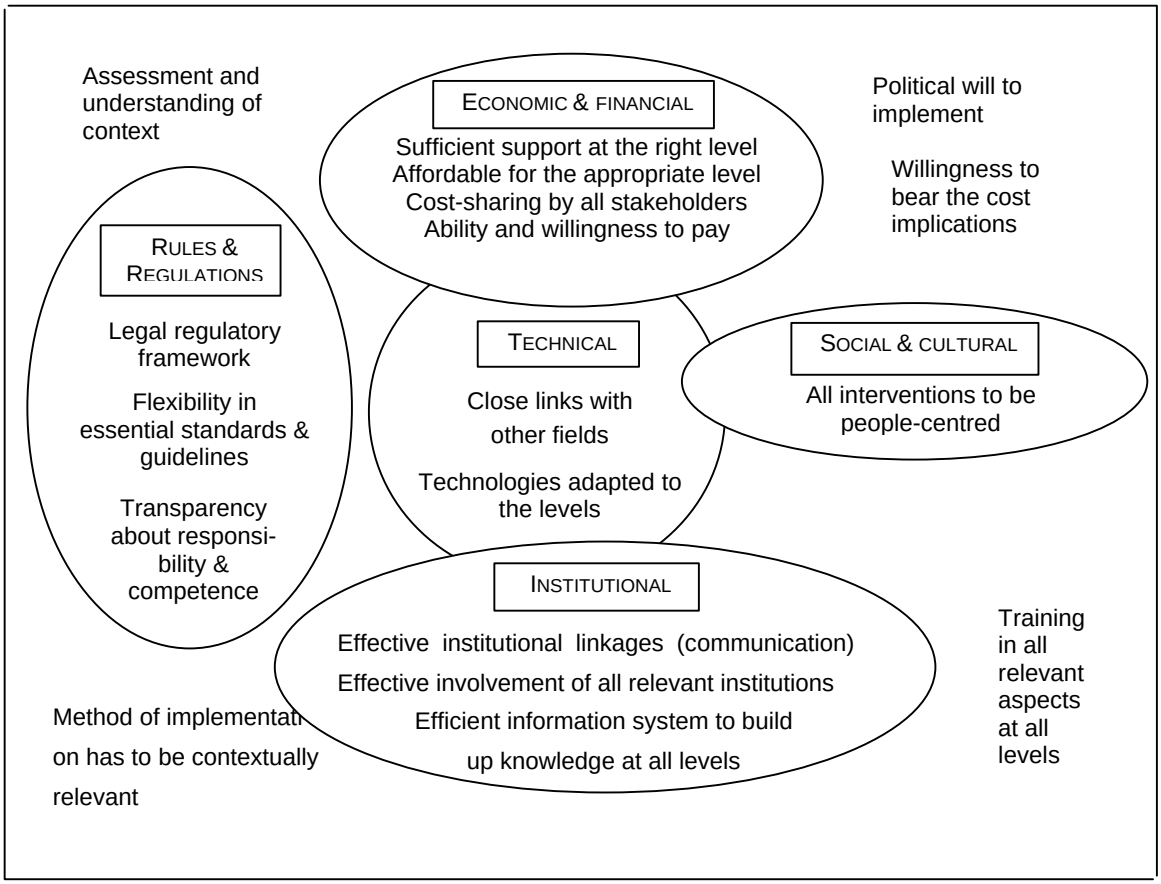


Figure 4.4 Requirements for effective use of Household-centred Approach



The anticipated requirements for effective use of the Household-centred Approach were selected, and the most important are shown in Table 4.10, together with percentages that indicate how difficult it may be to achieve these requirements.

Table 4.10 Priority requirements for effective use of the HCA in the Banja Luka Programme

Requirements	Extents shown as percentages			
	Already met	Easy to meet	Pos-sible to meet	Difficult to meet
Assessment and understanding of context	50		50	
Political will at all levels to accept and enforce HCA and people's participation	20		50	30
Change of mind-set of communities (changing from passive receivers to active participants)			40	60
Favourable policy and regulations which facilitate HCA			70	30
Appropriate, decentralised technology options available	25		75	
Mechanism to ensure information flow and knowledge acquisition at all levels			70	30
Stakeholders at all levels to pay on a cost-sharing basis	35		40	25

If the HCA were employed, the differences (compared with the present arrangement) would be:

- the approach would not be centralised,
- there would be direct participation from the household level, and
- initially the project would be more complex and demanding, and with a higher cost, but in the long term it would be cost effective.

The HCA, as a method, should be put into practice as a whole, but its three fundamental principles could be introduced in steps, in each step starting at the household level.

The project should comprise three components:– (i) drinking water supply, (ii) disposal of excreta and wastewater, and (iii) solid waste management.

The pilot scheme at Laktasi has started with water supply; wastewater and solid waste management should be added in a second phase.
The project for the entire river basin should start only after completion and evaluation of the pilot project.

Figure 4.5 Banja Luka – Technical aspects relating to HCA implementation

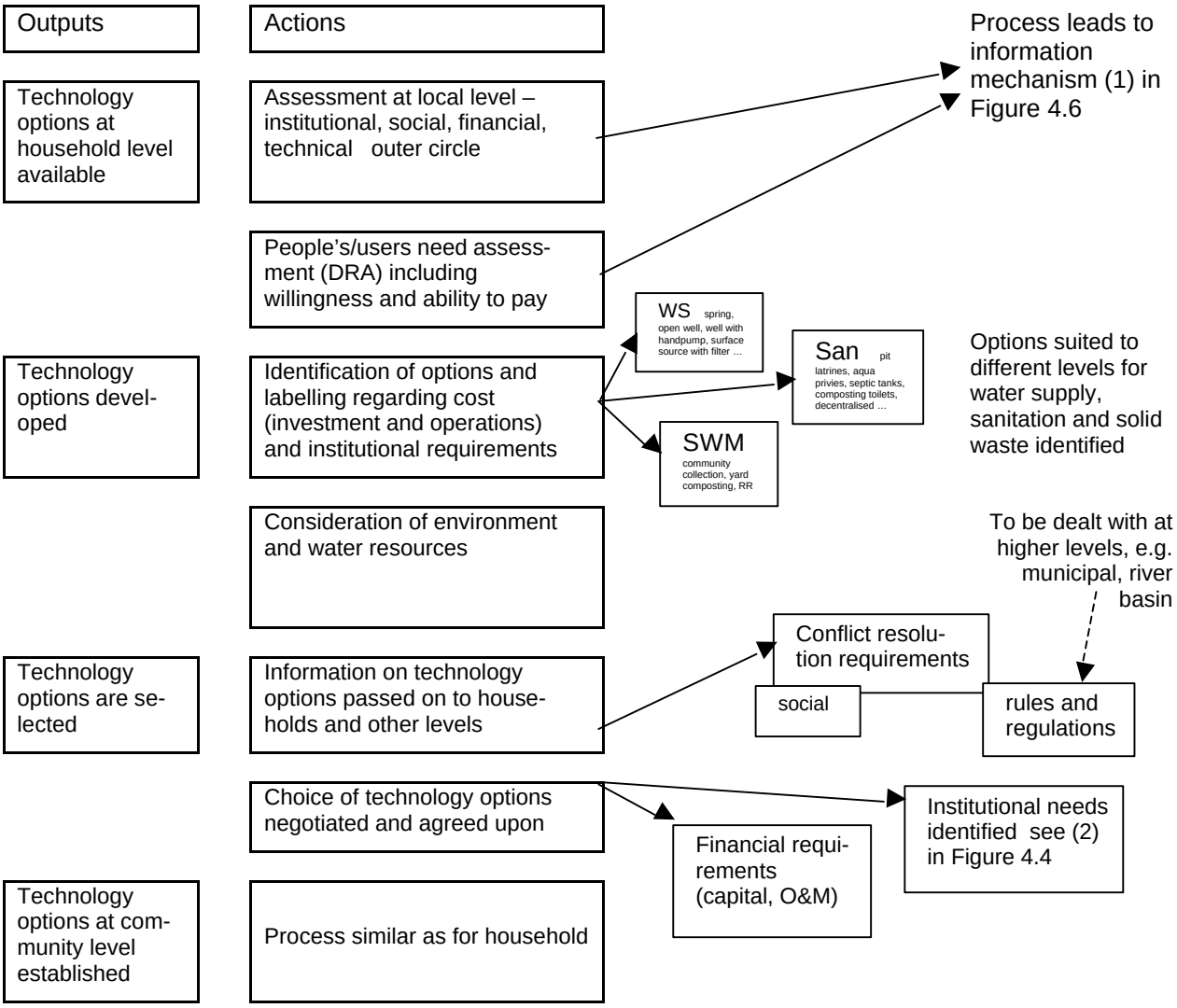
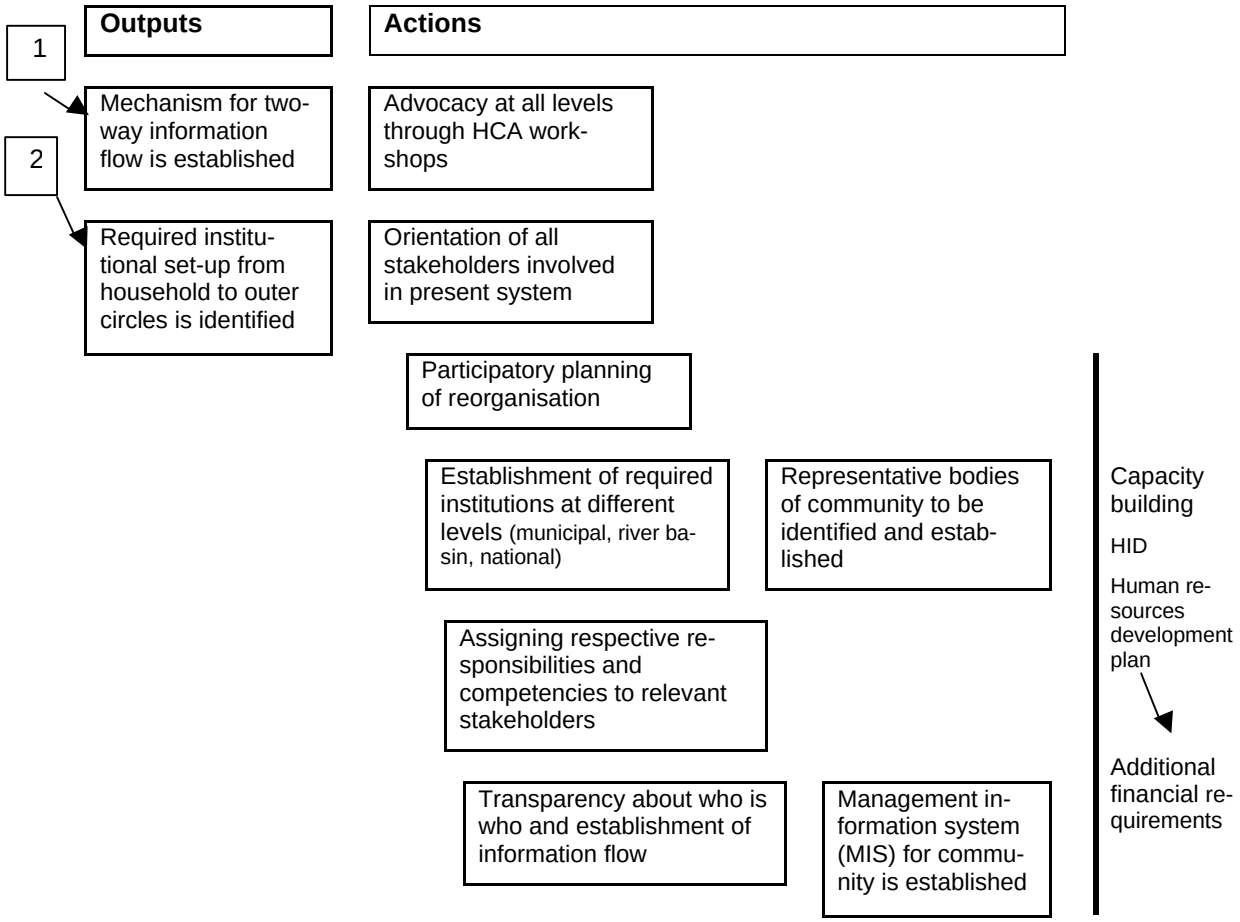


Figure 4.6 Banja Luka – Institutional aspects relating to HCA implementation



4.4.3. Plenary discussion of the findings of the working group

The following points were made in the discussion:

- The "Management Information System for the Community" is nothing sophisticated, but a mechanism for two-way information exchange to keep the community aware of developments.
- According to normal techniques of integrated water resources management the river basin should be the starting point, in apparent contradiction with the House-hold-centred Approach. For water supply, the household should be the starting point. To resolve these apparent contradictions, an iterative method should be used; planning should start at the household level, but if a serious problem is en-countered at a higher level, the initial assumptions and decisions at the household level may need to be revised.
- In this type of project, individual demands may conflict with ecological demands.

4.5. Observations from the field visit

The field visit is described in Annex 4.

The experience in the scattered community showed clear evidence of a household-centred approach –

- The initiative and impetus for setting up the supplies had come from the residents themselves, rather than from outside the community.
- Different consumers with different non-domestic requirements had solved their supply problems in different ways, according to their needs.
- Management, operations and maintenance were undertaken by the community itself, not by outsiders.

There had been inputs from outside. A large subsidy was being paid to support the operation of this system. This suggests that it is more cost-efficient to support local people to maintain and manage their own system, on which they depend, than to bring technicians from a central office at some distance. This factor is no doubt intensified by the time taken to travel to the facilities on the small mountain roads, and the difficulty of travelling in winter. Another external factor was the impact of insurance premiums. Because most of the houses were made of wood, and there have been serious fires, the insurance companies imposed high premiums on houses that were not served by tanks with large fire-fighting reserves. This factor had persuaded all households to join the system that provided this degree of fire protection.

The members of the community did not insist on every member paying equally, but were flexible on individual contributions for the sake of solidarity.

5 Conclusions

5.1. Individual conclusions of participants

Participants, working in small groups, were invited to write on cards their conclusions regarding the material and ideas that had been presented at the Workshop. The conclusions were not discussed or agreed by the whole group, but reflect the perceptions of individual participants.

Benefits of Household-centred Approach

- HCA is a very good approach that can boost self-esteem at all levels for better development and sustainability of projects and programmes.
- HCA, unlike community-based approaches, is cross-cutting in approach.
- HCA looks from the household's perspective, keeping in mind all the levels. The earlier community-centred approach suffered from the drawback that communities can be very diverse.
- The circles and sectors representation is a very useful analytical tool.
- The HCA is a useful model of thinking, helping us to remember the three principles and the importance of the circles and arrows.

- HCA is a more holistic approach in comparison to other people-centred approaches. It takes care of all decision-making units, from the lowest to the highest, in a programme planning procedure that leads to a higher chance of sustainability.
- HCA is an analytical approach to interlink existing tools, such as DRA, HID (Human Institutions Development), and environment strategies.
- HCA is an improvement over past approaches such as CPA and DRA. It recognises the importance of other levels and the need for strong linkages. It also includes "closing the cycle" which is so important, given the ecological problems faced in almost all developing countries.
- HCES is a very helpful vision or philosophy for rethinking about sustainability for wastewater and solid waste management.
- In situations where "DRA" and effective community involvement are already well practised, HCA would further enhance closing of the cycles

Possible limitations of Household-centred Approach

- If used in water sector, potential problems might include not really addressing the issues of conflict over resource allocation.
- It does not really address the issue of highly transient populations living in cities. They are normally tenants, not owners, so they do not have a voice in design issues.
- Gender and poverty issues are missing.
- The discussion of the Banja Luka case reminded me of the discussions in the eighties with regards to integrated projects (if you structure everything you get the solution) which failed terribly!

Summing up the Household-centred Approach

- Closing cycles; remain local; reuse what is existing; rehabilitate and improve.

Evaluation of the Household-centred Approach

- My conclusion is that the HCA is a powerful analytical tool. It helps us to visualise where weaknesses and strengths are. This can lead to action which can then be taken to re-orientate or correct a project. It is also useful, because it reminds us that the person at the centre is the most important element of the picture. Each and every action should be taken bearing in mind the needs of this person.
- HCA is a good approach for moving forward, subject to its proper implementation.
- HCA is a good analytical tool and will help clearly to analyse programmes involving all stakeholders. This is a very big advantage. More details are required to actually implement it.
- If it is applied in the correct way, outcomes and impacts will be different from those resulting from conventional approaches.
- HCA is a very useful approach for structuring thinking and helping you to find out weaknesses (e.g. institutional gaps) by looking at all the circles.
- HCA is an approach and a guide that shows how to deal with all issues in a project cycle in a structured way.
- HCA is not a new concept. Examples from agriculture and small industries indicate a similar approach.

- HCA is not a new concept.
- Applying HCA brings to light the constraints in a project in the same way as other approaches.
- It is not a new thing but a good combination of important aspects in the form of an illustrative picture.
- It is more of a tool than a new approach.
- HCA is even more applicable for projects with a strong sanitation component.
- Less innovative as already applied in rural context, where closing cycles is less of an issue.
- Not complete: Gender, poverty, sustainability and equity are (apparently) not taken into consideration, so it is not holistic as an approach.
- HCA is practicable, but it needs time.
- The HCA involves a huge input in training and capacity building, which may only be possible where there is a strong interest in the issues and a source of external support that is ready for long-term inputs with little quantifiable output in the short-term.
- Difficult to tackle political problems in HCA.
- A useful philosophy – largely not so new, except for the idea of "closing cycles" and "solving the problem at the lowest level"
- HCA is a useful addition to the analytical toolbox. It reflects Rio principles as relevant to the environmental sanitation sector.

Requirements for the Household-centred Approach

- Strong linkages and co-ordinating mechanisms between the various stakeholders and institutions.

Implementation of the Household-centred Approach

- Setting standards can have serious negative effects, excluding improvement of services for many people. It is important to allow for a range of solutions. (And there are more options than one might think.)
- We should start thinking on the household level even if action starts on a different level.
- To apply HCA in a project requires immense efforts to change the mind-set at all levels, to reorganise institutions and structures and to build capacity. It also demands patience to maintain long-term sustained efforts.
- Start planning and implementing projects following HCA where there is a clear government policy for decentralisation.
- To make the HCA sustainable, keep external inputs low, seek legal recognition, and restrict it to basic needs. Local initiative is the starting point.

The Impact of the Workshop

- There may be very positive inputs to the case studies by introducing the HCES approaches.
- The experience of the Workshop has demonstrated that the HCES approach is applicable in urban and rural settings for both water and sanitation sectors.
- I am still confused about HCA.

Issues that are still not clear

- It is not very clear how civil society fits in.

What needs to be done?

- We need results from case studies and examples to develop successful tools, which can be used for implementation. We also need examples of institutional frameworks in successful cases.
- HCA is a concept. We need tools for implementation, e.g. tools to facilitate changes in legislation to empower communities to take decisions; tools to guarantee communication between the different levels; tools to compare different technical options.
- There is still a lot of work to do to operationalise the approach but it is a very important task.
- Much work is needed to strengthen inner circle levels and to ensure a real decentralisation.
- It is still worthwhile to concretise the "Community Development Approach"
- Regulatory mechanisms are needed for management of water resources at the lower levels.
- HCA is an approach that is not necessarily new. However, the concept of closing the cycles seems to be the missing link. More guidance about the closing cycles will be very useful for effective implementation of HCA.
- Closing cycles is the issue that poses the main challenge.
- The visual "packaging" remains a problem. The hard boundaries between the various sectors (institutional, technical, etc) encourage linear, non-integrated thinking. Diagrammatically, a change which reflects inter-connectivity and inter-relationships, etc. is essential.
- The procedures on how to apply HCA to the provision of drinking water are not yet very far developed.
- Further thought is needed on how to integrate with existing water sector tools, approaches and philosophies.

5.2. Issues that stand out from the working group presentations

The human aspect Whilst the advantages of the Household-centred Approach are clear, there is some concern about how existing arrangements could be transformed to allow implementation according to HCA principles. For example, the concentration of power is very firmly entrenched in the bureaucratic systems of most government administrations, and it may be difficult to persuade senior decision-makers that they should no longer be making decisions about methods and allocation of finance. Will they hand over this power that they have been working towards for much of their professional careers? Will they be ready to act on decisions that have been made by lower tiers of government? Clearly the first step at this stage is to decide on the destination rather than to determine the route in detail – first we must identify the method of management and planning that is desired. However, careful thought needs to be given to how to travel to that destination. It may be a long journey.

A system of training and capacity building is also needed, so that users and their committees are able to define their needs, assess their resources and identify the most sustainable solutions. The Workshop showed that it takes time to convey understanding of the HCA, so the training will need to be thorough.

Flow of information A common theme is the importance of information, particularly to the household level, so that informed choices can be made, based on sufficient and accurate information which is presented in a form that can be assimilated and used by untrained citizens.

Leadership of national governments and external support agencies A number of times the importance of the support and policy of governments and donors has been mentioned. This should not just be a willingness to allow the HCA, but a leadership that can overcome obstacles and facilitate the necessary changes, particularly in technical approaches and bureaucratic procedures.

New solutions Some groups concluded that there is a need for more technical options that are suitable at the household level, in both water supply and ecological sanitation. On several occasions mention was made of the interrelationships between technology, economics, social factors, institutional arrangements and prevailing standards, in connection with the definition and introduction of new and alternative solutions. The need for a more flexible approach to technical standards was also referred to, since rigid standards have the effect of excluding all but conventional approaches, which often cannot be afforded or implemented at the household level.

Time On several occasions participants mentioned the slow starting pace that is inevitable with the HCA, because of the need to develop new institutional and financial mechanisms, and new technological approaches, and to pass information to lower levels. Therefore the HCA requires longer-term donor involvement and could be threatened by short-term political considerations where politicians want to show results before the next election.

Conflicts Some conflicts were mentioned, though none was seen as posing a major threat to the introduction of the HCA. Conflicts with existing implementation models could cause some difficulties when integrating the HCA into on-going programmes. Some forms of sanitation that recycle excreta and some forms of household water treatment might pose risks to health if not used in the recommended way.

Tools Since the development and implementation of the HCA is at an early stage, there is a need for tools and case studies that can be used to explain the concepts and operation of the HCA to a wide variety of actors, including decision-makers, community leaders, planners and engineers.

Positive All the groups could see how the HCA could be integrated into the cases they were considering, and the general feeling was that the HCA is a useful way of looking at development issues, and that is has considerable potential as a new approach to the provision of water and environmental sanitation.

5.3. My next step

Participants were invited to suggest the next step that they think they could and should take in the light of what they had heard at the Workshop. This is what they wrote…

- As the water and sanitation project in Southern Sudan is already based on household/small community system, I will strengthen the household approach within the programme, specially trying to give more responsibility to the beneficiaries.
- I'll promote the approach to my colleagues and associates at my place of work.
- I'll also sell the idea regionally.
- I'll also try to use HCA to address other issues not only water and environmental sanitation.
- HCA's concept/approach should be shared with all the stakeholders to find their reactions.
- I will try to apply the approach for water supply and test it there.
- Focussing also at the water sector much more on household and disseminate also much more solutions that work on the household!
- I see a good potential for application of HCA. However, before this could be done, it will be necessary to define this approach more clearly. A document from SKAT/SDC is welcome.
- I will share the concept with my colleagues and counterparts to explore its application in a pilot project
- Integrate HCA concept in programme steering.
- Develop HCA approach with STI and SKAT for the follow-up of the Dar es Salaam Urban Health Programme (UHP).
- Will try to use HCA in all development projects and will not limit it only to water and sanitation projects
- I will re-evaluate my projects with this analytical tool. That will help me in knowing where actions have to be taken. It will also help me to think consistently, taking care of strengthening links between circles (from inside to outside and vice-versa).
- Emphasis on holistic approaches to water and sanitation implementation – solid waste and wastewater incorporated – with closing of cycles principle in focus.
- Apply HCA model in my project to assess the strengths and weaknesses, and try to improve the sustainability. May be apply HCA principle in the next project planned for water supply and sanitation.
- Emphasise efforts in wider, broaden analysis of all involved levels, especially those that, through the Workshop, seems to be very weak (not enough) involved.
- Bigger, more complex analysis at the demands of the people.
- Apply this analytical tool in my projects to see where they are at.
- Present and discuss within project.
- Promote political support for HCA principles.
- Promote stronger body on district level to interact with communities.
- Study HCA further to see potential for turning into analytical tool for inclusion in courses for water and sanitation professionals at different levels.
- I propose that the HCA should be improved taking into account today's discussions and discuss it once more in a group like this.

- A big step has been done, but still need a deepest work.
- To look more at institutional aspect and to make sure that knowledge, attitude and practice are shared between different levels.
- Think about how to make my research work much more household-centred (difficult job!).
- Trying to apply the circles and arrows on the stakeholder analysis which I am just doing in my research project.
- I will be taking the approach back to my colleagues for further discussions and debate.
- I will await further developments (and also look for the changes suggested by this Workshop) from the "approach developers".
- This is what we have been doing for many years, but not very systematically. We will be more systematic this time.
- Our new strategy will reflect this well, taking into consideration HCA.
- Include the HCA concept into the Austrian water sector policy.
- Conduct workshops with local partners in new or ongoing (but still young) projects to use HCA as an analytical tool to find out gaps in the implementation approach (mainly institutional set-up).
- Follow-up on further developments of the HCES approach.
- Include option HCA in further planning process.
- Collect real case studies and their practical experiences.
- Look for options to participate in the elaboration/learning of case studies.
- To think more on how the cycles can be closed.
- To discuss the HCA with colleagues and others for possible application in projects.
- Think more about the households and the impact of my activities on them.
- Try to step back from my day-to-day work and get a (holistic) overview.
- Pay more attention to interfaces between different levels (circles of HCA).
- I'll try to incorporate in project assessment and planning discussions.
- Develop technical options which could correspond to the requirements of different specific situations, and which can be used at household level for decentralised treatment.
- Develop tools to compare the different technical options and determine which are adapted in a specific situation.
- Spreading information about HCA.
- Continuing to assist in the discussion about HCA.
- Starting discussions of introducing HCA in sector policy on water supply and sanitation.
- Introduce HCA philosophy in project on ecological sanitation.

5.4. Comments of Resource Person

The following points summarise the concluding comments of Roland Schertenleib.

The situation There are 3 billion people without adequate sanitation. No one is saying that everything that was done in the past was wrong, but it is clear that if we continue in

the same way the situation will deteriorate further. *Business as usual* is no longer acceptable. The collaborative effort and the HCA have resulted from the desire to find a better way. The HCA is very valid for sanitation in peri-urban areas. There are already satisfactory approaches for rural areas. HCA is a good analytical tool.

Holistic Holistic thinking is central in the HCA. Together with the integration of environmental sanitation, it is the vital new ingredient of the HCES. When we consider improving water supplies, for example, we must also consider the impact on sanitation.

Politics It has been said that it all depends on the political will or the political system. This should not be regarded as an impassable barrier. The Collaborative Council includes ministers and representatives of external support agencies, and this is the body that has been promoting the HCA. We should consider talking to mayors and ministers to get them on our side. Political positions may change – there are ministers who are eager to improve the situation.

Case studies The choice of case studies in the Workshop was very helpful because together they covered a wide variety of issues. The example from Pakistan provided a good illustration of the principles of the HCA because CAP did not try to be an implementation agency, but was concerned with supporting communication. The Nepal working group reported that they had decided not to include recycling. This is not a problem – the important thing is to consider all the issues, but it may often be decided that some of the issues are not the priority and should be left until later. The new project in Banja Luka provides an opportunity for holistic planning, even if implementation starts with only one aspect.

Water supply One of the key purposes of the Workshop was to consider how the HCA can be applied to water supply. A key lesson is that we need to have a bigger range of technologies, and households need to know what these options are and be aware of their implications.

The next steps In order to promote and implement the HCA, the following steps need to be taken:

- Preparation of provisional guidelines for implementation – for example if a mayor wants to know how to put the HCA into action;
- Review of existing tools, technologies and software, to identify where effort should be concentrated;
- Preparation of case studies that illustrate the use of the HCA.
- Design and implementation of demonstration projects;
- Applied research on new technologies and approaches.

Annex 1 Roles and Participants

Annex 1.1 Roles and responsibilities

Function or responsibility	Person or organisation responsible
Organisation	AGUASAN / SKAT
Preparation and coordination of the content and "rolling" planning during the Workshop :	Armon Hartmann, SDC Franz Gähwiler, HELVETAS Roland Schertenleib, SANDEC Karl Wehrle, SKAT
Logistics support	Patrick Kilchenmann, SKAT
Secretariat	Susanne Grob
Financing of :	
– Organization / Programme	SDC, Berne
– Accommodation	Participants individually
Facilitation / Moderation of Workshop	Tonino Zellweger
Principal Resource Person	Roland Schertenleib
Presenters of Case Studies	Luitel Achyut, Nepal Melchior Lengsfeld, Mozambique Mahmood Shahid, Pakistan Snezana Rovcanin, Republic of Srpska
Responsible for workshop success	All participants
Rapporteur	Adrian Coad

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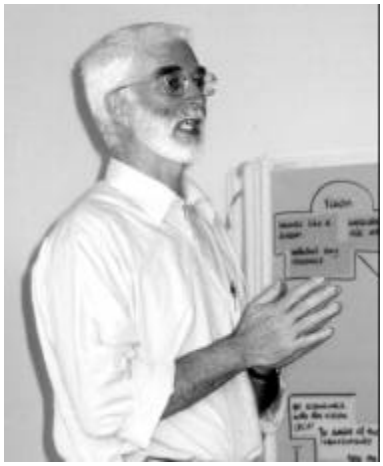
← Photograph A1.1
The Principal Resource Person, Roland Schertenleib

Photograph A1.2 →
The Moderator, Tonino Zellweger



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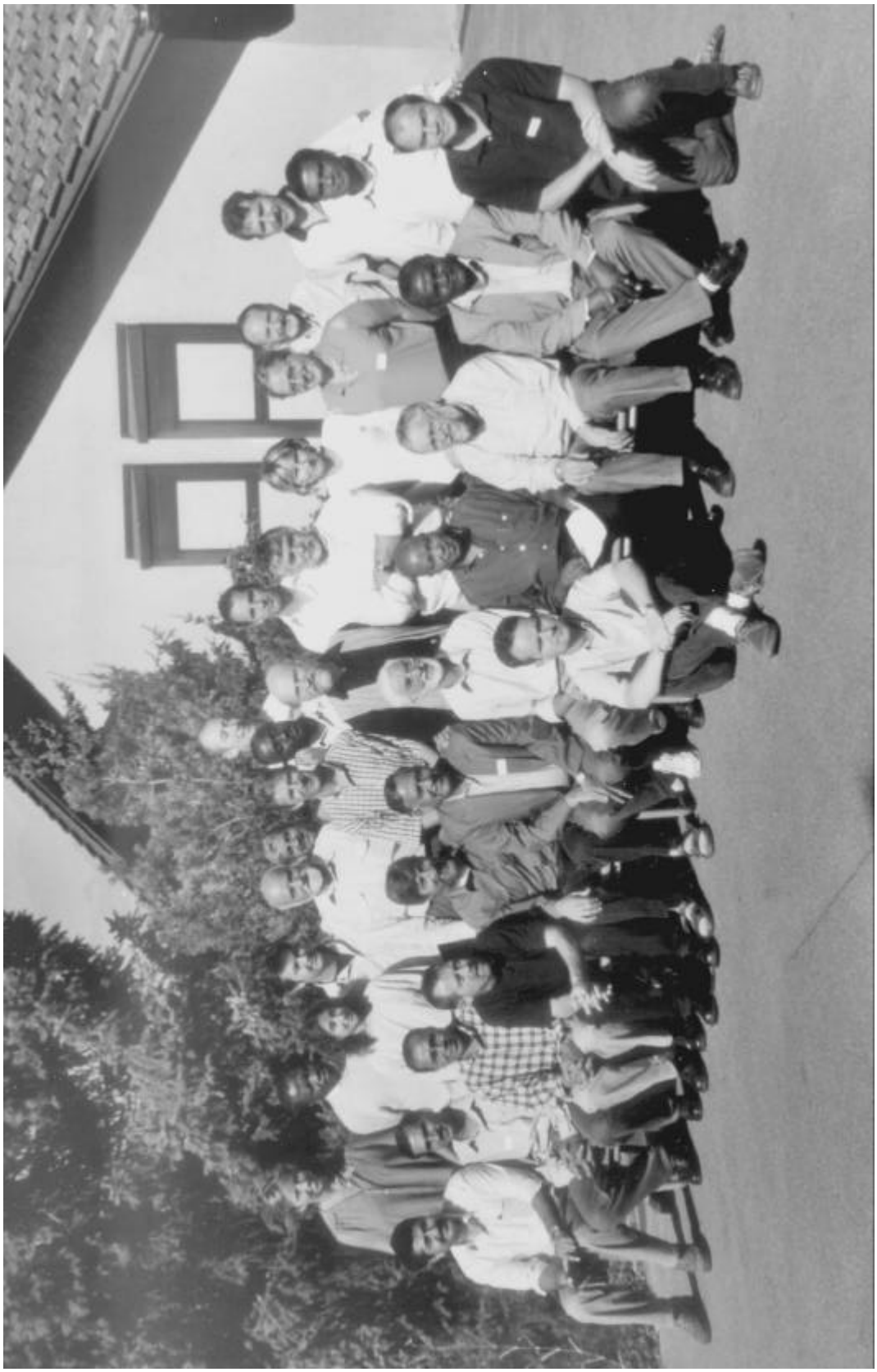


Photograph A1.3 The participants outside the hotel

Annex 2 Background paper

Annex 2.1 Household-centred Approach in Environmental Sanitation

by Roland Schertenleib

A2.1.1 The case for change

1.2 billion people do not have access to safe drinking water
3 billion people do not have access to proper sanitation
Perhaps 50% of all solid waste is uncollected
No one knows how many people are flooded out each year
and
3 billion people have to survive on less than US$ 2/day

The large number of people around the world who still do not have access to adequate water, sanitation, drainage and solid waste disposal services provides sufficient evidence that conventional approaches to environmental sanitation are unable to make a significant dent in the service backlog which still exists. At the same time, the world's natural supply of freshwater is subject to increasing environmental and economic pressures. The situation is likely to worsen dramatically unless determined action is taken, because continuing population increases and increasing per capita water demand, fuelled by improving economic conditions, will further contaminate and deplete sources of water which are finite, and in many countries already over-exploited.

In 1999, at a workshop in Hilterfingen, Switzerland, a sub-group of the Environmental Sanitation Working Group (ESWG) of the Water Supply and Sanitation Collaborative Council conceived of a new approach to overcome the serious lack of sanitation services, causing illnesses and slowing the economic progress of hundreds of millions of people in developing countries: the Household-centred Environmental Sanitation[1]

[1] An earlier WSSCC Working Group on Promotion of Sanitation had defined Environmental Sanitation (ES) as: "Interventions to reduce peoples' exposure to disease by providing a clean environment in which to live, with measures to break the cycle of disease. This usually includes disposal of or hygienic management of human and animal excreta, refuse and wastewater, the control of disease vectors, and the provision of washing facilities for personal and domestic hygiene. ES involves both behaviours and facilities which work together to form a hygienic environment." The Hilterfingen Group added to these components stormwater management, and water to the extent that water influences the method of waste disposal.

(HCES) Approach. The group concluded that this approach offered the best hope of achieving the goal of Water and Sanitation for All within a framework which balances the Needs of People with those of the Environment to support a Healthy Life on Earth.

At an experts' meeting in Bellagio, Italy, in February 2000, called to review the recommendations of the Hilterfingen Group, and to develop them further, the participants reached two major conclusions which are also reflected in the Bellagio Statement (see Annex 2.2):

A) Business as usual is no longer acceptable because it:

- cannot provide services for those not yet served in developing countries where especially the poor live in squalor, suffer human indignity and live with constant threat of disease;
- does not provide sustainable service even in the industrialised world where sewerage and drainage systems are over-extended, and the use of drinking-quality water to transport excreta is wasteful and contributes to the pollution of the environment;
- is based on centralised systems planned without stakeholder consultation that result in services that often cannot be sustained by those they are supposed to serve;
- lacks the holistic planning of environmental sanitation components - sanitation, solid wastes and stormwater management, which should be part of urban planning - reducing the effectiveness of each;
- neglects the potential for conservation, reuse and recycling of resources.

B) If significant progress is to be achieved, new and innovative approaches are needed to replace *business as usual*. The HCES Approach offers the promise of overcoming the shortcomings of *business as usual* because its two components correct existing unsustainable practices of planning and resource management. These components are:

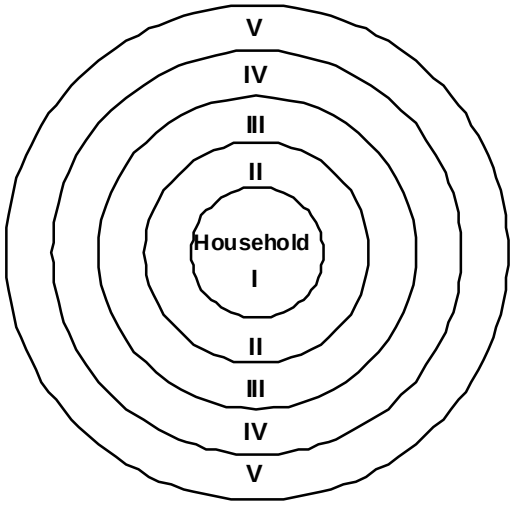
- *Household Centred Environmental Sanitation (HCES)* Planning, which makes the household the focal point of Environmental Sanitation Planning, reversing the customary order of centralised top-down planning. It is based on the concept that the user of services should have a deciding voice in the design of the service, and that environmental sanitation problems should be solved as close to the site where they occur as possible so that the solutions are sustainable by the user. Only problems not manageable at the household level should be "exported" to the neighbourhood, town, city and so on up to larger jurisdiction. Making the household the key stakeholder also provides women with a strong voice in the planning process, and changes the government's role from that of provider to that of enabler; and
- The *Circular System of Resource Management (CSRM)* that, in contrast to the current linear system, emphasises conservation (reducing imports) of resources, and the recycling and reuse of resources used (minimising exports). Resources, in the case of environmental sanitation, are water, goods used by households, commerce and industry, and rainwater. The circular system practices what

economists preach - waste is a misplaced resource. By applying this concept, the circular system reduces “downstream” pollution.

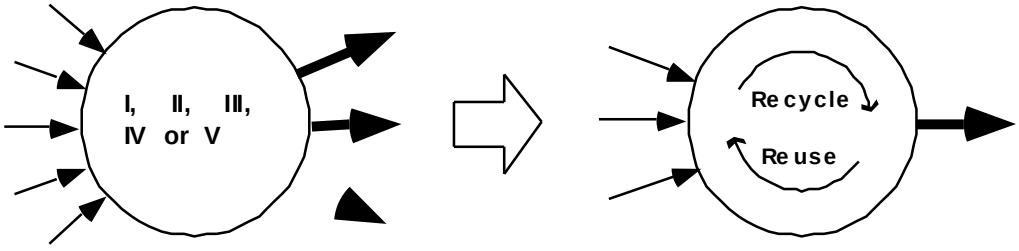
The suggested approach can be symbolised by a model of concentric circles with the household at the centre (see Figure A2.1 “The HCES model”).

Figure A2.1

The HCES model



a) puts the people at the household level and their quality of life at the center, surrounded by the neighbourhood/community (II), local (III), district (IV), and national (V) government area



b) is based on the principle of minimising waste transfer across circle boundaries by minimising waste-generating inputs and maximum recycling/reuse activities in each circle

A2.1.2 The structure of decision making in the household-centred approach

The conventional approach to water supply and environmental sanitation is based on a highly centralised system of decision-making, usually under the control of the national government. In recent years, many governments have attempted to decentralise, first by deconcentrating their functions, then by delegating these functions to second- and third-tier governments (for example, to provinces and municipalities). Eventually, some governments have devolved responsibility for service provision to local authorities.

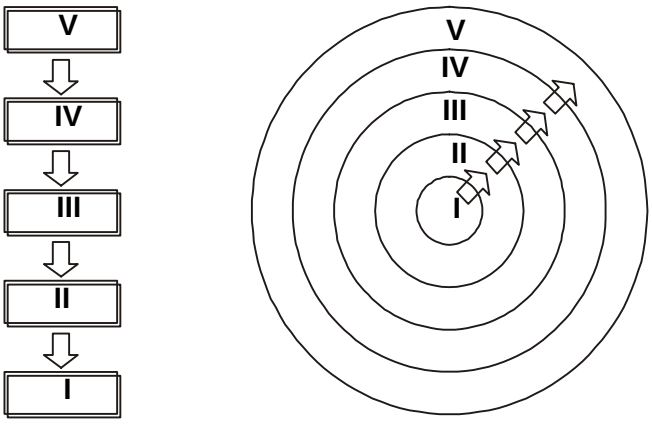
The results of these efforts have been mixed. Deconcentration and delegation leave central policy-makers in charge, and do little to encourage initiatives by local office-holders and managers - decisions are still made at the centre, which also holds tightly onto the purse strings.

The problems with devolution generally result from the fact that only the new responsibilities, not the means of implementing them, are transferred to the local authorities. Frequently the government neither relinquishes its revenue-generating powers, nor provides the local authorities with the funds necessary to successfully operate the services for which they are now responsible.

The HCES Approach is a radical departure from past central planning approaches. As shown in the figure it places the stakeholder at the core of the planning process. Therefore, the approach responds directly to the needs and demands of the user, rather than central planner's often ill informed opinions about them.

Decision Making in

The Past **The Future**



Legend:

I Household
II Neighbourhood / City Ward
III Town / City
IV District / Province / River Basin
V Nation
⇨ Flow of Decision-Making

It is based on the following principles:

- Stakeholders are members of a "zone", and act as members of that zone ("zones" range from households to the nation). Participation is in accordance with the manner in which those zones are organised (for example, communities and neighbourhoods consist of households, towns consist of communities, etc.). Zones may be defined by political boundaries (for example, city wards and towns) or reflect common interests (for example, watersheds or river basins).
- Decisions are reached through consultation with all stakeholders affected by the decision, in accordance with the methods selected by the zone in question (for example, votes at national level in a democratic system, town hall meetings at local level, or informal discussions at neighbourhood level).
- Problems should be solved as close to their source as possible (for example, where feasible, a community should provide services to households within it; common wastewater treatment facilities for several communities should be provided by a consortium of the communities). Only if the affected zone is unable to solve the problem should the problem be "exported", that is, referred to the zone at the next level.
- Decisions, and the responsibility for implementing them, flow from the household to the community to the city and finally to the central government (there may also be intervening zones that need to be considered; for example, wards within the city, districts within a province; or provinces within the nation). Thus, individual households determine what on-site sanitation they want; together with other households, they decide on the piped water system they want for their community, together with other communities, they determine how the city should treat and dispose of its wastewater. Policies and regulations are determined by central government, with implementation delegated to the appropriate levels flowing towards the household (thus national standards define storm water disposal requirements, but the city issues local building codes).

A2.1.3 Implications of applying the HCES model

However the boundaries of each zone are defined[2], implementation of the HCES approach requires stakeholders within the zone to plan and implement environmental sanitation infrastructure and service delivery in a manner that is sustainable with the resources which are available to them within the zone (or which can be made available from another zone). The approaches that should guide them in arriving at such sustainable solutions within each zone include some or all of the following:

[2] It should be noted that the boundaries appropriate to each of the various sub-sectors may not be identical. A fundamental exercise in establishing the HCES model is therefore to determine how best to treat the study area in terms of zones and sub-zones, as well as of sectors and sub-sectors. This is probably best resolved through an analysis of actual case studies, rather than as an abstract theoretical concept.

- *Water demand management*, in order to minimise wasteful use of water, and so reduce the need for new source development and limit the production of wastewater;
- *Reuse and recycling of water*, in order to minimise the need for wastewater collection, treatment and disposal;
- *Solid waste recycling*, in order to reduce the burden of collecting and disposing of solid wastes;
- *Nutrient recovery*, whether at the household level (for example, eco-sanitation), or on a wider scale (for example, urban agriculture);
- *Improved rainwater management*, reducing runoff by on-site or local measures, including detention and treatment, and the reuse of stormwater to benefit the community, such as storage for fire fighting and recreational or amenity use, thus reducing uncontrolled discharge to surface waters;
- *Strong emphasis on intermediate technologies*, so as to encourage household- and community-level construction, operation and management of facilities, and permit reuse and/or disposal at the local level;
- *Institutional arrangements and mechanisms* that stress the involvement of the users, encourage the participation of the private sector, facilitate co-operation across zone or sub-zone boundaries (such as wholesale – retail relationships for service delivery), and ensure the provision of technical assistance across zone boundaries where needed;
- *Economic analysis procedures* that clearly illustrate the economic benefits of good planning as well as the consequences of sub-optimal development (for example, in terms of environmental damage; wasteful use of water, energy or other resources; or relying on imported skills and equipment and so failing to make the best use of local resources);
- *Effective and sustainable financial incentives* to encourage the adoption of economically desirable alternatives;
- *Financial procedures* that determine whether problems should be solved within the zone itself, or whether a joint solution should be selected to serve more than one zone (for example, a city-wide system serving a number of wards). Where economic and financial considerations indicate that a shared solution is preferable, appropriate cost-sharing mechanisms need to be established.
- *Cost recovery practices* (predominantly user charges in Zones I and II; tax revenues elsewhere) that ensure financial viability, are socially equitable, and promote the "circular system" and the productive use of "wastes".

In summary, programs and projects designed in accordance with the HCES approach will, like all successful and sustainable development efforts, have to address all aspects of development: social, institutional, economic and financial, and technological. The difference is that they will truly be "bottom up", beginning with the preferences and capabilities of the households.

Annex 2.2 The Bellagio Statement

Clean, healthy and productive living:
A new approach to environmental sanitation

In the world today, 1.2 billion people are without access to safe drinking water, 3 billion are without proper sanitation, and 50% of solid wastes remain uncollected. Meeting at Bellagio from 1-4 February 2000, an expert group brought together by the Environmental Sanitation Working Group of the Water Supply and Sanitation Collaborative Council agreed that current waste management policies and practices are abusive to human well-being, economically unaffordable and environmentally unsustainable. They therefore called for a radical overhaul of conventional policies and practices world-wide, and of the assumptions on which they are based, in order to accelerate progress towards the objective of **universal access to safe environmental sanitation, within a framework of water and environmental security and respect for the economic value of wastes**.

The principles governing the new approach are as follows:

1. **Human dignity, quality of life and environmental security at household level should be at the centre of the new approach, which should be responsive and accountable to needs and demands in the local and national setting.**
   - solutions should be tailored to the full spectrum of social, economic, health and environmental concerns
   - the household and community environment should be protected
   - the economic opportunities of waste recovery and use should be harnessed.

2. **In line with good governance principles, decision-making should involve participation of all stakeholders, especially the consumers and providers of services.**
   - decision-making at all levels should be based on informed choices
   - incentives for provision and consumption of services and facilities should be consistent with the overall goal and objective
   - rights of consumers and providers should be balanced by responsibilities to the wider human community and environment.

3. **Waste should be considered a resource, and its management should be holistic and form part of integrated water resources, nutrient flows and waste management processes.**
   - inputs should be reduced so as to promote efficiency and water and environmental security
   - exports of waste should be minimised to promote efficiency and reduce the spread of pollution
   - wastewater should be recycled and added to the water budget.

4. **The domain in which environmental sanitation problems are resolved should be kept to the minimum practicable size (household, community, town, district, catchment, city) and wastes diluted as little as possible.**
   - waste should be managed as close as possible to its source
   - water should be minimally used to transport waste
   - additional technologies for waste sanitisation and reuse should be developed

Annex 3 Programme

Morning	Afternoon
Monday, June 26	
Arrival (11:00 a.m.) ▪ First informal contacts ▪ Welcome-drink	**Opening** ▪ Programme and objectives (KW) ▪ Personal presentation of participants ▪ Presentation of the context "Who is who in the water sector" (AH) **Introduction** ▪ Introducing the HCES Approach (RS) ▪ Reactions by participants (questions, comments) ▪ Presenting the cases (TZ – CSP) ▪ Forming of working groups
Tuesday, June 27	
▪ Review of Day 1 ▪ Further explanation of HCES (RS) ▪ Group work – identifying requirements of HCA. ▪ Plenary presentation of requirements (TZ)	▪ The current status of HCES (RS) ▪ Group work – becoming familiar with case studies and deciding on focus. ▪ Brief review of progress in plenary (TZ) ▪ Informal evening presentations
Wednesday, June 28	
▪ Review of Day 2 ▪ Carousel presentations of group progress ▪ Brief discussions in working groups ▪ Briefing on field trip	**Excursion** ▪ Visit to a Community Water Supply ▪ Historical upgrading of installations ▪ Dinner in the Community
Thursday, June 29	
▪ Review of Day 3 ▪ Recapitulation of logic and progress of workshop (RS) ▪ In groups – identifying the most important requirements ▪ Group work: "Towards implementing the HCA"	▪ Group work continued, including preparation of final presentations ▪ Informal evening presentations
Friday, June 30	
▪ Review of Day 4 ▪ Final presentations and discussions	▪ Comments and conclusions (RS); ▪ Looking back and looking forwards: evaluation, conclusions, topics for the next AGUASAN Workshop ▪ Presentation of certificates ▪ Closure of the workshop (KW)

KW Karl Wehrle **AH** Armon Hartmann **RS** Roland Schertenleib
TZ Tonino Zellweger **CSP** Case study presenters

Annex 4 Report of the field trip

On the Wednesday afternoon the participants climbed into a large coach that took us along narrow, winding roads through beautiful scenery to the remote Commune[1] of Romoos, in the Canton[2] of Lucerne. The purpose of the trip was to learn about a water supply system that had developed in a way similar in many respects to the Household-centred Approach.

The Commune covers an area of 37 square kilometres, and its altitude varies from 610 to 1371 metres above sea level. Until 1983 when a narrow road was opened, the only access was by cable car. More than half of the area is covered by forests, and the economy depends on cattle, forestry, crafts and the preparation of charcoal in a traditional way. The population of the Commune has been declining, and it currently stands at 780.

Water is supplied from springs, not all of which provide safe water all year round. Initially the farmhouses all had their own gravity supplies, and some of these household schemes are still used. However, to overcome seasonal shortages and to obtain subsidies from the canton and central governments, small co-operative systems have been set up during the last thirty years. A further motivation for connection to the co-operative supplies has been provided by fire insurance premiums – the wooden houses are at risk of fire from lightning strikes and other causes, and the insurance companies require a much higher premium for houses that are not protected by a sizeable reserve of water for fire fighting.

One co-operative system that serves 14 households was visited. Water was pumped from a perennial spring to a tank at an elevation higher than the highest house. This tank has a capacity of 150 m^3, of which 100m^3 is a reserve for fire fighting. It is also fed by gravity from other springs, but these springs often dry up, so must be complemented by the pumped supply. The quality of the water from the upper springs is not always good, so this source can be shut off when the turbidity rises, and ultra-violet disinfection is used to guarantee a safe supply. The quality of the water is monitored annually by an inspector from the canton making an unannounced visit.

The scheme cost CHF 460,000 to construct, and was subsidised by a government grant of 86%, so that each household paid between CHF 4,000 and CHF 6,000. The supply system is private, but since it is subsidised by the Commune, the Commune stipulates that the water may not be sold at a profit. Operation and maintenance costs are about CHF 2000 per year. The tariffs are set by a meeting of the shareholders, and at the time of the visit the charges were CHF120 per household for the first 100m^3, CHF 0.6 per m^3 for the next 1000m^3, and further consumption should be paid for at a rate of CHF 0.5 per m^3 . Before these tariffs were agreed, the main consumer, the owner of a cheese factory, complained about the amount he was paying for water, so the co-operative agreed to lower tariffs for high consumption because it is in everyone‘s interest to sell as much water as possible.

The local roads are also operated by co-operatives. Ninety kilometres of roads are managed by 25 co-operatives which received a subsidy equal to 85% of the construction costs and 70% of the maintenance cost.

The Commune has a president (a post for the equivalent of 25% of the working week), a treasurer (65%) and a secretary (full-time). It receives CHF 0.8M per year from local taxes and CHF 2.5M from the Canton.

The resource persons for the visit were Bruno Strebel and Walter Birrer (who is the financial head of the Commune).

[1] The commune is the smallest administrative unit in Switzerland.

[2] A canton is a larger administrative unit, usually including several large towns, having a high degree of autonomy.

Photograph A4.1 →
There was a little linear programming as we went to look at a hydraulic ram pump.

← Photograph A4.2
The hydraulic ram pump was down there. It was surprisingly quiet.

Photgraph 4.3 →
In the midst of beautiful scenery, Karl Wehrle points to the the farmhouse that gets its water from the hydraulic ram .

Annex 5 Further information on case studies

Annex 5.1 Rural water supply in Northern Mozambique - Stakeholder Overview

Actors	Main role	Stake
Provincial level		
Water Department	Planning, supervision and monitoring of water sector activities, contracting construction firms	Successful work, financial bonus
Provincial Directorate of Public Works and Housing	Supervision and strategic guidance of Water Department	Successful work
Helvetas	Provision of finance, institutional advice and conceptual support	Success of project
EPAR	Construction of wells and manual drilling	Institutional sustainability
PEC	Community organisation and health education	Financial bonus for successful work
Private builders	Construction of wells and repairs of pumps and standposts	Money from project contracts
Technical consultants	Support for participatory site selection; quality control	Money from project contracts
District level		
District Shops	Sale of spare parts to project and villagers	Money through sale of spare parts
Local mechanics and masons	Small repairs of pumps and concrete constructions	Money or benefits in kind through services to villagers
Village level		
Villagers	Requesting improved waterpoints, contributing 2 to 10% of capital costs; participation in planning, health and sanitation promotion; operating and maintaining pumps.	Improved water supply and health benefits
Village water committees (VWC)	Organising village contributions; preventive maintenance and small repairs	Improved water supply; respect from village; (financial benefits)
Traditional midwives, local health workers, health education groups etc.	Health education and sanitation promotion	Respect from village; financial benefits
Sanitation activists	Sanitation promotion, sale of latrine slabs	Financial benefit
Teachers	Support to VWC; health education in schools	General interest
Rural extension workers	Support to VWC	Respect from village

Mozambique Stakeholder Overview (continued)

Actors	***Active in the following phases***				***Comments; strong and weak points***
	Awareness-raising	*Planning*	*Construction*	*O & M; follow-up*	
Provincial level					
Water Department; Provincial Directorate of Public Works and Housing	Concepts and co-ordination	Co-ordination of planning	Supervision	Annual review; monitoring and evaluation; support to district shops and local mechanics/masons as needed	Should provide leadership to provincial water and sanitation sector, but is bound by procedures and depends of orientations from the National level; little problem orientation, few human resources; difficult to plan HRD within govt. sector
Helvetas	Finance, monitoring, concepts	Finance, monitoring, concepts	Finance; technical support	Finance, monitoring, concepts	Conceptual curiosity; risk of dominance through financial power
State-owned and private construction businesses		Technical planning	Construction works	Repairs as contracted	EPAR currently not functional
PEC	Information to villagers and other actors in the districts	Participatory planning	Continuous support to VWC	Continuous support to VWC	Experienced field staff; lacks vision for the future, dependent on national decisions
Technical consultants		Participatory choice of sites	Supervision		
District level					
District shops			Sale of pumps	Sale of spare parts	Still too few shops; problems with stocking needed spare parts; low turnover
Local mechanics and masons				Repairs of pumps according to demand of villagers	Many not functioning; More training needed
Village level					
Villagers	Making requests	Choice of technology, locations, members of VWC	Contribution to construction costs (2 to 10%, planned)	Contribution to O & M and small repairs	Strong resistance to capital cost contributions due to prior policy
Village Water Committees		Participation in training	Organisation of village contribution; organisation of repairs and funds	Requests for bigger repairs	Functioning depending on persons
Traditional midwives, local health workers, health education groups, etc.		Participation in hygiene education	Dissemination of information on improved practices	Dissemination of information on improved practices	
Sanitation activists					Low coverage; only partly integrated into the water sector; different project cycle
Teachers			Dissemination of information on improved practices, support to VWC	Dissemination of information on improved practices, support to VWC	Little support from Education Directorate
Rural extension workers (agriculture)			Support to VWC	Support to VWC	Support from provincial level; easy to co-ordinate

Annex 5.2 Background information relating to the CAP case study in Faisalabad, Pakistan

by Shahid Mahmood

A5.2.1. City background

Faisalabad is the third largest city of Pakistan, with an estimated population of 2.0 million. It is almost centrally located on the flat alluvial plain of Punjab Province. The city developed as a market town from around 1900, attracting agricultural business from the surrounding area.

In spite of its large size of about 122 sq. km, the city retains village characteristics with many pockets of agricultural land still available and up to the recent past animals have been kept in most residential colonies. The important facts relating to the city are mentioned below: -

a. Location

Faisalabad is located at the centre of the Punjab plain, equidistant from the Ravi and Chenab Rivers.

b. Population

Historically, Faisalabad has grown at a rapid pace, with a growth rate of 6.25% per annum during the years 1951-81 and 4.88% per annum during the years 1961-81. The present population of Faisalabad is about 2.0 million with an average growth rate of 3.7% per annum.

c. Municipal area

The present area under the jurisdiction of Faisalabad Municipal Corporation is over 12,000 hectares while the area under the jurisdiction of the Faisalabad Development Authority (FDA) is about 131,500 hectares.

d. Land use

According to a recent land use survey, the largest proportion of the land is used for agricultural purposes (over 60%), followed by residential use (about 16%). Although Faisalabad is an industrial city, the land presently occupied for industrial purposes is just over 1% of the total area.

e. Climate

The data compiled by National Agromet Centre, Islamabad indicates that city of Faisalabad enjoys a monsoon type climate with a mean annual precipitation of about 360 mm, mostly falling during the months of July and August. The maximum daily temperature is around 40°C, occurring in June, whilst the coldest month is January, with a minimum temperature of 4°C. The city is in an area of moderate winds. The predominant wind direction during summer months is south to south-east and during winter it is predominantly from north to north-west. The average wind velocities vary from 1 to 3.6 m/s.

A5.2.2 . Institutional aspects of sanitation

a. Statutory responsibility.

Until 1978, Faisalabad Municipal Corporation was responsible for drinking water supply and sanitation services. The Water and Sanitation Agency (WASA), Faisalabad, was created as a separate entity under the then Lyallpur Development Authority in 1978 under the Punjab Development of Cities Act of 1976. Its mandate is to " develop, operate and maintain water supply, sewerage and drainage systems within the area of the Development Authority".

b. Area of jurisdiction.

The area under WASA (FDA)'s jurisdiction is about 131,500 hectares. This extends well outside the jurisdiction area of Faisalabad Municipal Corporation (12,200 hectares).

c. Organisational structure.

The organisational structure of WASA is hierarchical, with the staff of over 1800. It has eight directorates reporting directly to the Managing Director, who is assisted by the Deputy

Managing Director. The eight directorates can be divided into five units with functional responsibilities of a technical nature and three units with administrative and other support functions related to the whole of WASA.

A5.2.3 Physical description of the sewerage system

a. Sewerage and drainage services

Prior to the 1960s, Faisalabad's central business area around the clock tower was the only area with a formal drainage system, mostly consisting of open drains with a few covered main drains. The remaining parts of the city mainly relied upon simple dry excreta disposal systems and some open drains.

The formal sewerage system was first introduced in the 1960s. The existing sewerage system is divided into two distinct zones which are separated by the Rakh Branch Canal and the railway line passing through the middle of the City. Each zone has its own independent sewage collection and disposal system. There are over 30 local sewerage systems discharging to pumping stations that lift the sewage into open drains. These in turn convey the sewage to the two main seepage drains on the outskirts of the city, which eventually flow to the Ravi and Chenab Rivers. WASA is presently operating about 1200 km of sewers whose internal diameters range in size from 9 (225 mm) to 90 inches (2.250m).

b. Service coverage.

There are over 90,000 legal connections to the WASA sewerage system. It is a reasonable estimate that over 150,000 households are either directly or indirectly connected to the sewerage system. Providing sanitation services to a population of over 1.2 million is equivalent to a service coverage of about 65%.

A5.2.4 Operation and maintenance

The water supply and sewerage services are provided by the Operation and Maintenance (O&M) Directorate. The staff strength of this Directorate adds up to over 70% of the total staff of WASA. The O&M Directorate is divided into two divisions, called West & East Divisions, with the Rakh Branch Canal running through the centre of the city as the boundary between the two Divisions. Each Division is controlled by Deputy Director. The two main divisions are subdivided into three Sub-Divisions, each controlled by an Assistant Director. Each Sub-Division is further divided into three areas for daily operational work with a sub-engineer in charge. Therefore, there are eighteen operational centres established in the city for water & sanitation services.

The present condition of the sewerage sector is unfortunate. During the last 40 years, the city has grown considerably and the necessary extension of sewerage facilities has lagged far behind. As a result, the sewerage situation in the city is far below acceptable standards.

The principal defects of sewerage system can be summarised as:-

(i) In most areas, the system is very old and has become inadequate.

(ii) Small open drains, ultimately connected to the main sewers, are without proper inlets and gully gratings. The situation leads to heavy silting and frequent blockages due to the dumping of solid waste.

(iii) The lack of financial resources restricts preventive maintenance. The maintenance that is done is carried out on an ad hoc basis and without any planning.

(iv) Privately developed abadies which have grown up haphazardly are either without any sewers or with improper sewerage systems. There are instances of illegal connections to WASA's system without consideration of the carrying capacity of the sewers.

(v) The maintenance equipment is not modern and is inadequate.

(vi) The absence of trunk sewers within the city leads to a more unsatisfactory condition.

A5.2.5 Developments

For development works WASA is dependent upon external agencies. Over 90% of the recent development works have been carried out with the assistance of grants or loans from Government.

The operating receipts (Rs 150 million p.a.) are too meagre to even meet the operational expenditure (which is over Rs 250 million p.a.). Table A5.1 shows the situation for the years 1994-8.

Table A5.1 Revenue collection and expenditures of WASA, Faisalabad

(Amounts expressed in millions of Rupees. Rs. 50 = US$ 1)

Year	Revenue	Expenditure				Deficit
		Salaries	O & M	Electricity	TOTAL	
1994-5	37.32	37.79	11.40	18.40	97.59	60.27
1995-6	57.33	38.71	6.12	22.50	67.33	10.00
1996-7	82.50	45.70	7.80	31.76	85.26	2.75
1997-8	82.17	75.67	9.20	30.00	114.87	32.60

Source WASA Budget Books

The following types of development works are normally undertaken in WASA.

(i) Annual development programme (ADP). Under the annual development programme schemes are prepared, mostly politically identified and motivated. Through a system of approval procedures these become a part of the fiscal budget prepared by the Government of Punjab. The funds are released through the Ministry of Finance as a loan payable over 20 years with a five years grace period against a rate of interest declared by the Government annually.

(ii) Special grants Sometimes special grants are issued by the President, Prime Minister or Chief Minister because of the importance of the system and to make improvements to it. These are not repayable. Schemes motivated by local politics generally come under his category.

(iii) Deposit works. WASA also executes development works on behalf of other Government departments, communities or institutions. WASA normally charges a 12.5% deposit or fee to meet the administration expenditures. In the year 1999-2000 these contributed 2% of total development works.

(iv) Works through own sources Very few works are funded from internal sources. These works concern the replacement of small lengths of water supply or sewerage lines to improve or reinforce the existing system or to replace some existing silted or permanently blocked lines.

A5.2.6 Identification of problems and strengths

a) Problems

(i) Politically motivated development.

(ii) Implementation is not in line with the overall Master Plan of the city.

(iii) Projects - even if implemented according to the Master Plan - do not meet the needs of public and community.

(iv) In most cases the projects span over several years according to the availability of funding from the Government. As a result projects are enormously delayed and potential benefits are lost.

(v) Generally the local community is not involved at any stage, so planning and execution are normally not supported by the community.

(vi) In such, schemes the lack of ownership by the community and the resulting lack of feeling of responsibility leads to the misuse and early deterioration of the works.

(vii) The delay in the implementation of projects has led to increased completion costs and a greater financial burden on the Agency.

(viii) The Master Plan is not updated periodically. As a result infrastructure may be installed in places where it actually may not required by the intended land use. WASA's Master Plan was prepared in 1993 and has not yet been updated.

(ix) WASA may be discouraged from adopting the initiatives of the *household-centred approach* by the Government and senior politicians.

(x) Lack of interaction between the line department (WASA) and the households may lead to a situation when the potential development does not fit into the plans and intentions of WASA. Development is not based on demand but on the Government's own priority. Small projects normally do not fit in with WASA's priorities.

(xi) The flexible construction standards the assist the *household-centred approach* may not be acceptable to WASA. On the other hand the Government depth standard may render community initiatives unaffordable.

b) Strengths

(i) Technical expertise is available.

(ii) Funding is available for major infrastructure projects which could not otherwise be funded by community contributions or the private sector.

(iii) An organisational structure is available with legal status.

A5.2.7. An example of community-based development

a) Description

Households are becoming more aware of their rights and the benefits of modern facilities. This fact leads them to take innovative steps in implementing civic amenities on a self-help basis, using a community participation approach. The construction of a sewerage system in Saifabad No. 2 is typical of such initiatives. The area of Saifabad No. 2 is on the periphery of the municipal limits on the western side of the City at Jhang Road. The development of this colony reflects the same apathy as is found in other abadies (informal housing areas) that mushroom haphazardly along the city periphery. Virtually no basic civic amenities were in existence when the area was developed. In socio-economic terms, the area reflects a mixed structure with waste pickers living side-by–side with factory owners. A few residents of the area organised themselves into a group and established an organisation under the name, "Ittehad Welfare Society Saifabad No. 2". The society prioritised the need of sanitation in their area as the most urgently required amenity.

The provision of water supply and sanitation in the areas falling outside the city limits is the responsibility of the Punjab Public Health Department (PHED). WASA also sometimes extends its services to the areas outside the city limits where technically and economically feasible. The existing system of the Water and Sanitation Agency (WASA) was about 2 km away from Saifabad. The invert level of most upstream sewer pipe could not allow extending the system towards Saifabad No. 2.

After refusal by WASA, the association took the initiative by mobilising households, with the active assistance of Community Action Programme (CAP), and a local NGO acting as a facilitator and advisor. The Association managed to get promises of technical support from WASA, if the households would come up with the necessary contribution to implement the scheme. Meanwhile the public pressure forced the PHED to plan and design the schemes for the area. Though these schemes could not be implemented due to shortage of funds, the departments came to realise the power of community pressure. It became apparent that investments made by community initiatives would go to waste if they did not fit in with the planning of WASA.

The poor response by the line departments forced the households to develop their own system by laying tertiary level lane drains and one secondary drain up to a collecting basin. CAP helped in carrying out a topographical survey for laying the system. The households raised RS 0.75 million for the lane drains and Rs 0.35 million for the main sewer line. With these funds the Association laid tertiary drains in 9 lanes and one main line up to a pond. From this collecting pond the wastewater is pumped by a diesel pump into an irrigation canal. An operator has been employed by the society to operate and maintain the diesel engine. Currently the area is about 70% sewered. The maintenance and cleaning of the sewerage system is also being taken care of by the Society. A sum of Rs. 50/- per household is charged by the Society to run the system. The percentage of recovery is about 70% and the system has been operating successfully for the last two years.

b) Problems and challenges

- The construction standards used by the community may not be acceptable to the line department. On the other hand, government standards would affect the affordability of the community and discourage any initiatives.
- Political figures may sabotage community initiatives by showing illusions to the public
- The sustainability of these initiatives is always at stake because of the lack of government acceptance.
- The quality of the material used was comparatively poor, resulting in early deterioration of the system.
- The size of the sewer and the laying procedure was inappropriate due to the lack of technical know-how.

c) Strengths and benefits

- The community is more aware of its rights so there should be less political exploitation.
- The community is empowered to take initiatives in development.
- A grass-roots institution has developed and can take decisions independently.
- There has been a collective mobilisation of local resources
- The community has organised itself to solve its own problems.
- A sense of ownership and responsibility has developed.
- Householders are more aware of the social, cultural context and the power structure of their own community.

A5.2.8 Conclusions and discussion of the Household-centred Approach

The services provided by WASA are not addressing the full needs of the public, as the expansion of the infrastructure is not keeping pace with the population growth because of financial constraints. The existing services are deteriorating. Consumers are not paying for services. The recovery of charges is too low to meet even operational expenses. Lack of ownership and responsibility on behalf of the community leads to misuse and premature deterioration.

On the other hand, communities are taking initiatives because of this failure by government to address their needs. Communities are organising themselves, raising the funds that they need and implementing projects. The problem with these initiatives is that they are implemented in isolation from the overall city planning. Therefore there is a need to evolve a strategy in which infrastructure systems are laid in accordance with appropriate quality standards at an affordable cost, so that they are compatible with overall city planning, and so that there is a sufficient provision for operation and maintenance.

The Household-centred Approach could be a feasible method because it recognises the following facts:

- The joint role of the stakeholders at all levels
- The resource deficiency of WASA can be met through community participation
- The government may define the legal status of households

- Decisions should be taken as close as possible to the source of the problem
- Standards allowing a flexible approach should be adopted with the consensus of all stakeholders.
- Technical expertise may be taken from the appropriate line department. Line departments should act as facilitators rather than executing agencies.
- Line departments should inform households of the overall planning of their areas so that initiatives can be in accordance with macro-level planning.
- The sense of ownership resulting from involvement in the process will help households to use and maintain the infrastructure in a better way.

Annex 5.3 Water Programme of Helvetas/Nepal

by Achyut Luitel

Part A: CONTEXT

Country Background

Nepal is a landlocked country situated in the lap of the lofty Himalayas surrounded by India from three sides and the Chinese autonomous region of Tibet from one side. Nepal has an area of 147,181 Square Kilometres, where over twenty four million people of multi religious, multi lingual and multi cultural character reside. Geographically, Nepal can be divided into three ecological strips, the plains along the southern belt, the hills in the midland, and the mountains in the northern belt. Nepal has the greatest variation in altitude of any country in the world. The southern belt of Terai is little above the sea level, while the Himalayan mountains in the north contain the world's highest peak. Administratively, the country is divided in to seventy five districts. The districts have been regrouped into five developmental regions: Eastern, Central, Western, Mid Western and Far Western. Each district has been further divided into smallest administrative units called Village Development Committee (VDC) and Municipalities.

Nepal has opted for the multiparty parliamentary system as a mode of governance for all round development of the people. After people's movement in 1989, multiparty democratic system was restored, and a new constitution was promulgated in 1990 with the establishment of constitutional monarchy and parliamentary system of government.

After the advent of democracy in 1990, the emergence of organisations in civil society including NGOs is a positive trend. Public opinion is voiced more freely and organisations in civil society are establishing themselves as representatives of different interest groups and gradually playing an active role to structure political discourse. Most of these organisations are, however, still young with different interests and varied abilities, and hence, need to build up their organisational capacity.

Nepal is still at a very low level of development, with a per capita income of only about US$ 200 - eighth lowest in the world, and a ranking of 152 out of 174 countries in the Human Development index. It has a rather poor record in terms of social development. Officially, 45 % of an estimated 24 million population live in absolute poverty and its incidence has increased from 36% to 45% over the last two decades.[1] From the WATSAN perspective, about four-fifths of the population has no access to sanitation and almost four out of ten are deprived of potable water[2].

Overview of Development and WATSAN Sector

Planned development in Nepal was initiated only in 1956 when the first five year development plan for the country was launched. At present, the country is witnessing Ninth Five Year Plan (1997-2002), which has with the long-term vision given priority to poverty alleviation (from 45% to 10% over the next two decades) and employment creation[3]. Agriculture sector has been accorded the role of lead sector,

[1] Helvetas Nepal: Country Programme Document (1998-2002), Kathmandu
[2] National Water Supply Sector Policy, 1998
[3] Ninth Five Year Plan (1997-2002), National Planning Commission, Kathmandu

under the Agricultural Perspective Plan (APP), which aims at increased agricultural production for both food security and export. It also focuses on rural infrastructure (farm-to-market roads, irrigation), provision of improved inputs and enhanced marketing facilities. A recognition of a declining role of the state in the economy, the need of providing more scope and freedom to the private sector, acknowledging the role of NGO sector as partners in development and the commitment to further strengthen the decentralisation process, are also features of the Plan.

As for the water supply sector, although some major works were carried out to provide services to some prominent townships, a separate department to deal with drinking water services in the country was established only in 1966 as Department of Irrigation and Water Supply, which in 1972, was further consolidated to Department of Water Supply and Sewerage (DWSS). DWSS took responsibility for larger systems, while Local Development Department (LDD), with UNICEF and Swiss Association for Technical Assistance (SATA) assistance started Community Water Supply and Sanitation Programmes (CWSSP) for smaller rural water supplies.

Since 1988, DWSS has been the lead Government Agency for water supply and sanitation sector. Prior to 1988, the rural water program was shared with the Ministry of Local Development (MLD). The eighties were declared *The International Drinking Water Supply and Sanitation Decade*. In line with this world-wide upsurge in sector activities, in November 1980, Nepal also launched its decade plan. As a result, many international organisations also got attracted in the sector. Some organisations like, WHO, UNICEF and Helvetas were already involved since the seventies.

After the restoration of multiparty democratic system, the civil society also got opportunity to get involved in this sector. Many organisations now work in partnership approach, and the local as well as national NGOs are assuming important responsibilities in the sector. From 1995, local bodies such as the VDC and the District Development Committee (DDC) restarted construction of rural water supplies from the funds allocated to them. Therefore, besides DWSS, the Nepal Water Supply Corporation, MLD, Local Authorities (DDCs and VDCs), External Support Agencies (World Bank, Finnish Government, Helvetas, etc.), NGOs, Private Sectors, and Community Organisations are other service providers.

Institutional Framework

The National Planning Commission is responsible for the overall planning and coordination. It looks over development plans and policies and approves annual budget estimates. The Ministry of Finance is responsible for mobilising and allocating resources for the developmental programmes. The Ministry of Physical Planning and Works (MPPW) is responsible for formulating the overall policies and strategies in the drinking water and sanitation sector. Within MPPW, Department of Water Supply and Sewerage (DWSS) is the lead implementing agency. DWSS has its Regional Directorates in all five development regions. Within these Regional Directorates, each district has a District Water Supply Office (DWSO). DWSO is the lead agency at the district level, which implements government's drinking water projects, and also coordinates the sectoral activities with other implementing organisations.

DWSS has been changing its role from implementer to facilitator. DWSS now recognises that for the sustained development of sector, capacity building within the communities in terms of organisational skills and knowledge, leadership and creation is must to enable a favourable environment.

In order to best utilise the water sources, the Government of Nepal has introduced the Water Resources Act 1992. Accordingly, the government has introduced Drinking Water Regulations 1998. Both these Act and Regulation make provision for the appropriate utilisation, protection, management and development of all the water in Nepal. The act provides the ownership of any water resources to the state and prescribes highest priority for drinking water on mode of water use. The problem, however, is that people and planners at the village level are still not aware of this Act, resulting in conflicts.

The Ninth Five Year Plan (1997-2002) has a target of providing access to piped or protected water supply facilities for 100 percent of the national population. Similarly the coverage on the sanitation is expected to reach 50%. In order to meet the targets of the Ninth Plan, the government has formulated National Water Supply Sector Policy since 1998. However, the coverage achieved so far indicates this target unachievable, and needs revision.

Part B: WATER PROGRAMME

Helvetas has been working in Nepal since 1956, a year after its establishment. Twenty years later, in 1976, Helvetas started its support for drinking water by providing technical and material assistance to His Majesty's Government (HMG) of Nepal. The Programme, Community Water Supply and Sanitation Programme (CWSSP) implemented drinking water schemes in 16 Districts of the Western Development Region. Initially CWSSP was purely a technical programme. Gradually CWSS emphasised the participation of communities, integrated hygiene and sanitation education in the drinking water project activities and encouraged women's involvement in the project activities. The CWSSP has been a mile stone in Nepal's WATSAN sector, because it was able to influence the sector policy and guidelines with its support for technical advancement and institutional support to the government partner.

Helvetas evaluated the CWSSP in 1989, and concluded that still the ownership feeling in the community was not adequately achieved, and effective community management was not seen at the field level. Some modification in approach as well as in working procedures was, therefore, felt necessary. As a result, CWSSP phased out in 1994, and Self-Reliant Drinking Water Support Programme (SRWSP) evolved in 1992, two years before phasing out of CWSSP. Basically, SRWSP was transformed from CWSSP by adding a strong social component to support the already better technical component of the programme.

SRWSP works for the provision of safe and reliable drinking water supply projects in the rural communities with the ultimate aim to have the communities empowered and make them understand the self reliant philosophy. When SRWSP was started, it had overall goals: to reduce the burden of water collection of especially women and (girl) children by making the provision of drinking water within relatively easy carrying distance; and to reduce the incidence of water and sanitation related diseases by providing adequate quantity of clean drinking water and promoting environmental sanitation.

Until 1997, the programme was not having a structured monitoring system, which means no specific indicators per programme activity were formally developed in a logical frame work approach. Nonetheless, the programme activities were monitored by the particular sections and sharing of information was also practised. During the end of 1996, an integrated monitoring system was developed in a participatory way. However, as the programme planned to conduct the Participatory Self Assessment (PSA) in 1997, the operationalisation of the system got delayed by a year. Only since 1998, the programme has operationalised its structured logframe. Now SRWSP has an established system in which project information at various stages are collected, analysed, interpreted and recommendations made as per the programme logic. Similarly, the recommendations are implemented for assessing effects of the SRWSP inputs

The Development Objective of SRWSP is to increase the role of community, and particularly women in the community, in managing safe drinking water and sanitation facilities and their use. It has six operational objectives, that are:

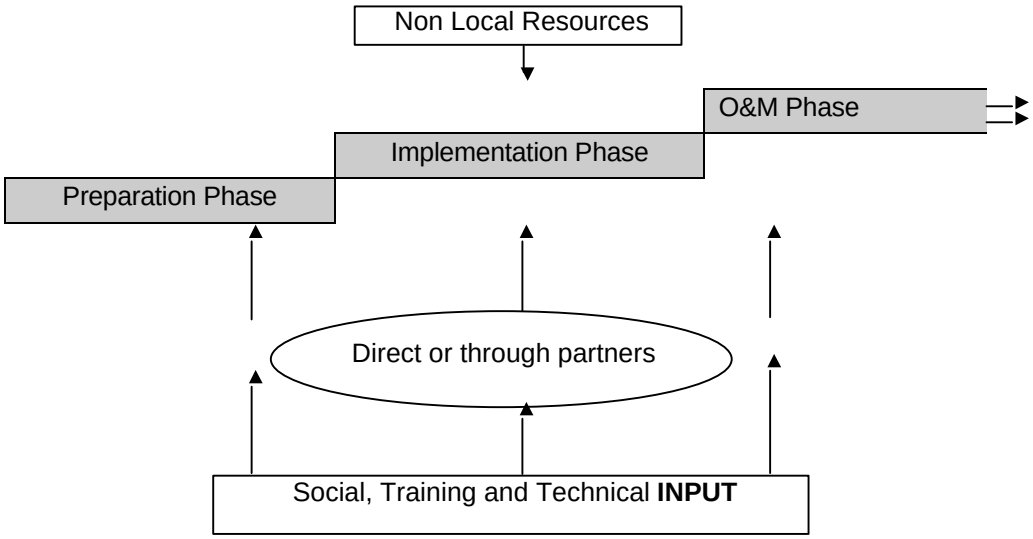
1. Communities, and particular women in these communities, are able to plan and implement activities independently.
2. Partners execute social and technical components of the programme in line with the SRWSP approach and standards.
3. Functioning operation and maintenance systems are managed by local communities with a high participation of women.
4. Users of SRWSP supported drinking water projects apply sanitary practices in their daily life.
5. People in the working area of SRWSP use safe drinking water from community managed drinking water projects.
6. By the end of 2000, SRWSP identifies means and ways to develop and implement Water Resources Management Programme (WARM-P) at village level in the Mid West and Far West Regions.

In order to meet above objectives, SRWSP supports various activities designed to reactivate, promote, and support people's self-help capacity for planning, construction, and operation and maintenance of their drinking water schemes.

Part C: APPROACH, STRATEGIES AND STAKEHOLDERS

Although all community level water programmes broadly look similar, SRWSP has some distinct features. It adopts rolling planning, which means activities are planned according to community preparedness. In order to strengthen the community preparedness aspect, SRWSP provides intensive social mobilisation support, through its **step-wise** approach for three phases of project cycle. In essence, the step-wise approach is a series of activities and benchmarks that guarantee the integrity of the project process and increase the likelihood of community ownership of schemes.

The step wise approach along with the three phases of the project cycle is developed in a form of an illustrative poster, which is called participatory monitoring poster. The poster facilitates the beneficiaries to know about their project status and pending activities at any moment. Such posters are made available in the communities, so that the beneficiaries at any time can monitor their project status, and can plan the pending activities by looking both at the urgency and their convenience. As the programme is made compatible to community preparedness, the duration of each phase depends a lot on the commitment of the villagers and the intermediate partner and their growing capacity to organise and manage the activities related to implementation of the project.



Preparation phase: Of the whole project cycle this phase is the most important one. Preparation phase starts with request or application for a drinking water project. The main emphasis given during this stage is for strengthening community organisation and management. The programme provides various types of input and puts few conditions to be met by the beneficiaries for leading them towards a better understanding of a community managed drinking water scheme combined with improved sanitary situation. The duration of the preparation phase depends basically on the commitment of the beneficiaries and effectiveness of input provided by SRWSP or the partners.

Implementation phase: The implementation phase commences with signing the agreement for construction of drinking water system between the communities, intermediate organisation and SRWSP in which various partners agree on their roles and responsibilities. The beneficiaries are responsible for local resource mobilisation, while SRWSP provides technical support and non local construction materials. The role of other partners are basically motivation and monitoring. This is the shortest phase, and in average takes about four months to complete the schemes.

Operation and maintenance phase: In this phase the beneficiaries have the full responsibility for proper operation and maintenance of the drinking water project. One person, selected by the community, is

trained on how to do the maintenance. Besides, some selected women are trained in daily management and maintenance of the tap-stands. After the completion of the scheme, the community also decides on the ways and means to increase the already collected fund. During the first one to two years the SRWSP monitors the activities and gives guidance for effective operation of the built systems.

Programme Inputs

The inputs provided by SRWSP are principally, social input, training input, technical input and hardware support.

The social input is given for enhancing the community management aspect of the beneficiaries, designed to build up their self-help spirit. Through community management, likelihood of ownership feeling among the beneficiaries in the project work can be expected, which is also the prerequisite for sustainability of the works done. It is also a process of empowerment

Specifically social input is given for:

- practice of participatory approach
- selection of effective Water and Sanitation management Committee (WSMC)
- motivation for O&M fund collection
- motivation for hand washing practices
- motivation for latrine construction
- motivation for local resources mobilisation

The input is given through paying home visits; conducting community meeting, focus group discussions, special campaigns, appropriate PRA exercises; and trainings at different levels. Different types of tools are provided through these processes, such as flash cards, comic cards, maxi flans, puppet show, role play, street theatre, etc.

The training input to the communities are aimed for their capacity growth. The regular village level training programmes include:

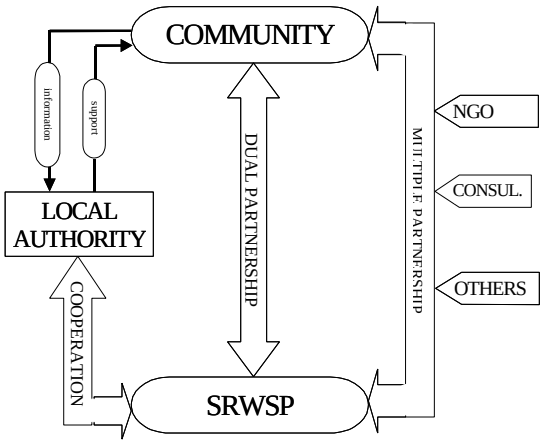
- Management Training for WSMCs during preparation phase to strengthen the managerial skills for preparatory and construction works.
- Village Level Gender Training to enhance better understanding among men and women with regard to their roles in preparation, implementation, and O&M of the schemes.
- Management Training for WSMCs during O&M phase to strengthen managerial skills for smooth operation and maintenance of the system built (for sustainability)
- Village Maintenance Worker Training during preparation phase: to transfer the technology to the drinking water scheme caretaker
- Women Tapstand Caretaker Training during O&M phase to strengthen the managerial and technical capability to the tapstand caretakers (women)
- Account keeping and tariff raising training

Similarly, there are other means, designed for the capacity growth of the partners, such as close monitoring and feedback, community management training, training of trainers, street theatre training, etc. In order to strengthen the coordination and cooperation mechanism with local government partners, SRWSP organises workshops also based on issues.

The technical input basically deals with supporting the communities in conducting technical feasibility studies, detailed survey and design of the systems, familiarisation of the technicalities in training, support of full time technician during implementation of the schemes and supervision support. The financial input is for all above mentioned support including support for mobilisation of non local materials and expertise.

Partnership

SRWSP entertains two types of partnership; dual and multiple. A dual partnership approach entails cooperation between SRWSP and beneficiaries represented by a Water and Sanitation Management Committee (WSMC). The multiple partnership approach involves a broad range of partnership, by establishing coordination and cooperation with NGOs, consultants, VDC, DDC, DWSO and other eligible partners. Under SRWSP's multiple partnership approach, the term partnership can be categorised in two levels, partnership for the implementation, and partnership for the coordination and cooperation.



NGOs implement activities related to social mobilisation, while the consultants implement the technical assignments. Therefore, NGOs and consultants are regarded as the partners at implementation level. The local authorities, such as, DDCs, VDCs and DWSOs are, in general, the partners at coordination level. SRWSP establishes good relationship with both the DDC and DWSO, and disseminates regular information about the programme. VDCs, usually support the communities in monitoring the activities, and support financially in some cases when the community find hard to mobilise the local resources as a part of their responsibility.

The Department of Water Supply and Sewerage (DWSS) of the Ministry of Physical Planning and Works (MPPW) provides the umbrella for implementing the SRWSP through local based partners. The Regional Director (RD) of DWSS acts as advisor of SRWSP. The RD plays an important role by reviewing the annual activities and progress report and by approving the annual plan of activities. The RD coordinates the activities in the drinking water sector at the regional level.

VDCs are the most appropriate administrative unit at the local level. DDCs are the planning and coordianting body at the district level. The government has enacted the Local Governance Act 1998. Uncertainties, however, hover on the central government's willingness on imparting full autonomy to the local government (at both DDC and VDC levels), and building the competence of local government to prepare for its new roles, tasks and functions.

The strong interest of donor agencies in NGOs, as they seek alternative channels to government for their aid funds, has stimulated the emergence of supply-driven NGOs and a “contract culture”. The challenge will be to identify genuine organisations of potential quality, and develop these into competent partners - this will take considerable time.

Part D: ASSESSMENT OF APPROACHES

SRWSP's vision is an improved quality of life of women, men and children in rural communities. SRWSP, therefore, strives for a living environment in rural Nepal in which people of different sex, class and caste have equal opportunities (Mission). They are thus able to embark in the process of self reliance and empowerment in order to sustain their livelihood.

Therefore, SRWSP sees self reliance and empowerment as main aim of the programme, for which the means is through supporting people to build their drinking water and sanitation schemes. Therefore, Household Centred Approach (HCA) appears to be a relevant issue for SRWSP as well. Although, the programme was not designed from household centred approach perspective, upon assessment, certain micropolicies and approach of SRWSP are found on line with HCA.

As an example, from the programme component point of view, SRWSP encourages the beneficiaries to construct household latrines and drinking water system. By very nature, the latrines are constructed

at household level. However, for the construction of drinking water schemes, the responsibilities primarily passes to WSMC, which is the representative body of the communities as a whole.

Right from the beginning of preparation phase, SRWSP encourages household level participation in all the necessary exercises which have role on planning and decision making, such as population census of community, resource mapping, etc. Home visits are often made by the community facilitators, as a means to motivate people at household level. Major activities, such as implementation agreement are done in front of community meeting, where every household is required to be present.

To support the communities to be self reliant, some activities need to be initiated from the household level, such as collection of O&M fund. However, its management responsibility passes over to the WSMC level. Similarly, for deciding the location of tapstands, SRWSP encourages participation of individual household. However, after completion of project, the O&M of tapstand and associated distribution system is managed by responsible households determined by each tapstand under the leadership of Women Tapstand Caretakers (WTCs).

During implementation too, household level participation is necessary, for which the WSMC assumes management role. Through training also, SRWSP aims to reach at household level as far as practicable. For example, gender training is intended to improve practical gender situation at the household level.

The programme now has an established monitoring system. Monitoring is done basically to check whether the programme benefits are reached at household level or not.

Finally . . .

SRWSP adopts **participatory approach** in its programme activities. In HCA, the planning process begins at the household level. The next circle of activity is the community to which the household passes those functions that it is not able to assume. In order to happen this, the community should be participatory in nature. Therefore, participation is the heart of HCA.

Annex 5.4 The Banja Luka Regional Water Supply and Sanitation Programme

by Snezana Rovcanin

A5.4.1 Context

country; environment; political context; government strategies/policies (national/state/local) for planning, implementing and operating water supply and sanitation services, respectively; overview of the institutional framework in the field of water supply and sanitation partners

The project is located in Bosnia and Herzegovina (hereafter called B&H), and more precisely in the Republic of Srpska (hereafter called the RS) - one of the two B&H entities. The town where the project is under implementation is called Laktasi; it is a medium size municipality situated 20 km from the city of Banja Luka (where our programme office is located) and 25 km from the border with the Republic of Croatia. B&H is one of the former Yugoslavian republics, situated in the central part of the Balkan Peninsula (South-eastern Europe).

After the disintegration of the former Yugoslavia, a very destructive inter-ethnic war started in B&H. In November 1995, in Dayton, Ohio (USA), a peace agreement was signed after more than three years of war. According to the Dayton Agreement, B&H is divided into two entities: the Federation of Bosnia and Herzegovina and the Republic of Srpska, both having independent governments but with certain common organisations and institutions.

In the former Yugoslavia, the water and sanitation sector had been organised in a highly centralised manner. During the war years this sector was completely neglected, but certainly it was not up-to-date even before the war. National inputs towards the sector dried up and left the municipalities and their public service companies to maintain the services on a makeshift basis, which caused increasing decay of the existing installations. The planning sector has been poor for a long period, which makes the present situation in water supply and sanitation services more difficult.

Now, water supply and sanitation management and services are at a very low level in the whole RS. Municipalities establish water and sanitation companies, and determine all conditions of production and supply, including tariff policy. Therefore the autonomy of any water service company is minimal.

A5.4.2 History of the Project

who initiated the project; general objectives; the main past/present planned activities

Co-operation between Switzerland and RS started through reconstruction projects managed by Swiss Disaster Relief, and those projects have already been completed.

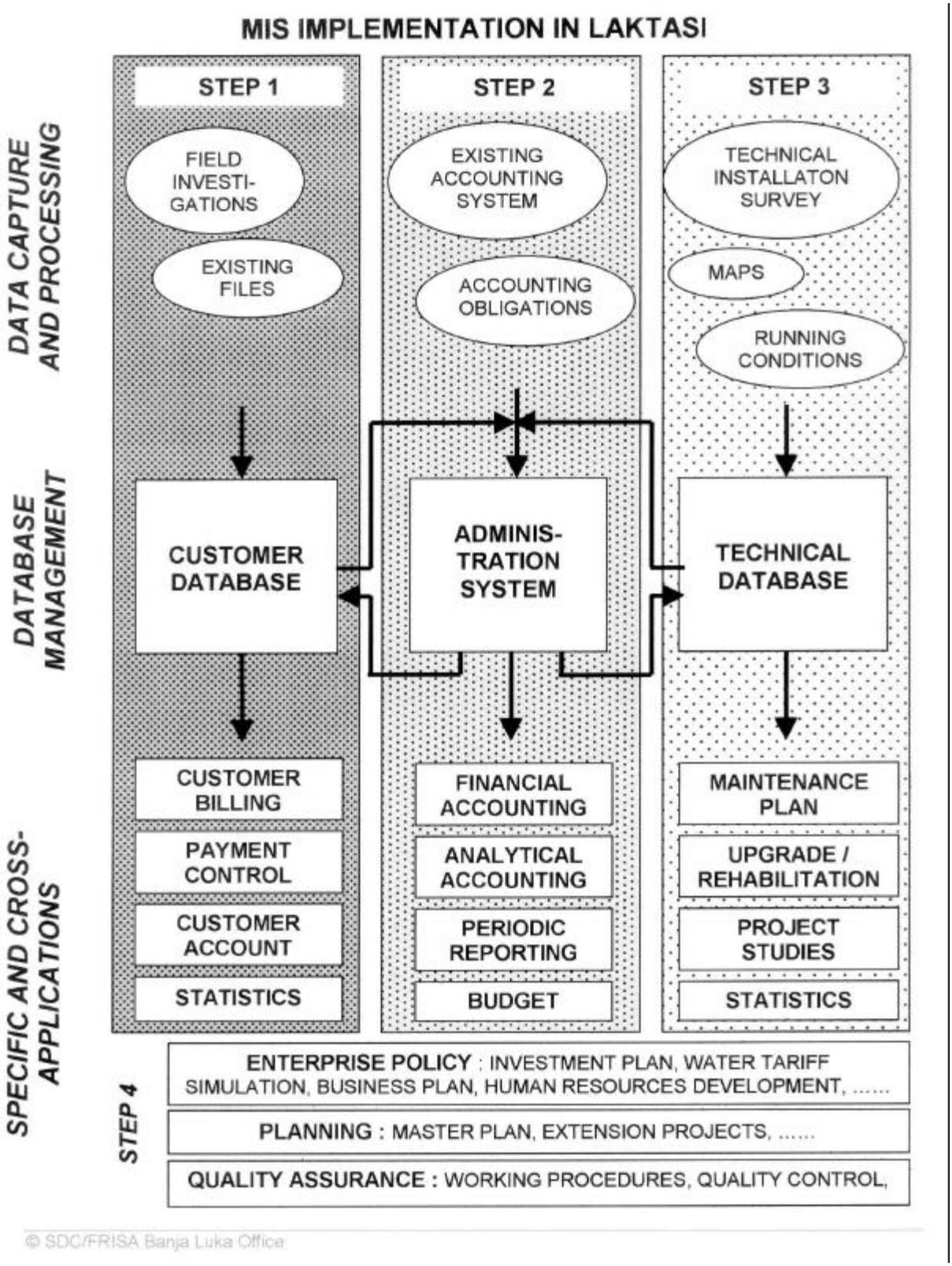
The "Banja Luka Regional Water Supply and Sanitation Program" was initiated by the bilateral agreement of January 1999 between the Swiss Government, represented by the Swiss Agency for Development and Cooperation, and the government of the Republic of Srpska, covering technical assistance in the field of water supply and sanitation. The implementation of the two-year programme started by the end of 1999, and it has three major activity levels:

1. *At pilot project level*
   A pilot project is being implemented in the municipality of Laktasi (35,000 inhabitants in 11 local communities and 37 villages), but according to the contract another one in the town of Novi Grad should also be implemented. The pilot project in Laktasi is the case study presented at the Aguasan Workshop.
2. *At regional project level*
   This refers to the region of the Banja Luka city (250,000 inhabitants).
3. *At Vrbas river basin level*

   The general objectives are to improve both technical and management aspects of the water supply and sanitation sector.

   The planned activities in the Laktasi project are divided into four main components, as shown in figure A5.2. These components are:
   1. strengthening of the managerial, administrative and technical capacity and capability of the Water Utility Company of Laktasi,
   2. improvement and maintenance of the existing water supply installations,
   3. extension of the water supply network, and
   4. sanitation aspects

Figure A5.2 Components of the Laktasi Pilot Project



A5.4.3 Stakeholders

distinguish between the different phases of planning, implementation (including training) and operation (including maintenance) of the water supply and sanitation services, respectively

- *Describe the players/actors/stakeholders with their responsibilities and roles*
- *Explain what the activities, roles and responsibilities are of each stakeholder and in the various sequences of planning, implementation and operation of the services*
- *Highlight the strengths and weaknesses, the limits and the potentials of each stakeholder*
- *Show also the interaction/relationship/contractual arrangements between the different stakeholders*
- *Quality assurance mechanisms*

Planning is a very significant component of this project. For efficient project implementation, the planning is adjusted to the existing needs on the site. Planned activities and objectives are evaluated on the site, as the first step of the project implementation phase (field investigations) with a high level of flexibility.

One of the main objectives of the project is to increase the motivation and direct involvement of the Water Utility Company's personnel in the process of project implementation, and eventually to make this enterprise sustainable technically and financially. During the implementation of many "sub-projects", the Programme office has to provide training to the personnel of the Utility and to improve their existing performance, as well as to transfer know-how.

Maintenance of the existing installations is considered very important, having priority over the building of new installations. The reason is that we deem it is much better to assure continuous maintenance and optimal utilisation of the existing facilities first, and then to go for construction of new installations. At some point, it corresponds to the Household-centred Approach (HCA).

Stakeholders are shown on the organisational chart, Figure A5.3. The main responsibilities of the Programme Review Board (hereafter called PRB) are supervision, approving of operation plans and budgets, and reviewing of progress reports. The Executive Committee (hereafter called EC) is the programme body represented by the Programme office and representatives of the water and sanitation sector companies – our first counterparts. Co-ordination with other international sector agencies is also a very important aspect, in order to avoid overlapping of activities.

The RS government is committed to setting up as soon as possible the legal and administrative framework that will allow regional and municipal institutions in the field of water supply and sanitation to work in an autonomous and sustainable way. Such a framework should enable public service companies to assure cost-recovery. The biggest strength of the water and sanitation sector institutions and companies is their enthusiasm and willingness to co-operate. On the other side, there is a lack of efficient and well organised systems in all parts of institutional life of the RS of B&H, as is common in a country undergoing transition.

In the name of the Swiss Confederation, represented by SDC, the Programme Office is providing consulting services, know-how transfer, technical and administrative assistance, with great potential for improving technological and management capacity. However, the financial resources for the project implementation are limited.

In order to make the project very successful and a pattern for future sustainable water sector institutions and companies, the most important thing is to provide as much assistance as possible on the basic level, beginning with the establishment of a database of existing water customers, installations, etc.

Quality assurance mechanisms are improving and up-dating general working procedures, from the level of technical tasks such as making house connections, and standardising these procedures, to the institutional level.

A5.4.4 Assessment of approaches being used in the Project

Distinguish again between the approaches being used for planning, implementing and operation of the services

- *Describe the basic principles that the implementation strategy is based on,*
- *How do these principles relate to the principles of the household-centred approach (HCA) outlined in the background document of the workshop?*
- *To what extent does the strategy or approach include and encourage self-help initiatives?*
- *What are the water supply and sanitation service levels, and what is the cause of any deficiencies - poor strategy or poor implementation?*
- *What are the main obstacles to improving the existing situation?*
- *Would the situation have been significantly changed/improved if HCA principles had been adopted?*

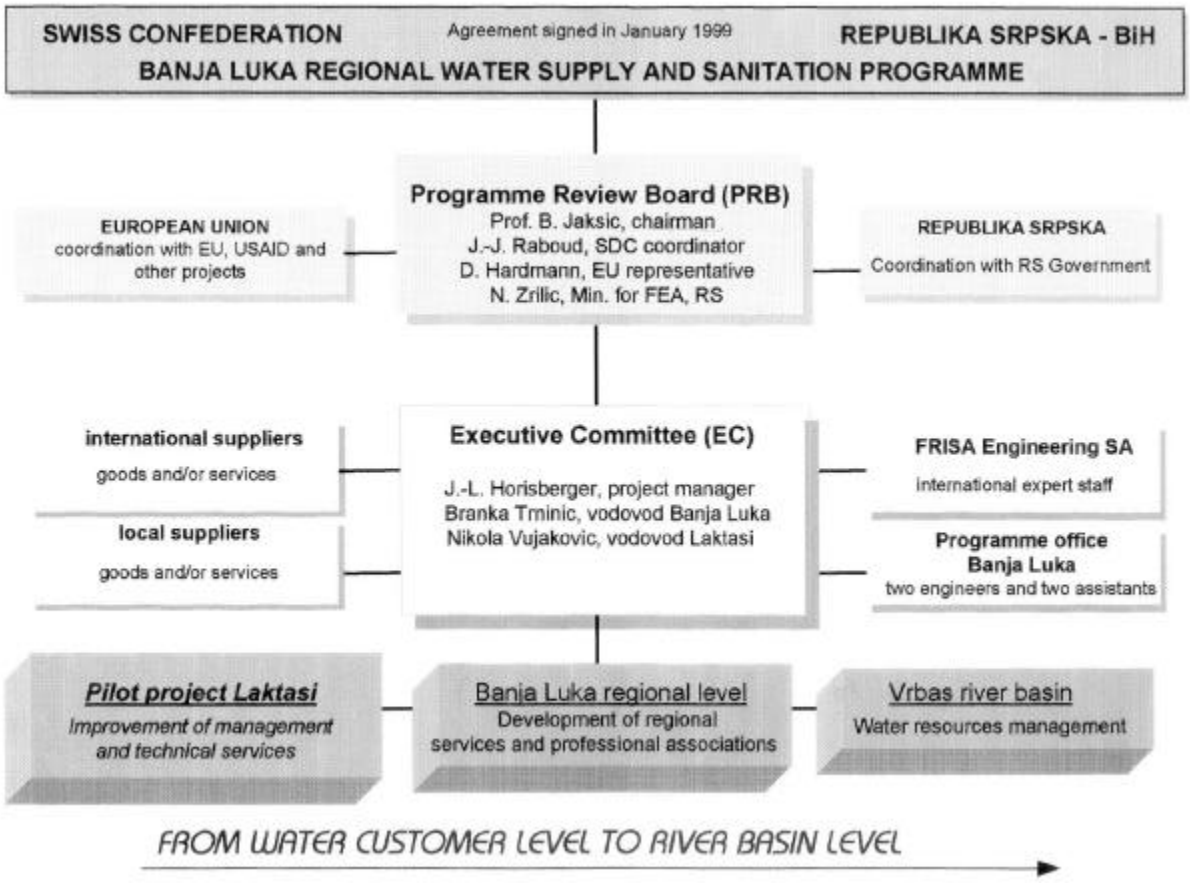
The following steps of the strategy describe the basic principles of the project:

- beginning from field investigation of water connections for development of customer database – to assure correct billing and that the billing system is completely clear to the customer;
- improvement of accounting software – to ensure accurate knowledge of the status of the account of each householder and of the financial status of the company itself;
- field investigations of water network and its data entry into the GIS;
- improve the existing technical conditions in small sectors, encouraging workers of the water sector company use contacts with householders and other customers to build customer confidence, making it a high visibility project;
- to give a good example to the other householders in the village, and in other villages and other municipalities, to change their attitudes and become aware of the better service they should receive and better conditions of the water and sanitation sector in general;
- promoting regional institutions in the water and sanitation sector;
- promoting and direct involvement in the river basin authority.

These principles fully correspond to the HCA.

So far this sector was completely centralised and the existing service level in water supply and sanitation is very poor. I think the main reason for such a condition is poor strategy. There are no bigger obstacles to improving this situation, except the fact that it is a long process, which needs continuous and comprehensive effort.

Figure A5.3 Organisation Chart



Annex 6 "Who's who" in the water sector

based on a presentation by Armon Hartmann

In the early days the "water sector" was mostly concerned with the engineering aspects of drinking water supply, but since then it has broadened to include a range of issues and to include sanitation.

The World Water Council is a think tank with a global vision that is considering and preparing for possible scenarios. One of its concerns is the growing population that is affected by water shortages, as illustrated by the following table:

Table A6.1 Development of water scarcity

Year	Number of countries affected by water shortages	Population affected by water shortages
1950	12	20 million
1990	26	300 million
2050	65	7000 million*

Notes *Water scarcity defined as less that 1000 m^3 of water per person per year.*
* 7000 million is estimated to be 60% of the world population at that time.

Currently 80% of all water consumption is for irrigation, and 2/3 of this does not contribute to increased production (i.e. it is wastage, achieving no useful purpose).

The Global Water Partnership used to have a number of cells each concerned with one particular aspect, such as water for household use, or water for food security, or hydroelectric power. Increasingly in the 1990s Integrated Water Resources Management has sought to bring these together, and is concerned to develop policies, institutions and instruments that can incorporate all of these aspects, viewing them as different parts of the whole.

The World Water Council meets in France every two years. It has a number of Technical Advisory Committees (TAC), each one belonging to a particular geographical region and responsible for a particular topic. For example

Abbreviation	Region	Topic
SATAC	Southern Africa	International rivers
SEATAC	South-east Asia	Water for food production
SAMTAC	South America	Water for big cities
SATAC	South Asia	
MEDTAC	Mediterranean	
CEETAC	Central Europe	

The UNDP-World Bank programme is working in the field of water for household use in Nairobi, Abidjan, La Paz, Djakarta and Delhi. SDC supports UNDP-World Bank offices in Peru, Vietnam, Bangladesh and Pakistan. This programme places high priority on the exchange of information.

The Water and Sanitation Collaborative Council seeks to co-ordinate the efforts of all donors and countries. The Manila meeting in 1997 was attended by about 500 delegates. The next meeting, scheduled for November 2000 will be held in Brazil. The Collaborative Council is aiming to decentralise according to the following regions: Africa, Asia, Latin America, Eastern Europe and Central Asia, and the small Pacific Islands. There are five working groups covering the following topics:

- Global Environmental Sanitation Initiative (GESI)
- Community management
- International issues
- Human resources development, and
- Water demand management and water conservation.

Bilateral agencies support these organisations.

SDC has published its sector policy document in English, French, Spanish, Portuguese and Russian.

The World Water Council and the Global Water Partnership organised the World Water Forum that was held in The Hague this year. The theme was “Making water everybody’s business”. A document called “Vision 21” has been prepared by the World Water Council. The Global Water Partnership produced a document entitled “Framework for Action”. Each Regional Group has defined its own programme.

Annex 7 Other Presentations

On two evenings there were opportunities for informal presentations of case studies and other information that were of general interest to the participants, but not part of the main programme. This Annex contains very brief summaries of these presentations; for more details the reader is advised to contact the presenter directly – contact details can be found in Annex 1

A7.1 The Mvula Trust - Learning and moving forward

by Ken Jeenes

This talk made use of an extensive PowerPoint presentation. It concerned the work of the Mvula Trust in providing water supplies to rural areas of South Africa. South Africa has a wide range of economic standards among its population. It is the 26th richest country in the world, but 10 million people do not have a water supply and about 20 million have no sanitation. Government water supply schemes are recovering only about 1% of operating expenditures, whereas Mvula has been able to recover between 30% and 80% of the costs, including its own costs in supporting implementation.

Local water committees are a key component to the successful strategy. These committees must be well trained so that they are able to make appropriate decisions. When committees are able to manage the funds, there is a much greater degree of ownership than if the funds are managed outside the community. Some committees are not able to do all the work associated with new supplies. Post-project support for administrative tasks has been seen to be very important.

A7.2 GTZ involvement in Ecological Sanitation

by Christine Werner

GTZ uses a broader definition of *Ecological Sanitation* than is used in Sweden. In GTZ usage, this term means not only dry latrines, but also all systems that are economically and ecologically sustainable, and that close the water and nutrient cycles without risking public health. The vision for ecological sanitation also includes industrialised countries. Three specific initiatives were presented:

- A three year supra-regional project ("ecosan - sustainable wastewater disposal and sanitation") will be managed by the appropriate technical department of GTZ, operating in four countries, and starting in 2001;
- An international technical symposium was planned for October 2000 in Bonn; and
- Pilot activities in four African countries would be supported:-

- Botswana – Implementation in the national sector policy
- Ethiopia – Implementation of decentralised pilot systems
- Zambia – Preparation of pilot measures - centralised / decentralised
- Mali – Implementation of decentralised pilot systems, feasibility study

A7.3 Solid waste management in Khulna, Bangladesh

by Rahman Ferdausur

Khulna is the third largest city of Bangladesh. The presentation described improvements in solid waste collection that had been achieved by co-operation between an NGO (called Prodipan), the local government agency (Khulna City Corporation, KCC) and SDC. Before this project, residents were required to take their waste to storage bunkers in the street, and this system resulted in insanitary conditions. The project has introduced a house-to-house collection system which is managed by community Waste Management Committees. The transfer of waste from this primary system to the secondary KCC transportation is co-ordinated by a project management committee. The challenges to this new system are the need to change the behaviour of the community with respect to wastes, and the concentration of power in the hands of the municipality.

A7.4 Family latrines in Benin

by Jakob Strässler

In Benin there has been a Demand Responsive Approach programme for water supply and sanitation funded by the World Bank and Danida. The programme has included family latrines and module latrines for schools and community centres and rainwater storage tanks. The achievements include training 130 masons, 80 village water committees, 30 hygiene inspectors and 70 hygiene teachers. There has also been a media campaign, using both old and new messages; amongst the new messages that have been used are

"A latrine is good to welcome visitors", and
"Snakes do not harm in latrines"

Music and discussions on local radio and tee shirts have also been used.

The following points were made, among others:

- Masons were trained to make latrines, but it was found that they also needed training in commercial skills and dealing with customers.
- Since some projects subsidised latrines and others did not, this caused some difficulties for projects like this that did not provide a subsidy.
- There was at least one female mason, and women participated in many of the training programmes.

- Masons were selected so that not more than one came from any village. Masons needed the endorsement of the village chief to be able to find clients.
- There is no real experience of emptying latrines – when one is full another is constructed.

A7.5 Low cost terra cotta domestic water filter

by Arun Mudgal

This household filter consists of two clay vessels, each with a volume of about 16 litres. The base of the upper chamber is formed by fitting a filter disk that is made by firing a clay disc that contains sawdust, which burns out leaving pores between 0.1 and 5 μm. Such filters had been in use for about 9 months, and about 500 had been made. The cost of the unit was estimated to be between $3.5 and $4.5, the "Terrafil" disc costing about $0.5. Operational performance was described using the following data:

	Raw water	Filtered water
Total coliforms per 100 ml	350	2
Faecal coliforms per 100 ml	130	2

Flowrate: about 2 litres per hour.
In a village where these filters were used, there were no cases of diarrhoea.

This type of filter is now being tested at EAWAG.

A7.6 Assisting the ragpicker community in Faisalabad

by Shahid Mahmood

A slide presentation illustrated how CAP had been helping an isolated community of ragpickers (informal sector recycling workers) in Faisalabad. The literacy rate among men was 1 to 2 percent, but none of the women could read. The community would move out at the time of the rice harvest, and also possessed skills in basket-making. The support programme had three stages:

1. Mapping – understanding the layout and needs of the community
2. Group discussions to understand how they feel about their lives, and
3. Education. Schooling has been sponsored by local industries, but at first no teacher wanted to work there. It took one year to start the first school, but then others quickly followed. Now there are 500 students. Because parents want their children to work to increase the family earnings, classes are held in the evenings, and this enables formal school buildings to be used in some cases because they are not otherwise used in the evenings. Particular emphasis is placed on educating girls.

The schools also act as community centres. Slides were shown of a huge party that brought five communities together, and of a march around the area.

The area has no water supply and only one toilet. Now the community is starting to consider making environmental improvements.

The community has been exploited by politicians. Addictions and crime gave the politicians leverage. Now the members of the community are beginning to question the control by the politicians. Politicians are honoured as chief guests at functions in order to minimise antagonism.

Annex 8 Previous AGUASAN Workshops and the subjects covered

Subjects of previous AGUASAN Workshops	Year	Thematic Field
Appropriate Technologies in W&S	1984	technical
Water Decade	1985	policy
Participation and Animation	1986	social
Sanitation and Health	1987	sanitation/technical/education
Operation and Maintenance	1988	institutional/economic
Monitoring and Evaluation	1989	methodology/holistic
Sustainability of Drinking Water Supply & Sanitation Projects	1990	holistic view
Communication in Development Cooperation	1991	social / methodological
Water & Sanitation Knowledge System	1992	skill and know-how
Water is not a free resource (anymore) Who pays?	1993	economic
Sustainable W&S projects through fair negotiations	1994	institutional / social
Urban Sanitation: A challenge for communities, private enterprises, local governments. and external support agencies	1995	institutional / economy
Transfer of Ownership in Water Supply & Sanitation Systems	1996	social / institutional
Less Water for More People	1997	institutional / economic social
New Technologies and Balanced Development	1998	technology / economic institutional
Private Sector - just a (new) hope?	1999	institutional / social / skill + know how incl. rules + regulations

Annex 9 Topics for the Aguasan Workshop 2001

Proposals by participants of the Aguasan Workshop 2000

- Good governance in water projects
- Water projects following emergency interventions / continuum from emergency to development
- HCA + 1 - A follow-up of the 2000 Workshop
- Any subject + (HCA + 1)
- Planning and management of more integrated water projects
- Integrated water resource management (in connection with water supply and sanitation)
- School sanitation
- Basket funding vs. direct co-operation at project level in W&S
- UN desertification related to W&S
- Capacity building
- Information transfer (exchange)
- Decentralisation in the water sector
- Communities and government partnerships
- Institutional set-up for the water supply and sanitation sector
- The continuum between emergency and development support in the waste sector (flexibility)
- Upgrading the quality of existing projects
- Transfer of know-how
- Schools for promoting environmental sanitation
- Research applied to HCA
- Use of new (electronic media) communication possibilities in projects

The date of the next Aguasan Workshop is provisionally 25 to 29 June 2001