
Sustainable services without external support — still a challenge!

What is needed so that sustainable services are guaranteed after the withdrawal of external resources?

**Report on the 20th AGUASAN Workshop
Gersau, Switzerland
June 28 to July 02, 2004**

A workshop for project staff, consultants and desk officers



Compiled by Julian Jones, Skat Consulting

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What is the AGUASAN workshop?

“AGUASAN” is the unifying banner of a long-standing community of practice that is based in Switzerland and which brings together a wide range of specialists in order to promote wider and deeper understanding of key issues in the drinking water, sanitation and hygiene sectors of Southern countries.

Apart from the continuous bilateral exchanges that take place between group members, AGUASAN meets in Bern every quarter for a 1-day exchange of knowledge and ideas. In order to reach out to a wider audience, AGUASAN also organises and hosts a 5-day international workshop in June every year. These workshops take place in a secluded location on the shores of Lake Lucerne, Switzerland. Here, project field staff, desk officers, researchers and consultants from all over the world agree to place their day-to-day tasks on hold for 1 week in order to concentrate fully and collectively on a cutting edge theme of common concern.

In June 2004, the 20th consecutive AGUASAN workshop took place in what has become a very popular, successful and respected series of innovative events.



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Part One: The Message

Chapter 1 Summary and Introduction

1.1 Summary of this Report

This report describes an AGUASAN workshop that was conducted in response to prevailing concerns about how the millennium development goals can be honoured in practice. It was the twentieth workshop in a series that has concentrated on topical issues in water supply and sanitation. Professionals of 19 different nationalities made up the participants list, representing 24 countries spread over 4 continents. They assembled to try to find ways of improving the sustainability of investments in infrastructure made with the help of external support agencies, firstly in connection with five cases studies, and then extending to the situations in which the participants are working, so that proposals are realistic and practical. Presentations were given on the following topics:

- What is a livelihood system?
- The 9-square Mandala as a tool for understanding livelihood systems
- The influence of livelihood systems on the sustainability of development interventions

Five case studies were considered in detail – two from Africa, one from Asia and two from Latin America. Although the cases were unique, they shared a common feature in that external support for water and sanitation sector development was either being phased out or undergoing significant realignment. Working groups first became familiar with the cases and then discussed how to apply the information that had been presented to improve the sustainability of the support programmes under discussion.

The workshop also included short discussions based on the working situations of other participants, an excursion to see how major public infrastructure and rural livelihoods systems are supported in zones with modest economies in Switzerland, and other informal inputs.

This report cannot give a complete record of all the ideas that were developed and shared during the workshop, in each working group and in hundreds of conversations. It aims to cover the main points made and the recommendations arising from discussion. It also describes the workshop programme and methodology, which may be of use to some readers who wish to pick up some tips on preparing and running workshops, since this workshop was the 20th in a series of successful annual meetings.

1.2 The Theme and Objectives of the Workshop

When choosing the topic for this workshop, the AGUASAN preparation group was faced with many important issues in the field of water supply and sanitation. Ideas for the theme of the annual workshops are collected from participants at the close of each workshop – suggestions that are made on such occasions therefore feed into the selection of new themes of interest (see Annex 1.2 for a list of suggestions made for 2005).

The topic of the workshop was finally chosen because of rising concern over the pace of progress towards honouring the millennium development goals (MDG) in relation to water supply and sanitation.

1.2.1 The Importance of Sustainable Service Delivery

It is fair to say that honouring the spirit of these goals is a challenge with many facets. In setting the workshop theme, the organising committee singled out the need to learn from one of the principal lessons of the International Drinking Water and Sanitation Decade (IDWSSD) 1981-1990 – that progress through the proliferation of physical infrastructure is progressively undermined if the many and complex factors governing sustainability are not addressed.

Figure 1: Chasing the Goals

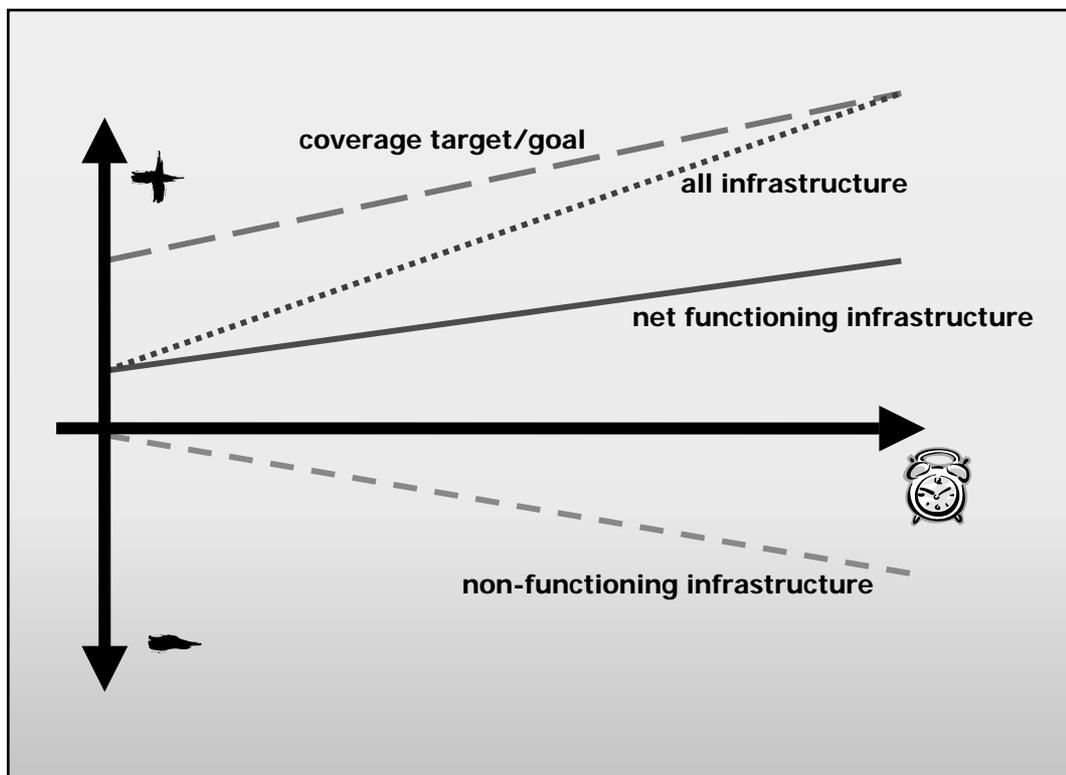


Figure 1 illustrates the problem graphically. The ‘coverage target’ line has a positive gradient to reflect the effect of population growth over time. The ‘all infrastructure’ line has a steeper positive gradient so that the target is reached over time, starting from a shortfall in coverage. However, as total infrastructure increases over time, the number of systems falling into disrepair also increases. The ‘net functioning infrastructure line’ is the sum of the ‘all infrastructure’ and the ‘non-functioning infrastructure’ lines. If the gradient of the ‘net functioning line’ is flatter than the ‘target’ line, the goal of universal coverage actually gets further out of reach as time goes on, even though new infrastructure is continually being added. The key to the impasse is not to speed up the pace of infrastructure addition in isolation (since this also increases the percentage of breakdowns) but to work on the sustainability of existing systems while steadily adding new infrastructure.

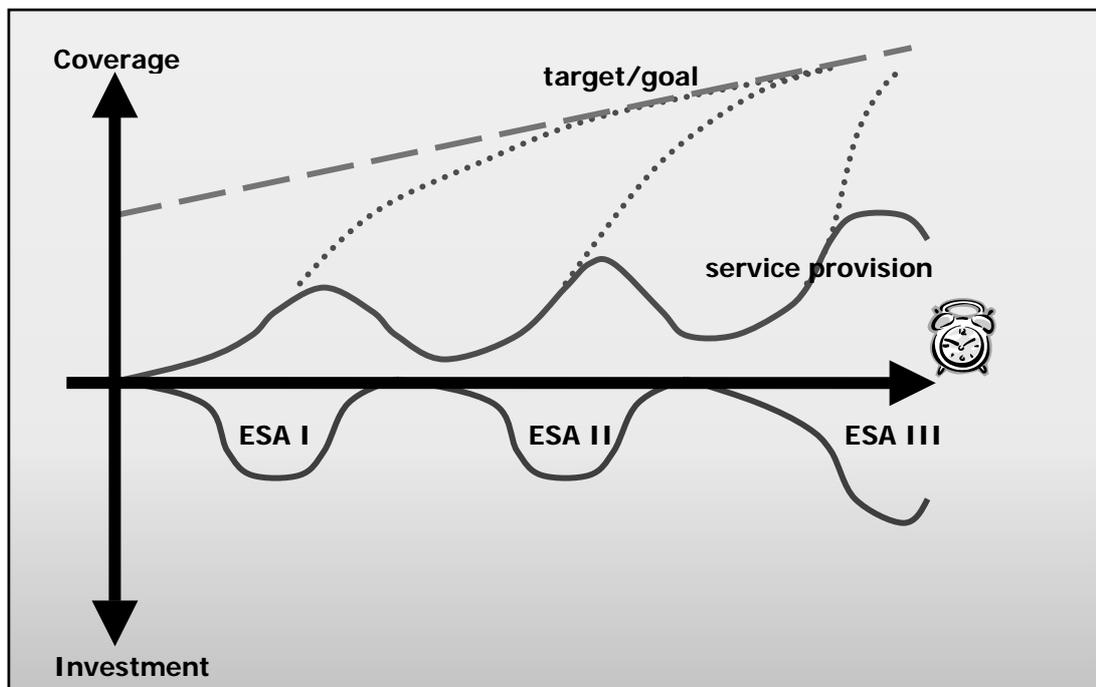
The question of sustainability is of particular importance in the field of development co-operation, where sector specialists must work with limited resources and use ‘lasting

impact’ as an important measure of their effectiveness. Able to call on a wealth of personal experience, the workshop organisers were preoccupied with the observation that the impact of development cooperation interventions is cyclic in nature.

1.2.2 The Cyclic Nature of Development Cooperation Interventions

The workshop organisers picked upon the tendency of development interventions to backslide (in terms of service coverage) once the external support agency (ESA) withdraws support, and that this tendency has persisted despite major shifts in approaches towards development cooperation. Over the last 30 years, the water and sanitation sector has undergone a succession of sea changes in terms of the strategic approaches required to assure lasting impact. These strategies have included the promotion of appropriate technologies, the promotion of public-private partnerships, the promotion of community management, decentralised governance and local empowerment, the demand responsive approach, the sector-wide approach...

Figure 2: Cyclic & Repetitive Interventions



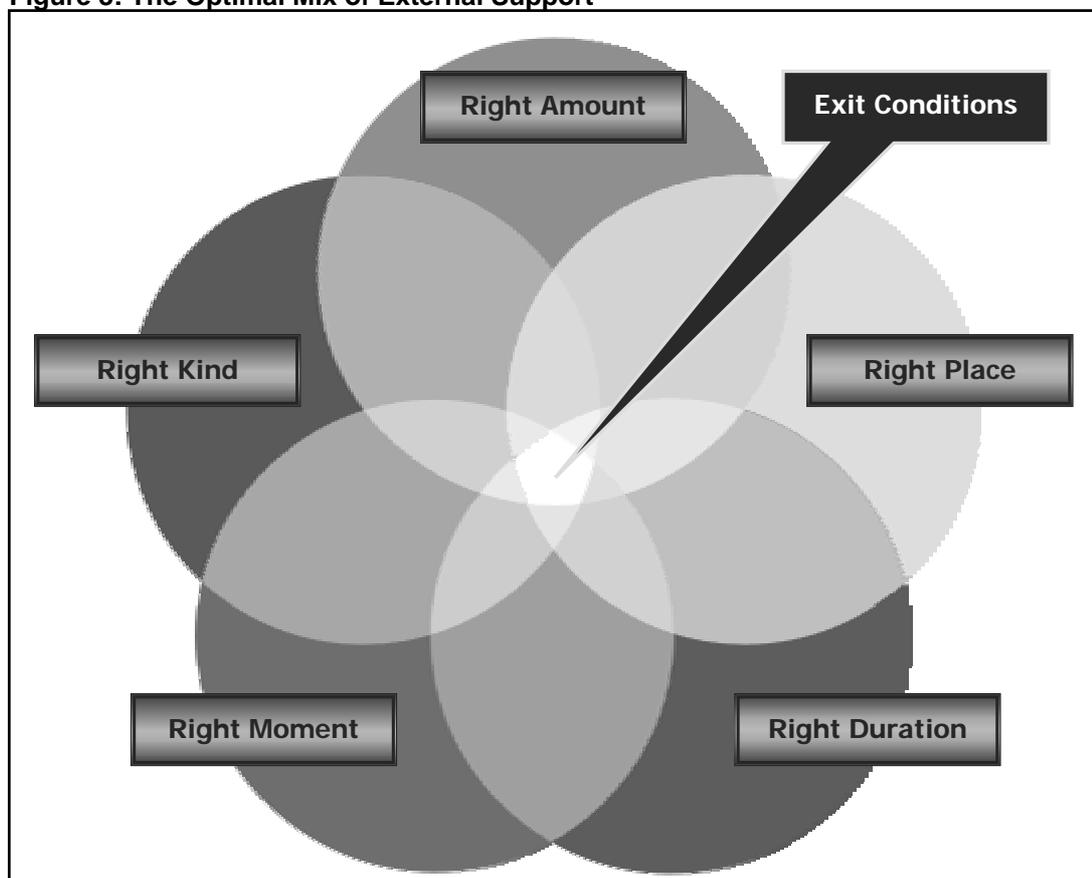
Despite all these well thought-out strategic approaches to sustainable development for the sector, the cyclic nature of progress and backsliding that is represented graphically in Figure 2 prevails. How can this be? In selecting the workshop theme for the AGUASAN workshop 2004, the preparation group sought to bring together project field staff, desk officers, researchers and consultants from all over the world in order to concentrate fully and collectively on this important question.

Chapter 2 The Right Mixture

2.1 A Hypothesis

The structure of the workshop was built around an important hypothesis. It is universally assumed that an external support agency can fashion its interventions in a way that anchors development in the theatre of intervention. In this way, local coping mechanisms should be able to take over at the point when external support is withdrawn. Ensuring the provision of essential public services (without necessarily providing such services directly) is a public responsibility, and so external support agencies are often called upon to substitute an underdeveloped (or overwhelmed) local public sector.

Figure 3: The Optimal Mix of External Support



This hypothesis - that ESAs can kick-start development processes and then withdraw their support without undermining the beneficial effect of their initial efforts - forms the basis of a secondary assumption; that an **optimal mix** of external support measures is a precondition for such a successful withdrawal. Suggested considerations making up this successful exit strategy are graphically represented in Figure 3. This 'optimal mixture' is at least partly what defines the shape and the area of the ESA curves that we see in Figure 2.

2.2 Failing to Find the Right Blend?

Typically, any new development programme (or any new undertaking for that matter) must undergo a series of preparatory steps prior to implementation - including a risk assessment based on standard forms of analysis. Such studies may uncover technical, economic or managerial deficiencies that must be overcome in order for the external support measures to be a success. Similarly, investment risk assessments may point to the danger of economic crisis and political instability in the theatre of support provision.

The responsible management of such risks is a fundamental feature of development work and although such risks may represent a significant challenge, their existence cannot explain the *persistently* cyclic nature of development cooperation – precisely because these risks are qualified and quantified prior to the onset of any support provision.

Something else that is not being sufficiently well taken into account at the onset of support provision may therefore be at play; a hitherto insufficiently understood element which prevents ESAs from developing compatible support and exit strategies.

The workshop methodology is built upon the provision of a clear framework, within which the participants would deepen their understanding of the mix of support measures needed for the controlled withdrawal of support. In developing this framework, the workshop organisers attempted to name the rogue element that has consistently scuttled the development of optimum support mixes in the past.

Drawing on their extensive experience in the field, the organisers therefore made one further important assumption. They formed the hypothesis that differences in social values and the existence of cultural barriers (visible or not) may play an important role in determining a successful mix, and that due to a lack of appropriate tools, these values are not sufficiently taken into account during the preparation of support strategies.

2.3 Understanding Livelihood Systems as Complex Wholes

When an ESA implements a strategy to kick-start and anchor a development process, it must take into account the roles that culture and social values may play in the adoption, indifference or rejection of the initiative by partners and beneficiaries.

In their search for a tool to analyse the effect of culture and social values on change, progress and development, the workshop organisers were drawn to recent research conducted at the Swiss Federal Institute of Technology in Zürich (ETH) by the Department for Postgraduate Studies on Developing Countries (NADEL). This research focused on the development of a **heuristic** methodology for defining and improving our understanding of livelihood systems – the assumption being that cultural norms and social values are key components of any livelihood system.

Heuristic is the art and science of discovery and invention. The word comes from the same Greek root as "eureka", meaning "to find". A heuristic for a given problem is a way of directing your attention fruitfully to a solution. It merely serves as a rule of thumb or guideline. Heuristics may not always achieve the desired outcome, but can be extremely valuable to problem-solving processes. Good heuristics can dramatically reduce the time required to solve a problem by eliminating the need to consider unlikely possibilities or irrelevant states.

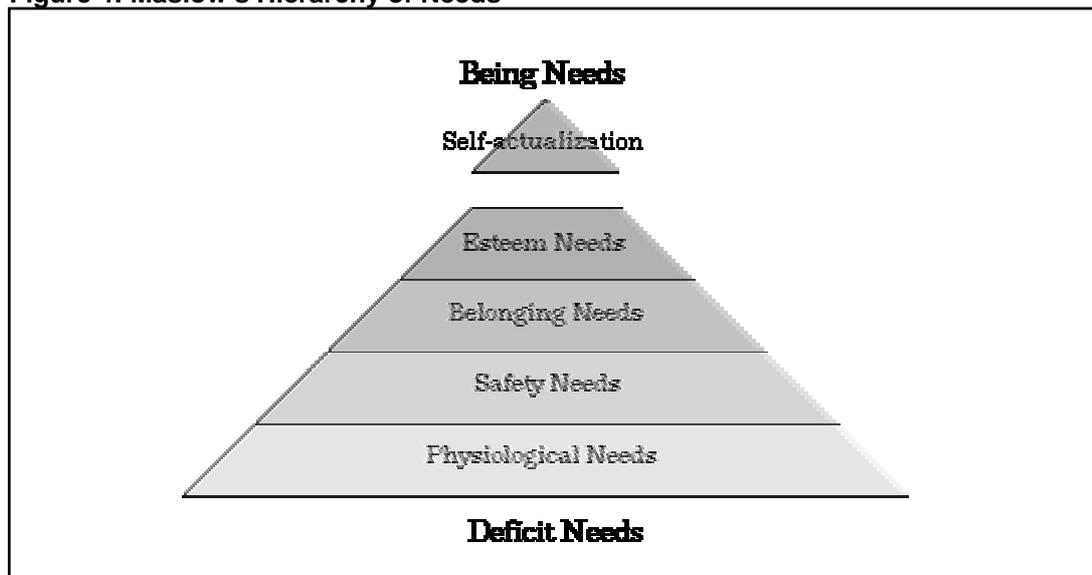
Source: <http://encyclopedia.thefreedictionary.com/Heuristic>

2.3.1 The Holistic Nature of Livelihoods Systems

Before starting on work to develop a methodology for understanding livelihood systems, the researchers at ETH/NADEL needed to define what they meant by livelihood systems.

Back in the 1960s, Abraham Maslow developed his theory of hierarchical human needs; only when our most basic needs are met can we focus on trying to attain loftier goals. Maslow's hierarchy is represented graphically in Figure 4.

Figure 4: Maslow's Hierarchy of Needs



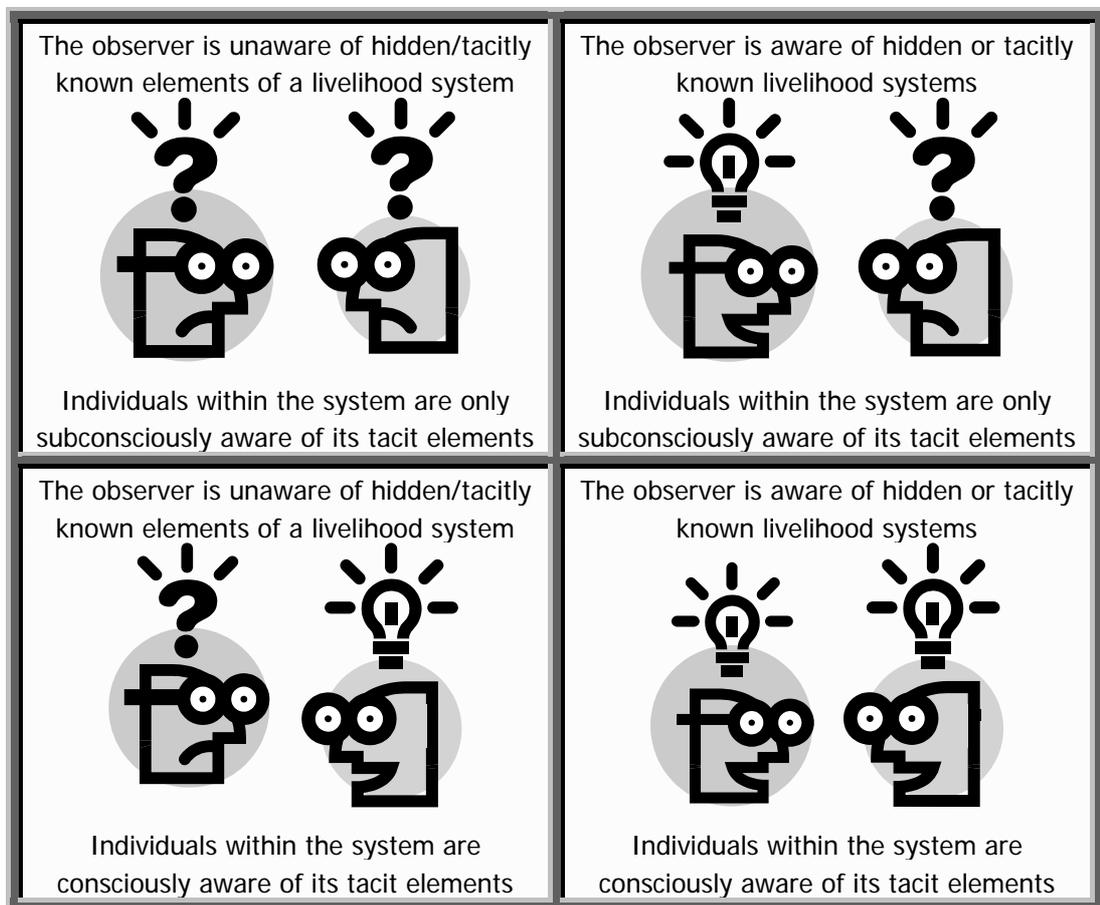
According to Maslow's view of human nature, the base of the pyramid represents very basic needs: air, water, food, shelter and so on. Once these needs are met, we can seek to preserve them with safety mechanisms - the next layer in the pyramid. Once our basic needs for survival are met and secured, we start to feel the need for love and companionship, and once those needs are met, we start to look for the respect of others and to develop our own self-esteem. All of these needs were defined as deficit needs – we are driven by the need to fulfil these needs and once we have done so, we no longer perceive them. Maslow contended that people can only begin to fulfil their true potential when **all** of their deficit needs are fulfilled.

Maslow's model is a useful tool in trying to understand human behaviour, but the boundaries between the model's layers are deceptively clear-cut; Maslow himself accepted that our actions are governed by simultaneous needs from different levels in response to the range of challenges that life throws at us.

When we first think of a livelihood system, the temptation is to focus on the various means of maintenance that are required in order to sustain life. In other words, we are talking about the subsistence systems we use to meet the **lower level** deficit needs in Maslow’s model. Yet if we really want to gain an understanding of human behaviour, we need to look at **all** of the needs that are covered in the model. For this reason, the NADEL research into understanding livelihood systems (see section 2.3, above) defined such systems as comprising everything that gives (physical) **continuity** and (spiritual/mental) **meaning** to the life of an individual, a family or a coherent group of people.

Furthermore, the researchers recognised that many of the crucial elements of a livelihood system may be ‘hidden’ or only tacitly known – either to outside observers of the system or to the individuals within the system itself. Within the scenario, four states of awareness are possible, as defined by the Johari’s window in Figure 5.

Figure 5: Four possible states of awareness with respect to the observation of hidden or tacitly known aspects of a livelihood system



In order to fully understand the complexity of livelihood systems, the researchers at ETH/NADEL attempted to devise a methodology that would help observers to uncover the secrets held behind each of the four panes of this window (Figure 5).

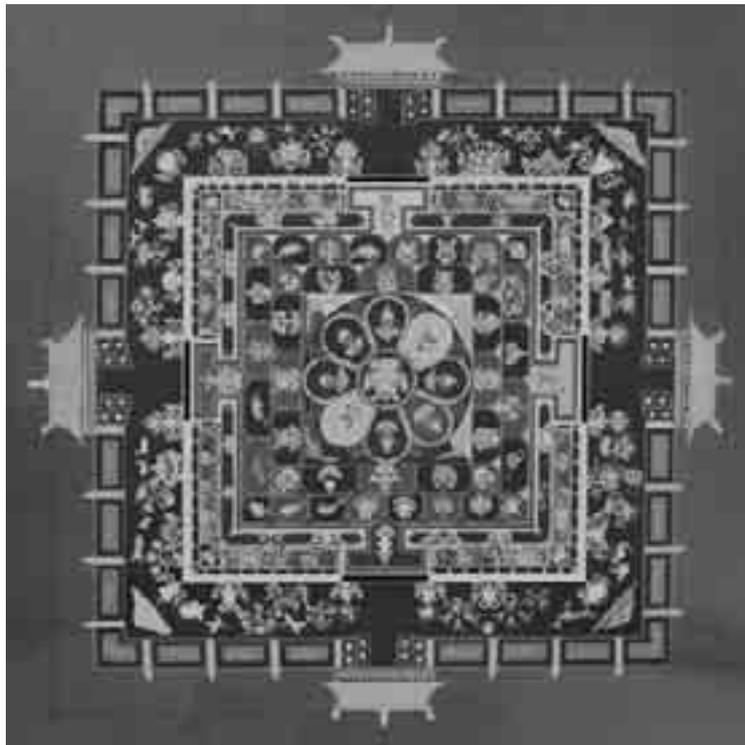
Given the all-encompassing definition of a livelihood system, it became clear to the researchers that the preoccupation of any given stakeholder with the sustainability of any form of institution could never exist in its own right. At best, it could only form a component of the stakeholder’s own livelihood system.

2.3.2 The Nine-Square Mandala as a heuristic tool for understanding livelihood systems

The researchers at ETH/NADEL developed a 9-square matrix as a heuristic tool for understanding livelihood systems. The form and logic underpinning the development of this matrix are inspired by two metaphors; the rural home in India and the 9-square Mandala symbol, a well-known and widely spread symbol in Indian culture.

Mandalas are geometric patterns with a satisfying symmetry about them; they are widely used as symbols signifying wholeness, and have even been used as templates for town planning. An example of a decorative Mandala is shown in Figure 6 on page 13.

Figure 6: Typical Mandala Image



The research team was also inspired by a Chinese magic square, dating back to the first millennium B.C.

This square also has a satisfying geometry, and was also used to symbolise the inner coherence and completeness of the universe.

4	9	2
3	5	7
8	1	6

With the nine cardinal numbers (from 1 to 9) arranged in a symmetrical matrix in this unique way, the rows, the columns and the diagonals all add up to the same total - 15.

The second metaphor adopted by the research team in the development of a tool for understanding livelihood systems was the Indian rural home. This metaphor was taken as a being made up of 3 key elements; the base or foundations, the enclosures or spaces, and the roof.

To construct the livelihoods analysis tool, these three elements of the Indian home were then superimposed on the *rows* of the 3x3 Mandala. Attributes were then assigned to the *columns* of the emerging analysis matrix. These columns were taken to represent the differences between inner, personal realities and outer, physical realities. The resultant 3x3 “lens” for studying livelihood systems is graphically represented in Figure 8 on page 16.

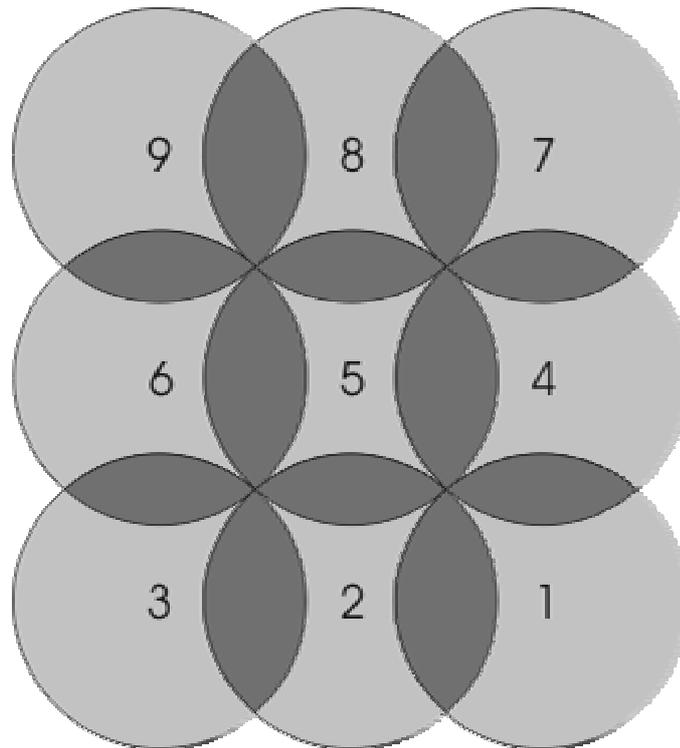
Using the matrix to interpret a livelihood system, we see that the lower, right hand square (square 1) represents the physical basis of any livelihood system. It is possibly the easiest aspect of a livelihood system to look at and to understand. To the far left of the base row (square 3), we encounter the emotional basis of the system. These are the deep-seated

feelings, the sense of belonging and the emotional attachments to a way of life that keep people alive and on the move. The centre square (no. 2) on the base row refers to the knowledge and activity base of the livelihood system, i.e. to the crafts, trades, skills and traditional knowledge on which the system is built. The contents of the square have an economic purpose but at the same time they are linked with tradition, emotions and other inner realities.

Square 4 (socio-economic space) of the matrix refers to external, tangible theatres of interaction and endeavour. In the centre of the matrix we find the family space, where interactions at household level make their mark on the system. At the opposite end of the row (square 6), we see the inner human space, where actions are governed by deeply personal motives that are no longer determined by the rules that govern our behaviour within the family or in more remote social groups.

In the metaphor of the Indian rural home, the top row of the matrix corresponds with the roof as a physical manifestation of our inward tendency to look upwards for inspiration, direction and orientation. The tangible side of this orientation layer (Square 7 – collective orientation) indicates the regulatory and institutional frameworks that we consciously construct and apply in the name of progress; the left-hand side of this layer (Square 9 – individual orientation) draws our attention to the deeply personal nature of what pulls us forward, in spite of the existence of the centre square (no. 8) where our outlook is influenced by the collective aspirations and orientation references of our immediate family.

It is important to grasp that the cells of the matrix represent diverse aspects of a single livelihood system; there are no clear-cut boundaries in such a model and adjacent cells overlap with one another – as illustrated in Figure 7. The importance of the family space (in terms of interactions with neighbouring cells) is clearly shown.

Figure 7: Interrelationships between adjacent cells in the Mandala

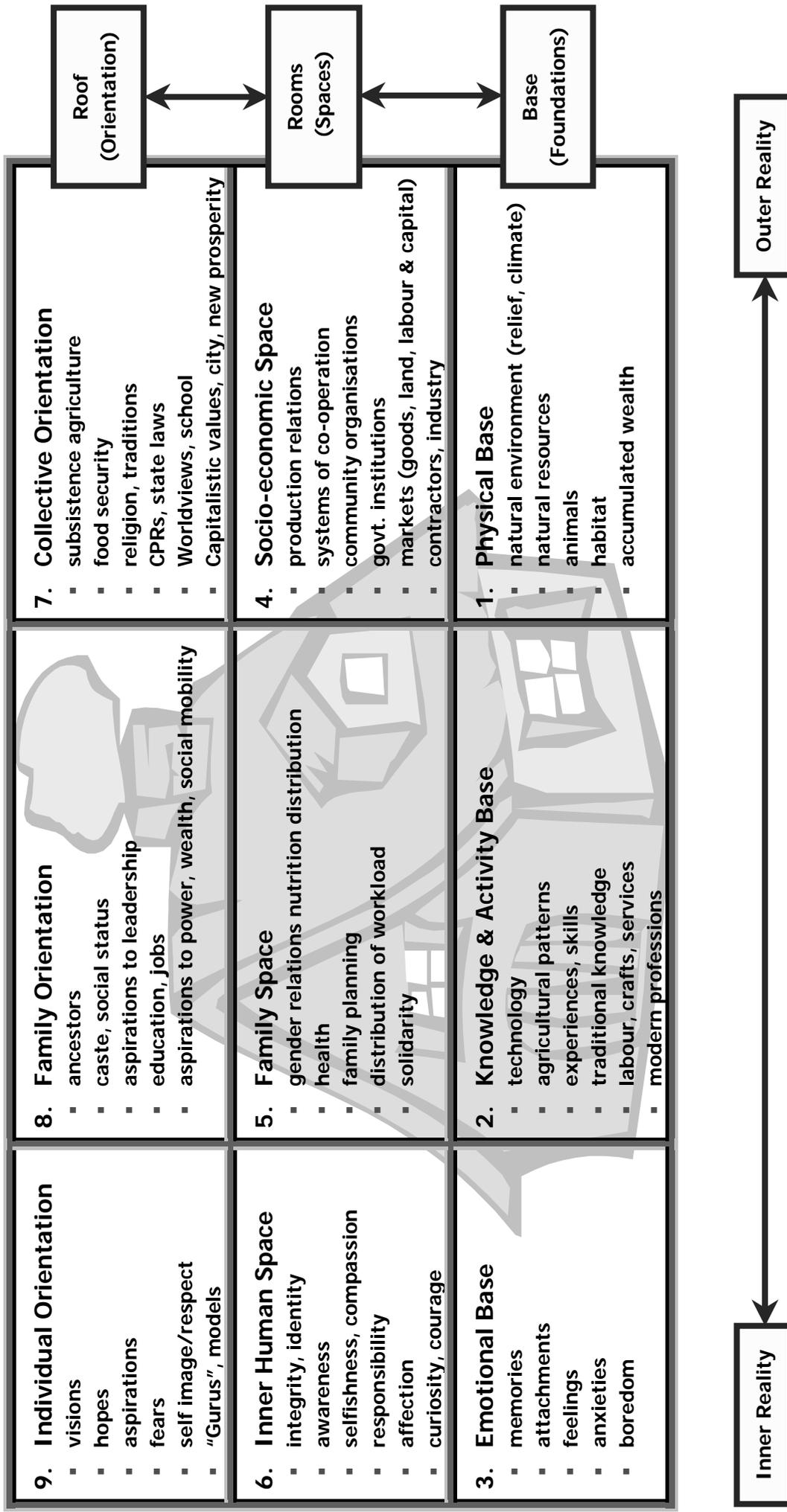
With this holistic view of a livelihoods system, we can see that if any aspect of the livelihood system threatens its overall sustainability, only development initiatives that successfully address the same issues can hope for sustainable impact.

With the permission of the author, section 2.3.2 of this report has been inspired by (and in places has directly quoted from) a paper entitled "Understanding livelihood systems as complex wholes" by Ruedi Högger. The paper appears in the following publication:

"In Search of Sustainable Livelihood Systems: Managing Resources and Change"

Edited by Ruedi Baumgartner and Ruedi Högger
396pp, Sage UK, 2004, ISBN: 076199808X

Figure 8: The Nine-Square Mandala



2.4 Using the Mandala

How can this instrument for understanding livelihoods systems work in practice and help development professionals to achieve the “right mix” that is referred to in Figure 3? The workshop participants were asked to picture a typical domestic scene in rural India and to look at the scene from the nine perspectives embodied in the Mandala.

Figure 9: A typical domestic scene in rural India



Using the Mandala as a checklist helps us to home in on salient points that make up such a livelihood system. Considering the scene depicted in Figure 9, we can surmise that the family has access to food and water, and probably land. There is a house, a courtyard, and some animals – in other words, the physical base of the LS looks secure. In terms of the knowledge and activity base, we observe the skills necessary to maintain the physical base – baskets are being woven, the family may possess farming skills, the wife is able to raise children in harsh conditions, perhaps the children attend school. Within the limitations of this exercise, we can also infer from the baby's presence that the emotional base is reasonably healthy.

In terms of the socio-economic space, we can see that the family has access to electricity, to television and to radio - this livelihood system is connected with others and it interacts with the world outside it. The family looks like a cohesive unit - all members are occupied with tasks that benefit the family as a whole; perhaps gender relations dictate who should perform which task. We can see the decoration by the side of the door to the house, which is caste specific, and on display, showing the orientation of the family. Neighbours may well share the same caste and religion, but may not necessarily share the same feelings of orientation.

In this rather abstract exercise, we cannot make assumptions about the inner human space (square 6) or extract much information about the (top) orientation layer simply by observing – we must interact with the characters in the image to complete these squares in the Mandala.

It is useful to note that in using the standard tools of their trade to implement support programmes, development professionals also tend to overlook these important aspects of the livelihood systems of the very people they are trying to assist: perhaps these ‘blank spots’ in the rather abstract study of a livelihood system serve to demonstrate the importance of dialogue with all stakeholders during all phases of a development programme. Furthermore, given the high sensitivity of some areas of a viable livelihood system, such dialogue must be finely-tuned, considerate and skilful.

If we now consider the same rural setting in Figure 9 from the hypothetical perspective of an extension worker who is investigating why the hand pump has been out of operation for some time, and if we use the Mandala to structure our line of inquiry, we are led to a comprehensive and revealing series of relevant issues.

Figure 10: Using the Mandala - a practical example

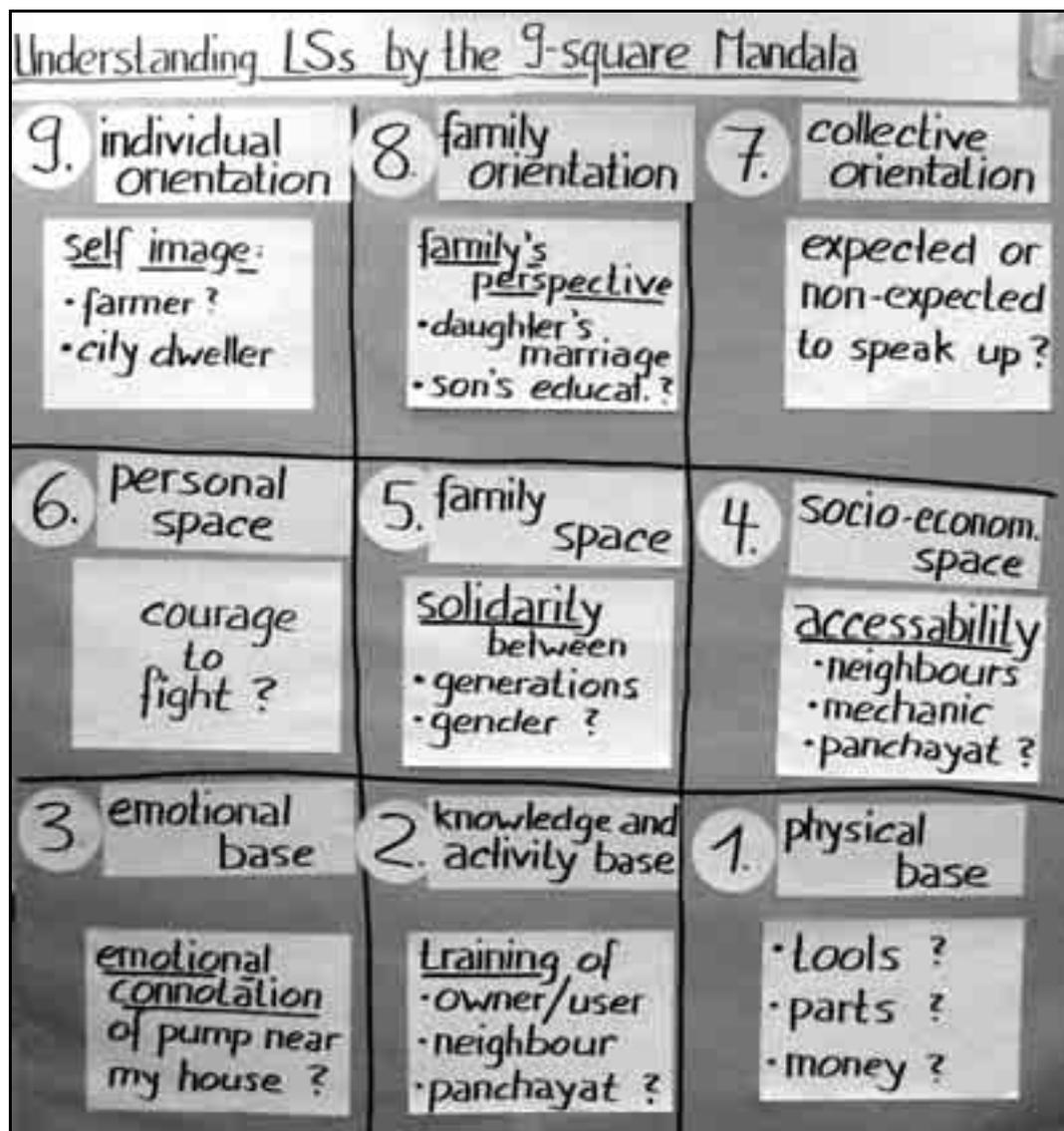


Figure 10 represents a summary of the family's livelihood system with respect to the maintenance of the pump and is therefore a composite of potential issues that may be raised by the individual family members. Any of these issues (or any combination of issues) may be the cause of the pump to remain out of action if not addressed.

In this example, the Mandala does not show us how to solve the maintenance problem, but it does show us where we should start looking for possible solutions. It suggests that the issue may be far more complex than a simple question of access to money or spare parts. If we look at the livelihood system of the family in general terms and conclude that the system's sustainability does not depend on whether the pump works or not, it will not be possible to count on support from this family in any maintenance plan for the pump.



A word of warning from the developers of the Mandala – livelihoods systems defined in this way appear to be very dynamic, especially where the rural poor are concerned. The output of a livelihoods analysis has a correspondingly short shelf-life!

Chapter 3 Understanding Real Cases

For a number of years, the methodology of the AGUASAN workshop has revolved around the analysis of real case studies. The advantage for the case study presenters is the benefit of fresh insights provided by the workshop participants, and the benefit to the participants is the learning experience of the workshop itself. The 2004 workshop was no different in this respect. For a deeper discussion of the structure and methodology of the workshop, readers are invited to consult section 5.3 of this report.

The particularly large intake of participants for the 20th anniversary of AGUASAN (45 persons in all – see Annex 1.1 for details) meant that presentations of case study insights in plenary sessions were particularly brief. Instead, the conclusions of the workshop were synthesised by moderated workgroups. A brief summary of the cases (5 in all) is presented here, together with some case-specific insights that the use of the Mandala produced. For more general conclusions concerning the use of the Mandala in addressing sustainability issues in development cooperation, the reader is invited to consult Chapter 4.

3.1 Charting a Course of Action

In order to look at the five cases using the Mandala, the workshop participants needed some points of reference – in a project implementation environment, exactly which livelihoods systems should they seek to understand better?

The most important steps in any planning exercise involve tackling three basic questions: “where are we now?”, “where do we want to go?” and “how are we going to get there?” Before trying to use the Mandala to chart a course from a starting point to a goal, it is first necessary to define the starting point and the destination.

For the participants working on the five case studies, the starting point for each case was defined by the case presenters who gave a detailed summary of the state of play in each instance.

The goal for each case study was something that the working groups then defined through discussion, since this key factor varied from one case to the next within the framework of the workshop subtitle - *“what is needed so that sustainable services are guaranteed after the withdrawal of external resources?”*

Having defined what they were aiming for, the groups were then able to establish a map of key stakeholders connected in some way with this objective. In making this stakeholder map, the participants were able to give attributes to the stakeholders they identified – showing the relative distances and importance of stakeholders with respect to the objective. By doing this, the participants were able to home in on the stakeholders most likely to make a difference in reaching the objective, thus answering the question raised in the first paragraph of this section – which livelihoods systems should be analysed using the Mandala?

3.2 Peru: SANBASUR

3.2.1 Background:

The SANBASUR project is implemented in the mountain region of Cuzco in Peru. Initiated in 1996, it is now in its fourth and final phase (2004-2006). It has received USD 7.5 million in co-funding from the Swiss Development Cooperation (SDC) and its major achievements are being taken up by other local and regional institutions. These achievements include:

- Providing sustainable water supply and sanitation services to more than 12,000 families in 240 poor peasant communities of the mountain region of Cuzco.
- Empowering these 240 peasant communities to achieve self-management of their water and sanitation services.
- Developing and validating an integrated approach for sustainable water supply and sanitation services for rural communities in the Cuzco Region, which is now being used by other local and regional institutions, public and private, involved in rural water supply and sanitation projects.
- Developing and validating an environmental and hygiene education program for rural school children that was subsequently approved and implemented in Cuzco by the Ministry of Education.
- Developing and disseminating appropriate and low-cost technologies and methodologies.
- Contributing to the design and launch of the National Rural Water Supply and Sanitation Program, funded by the World Bank and other international donors.

Sweeping decentralisation was initiated in 2000 but adoption of the new system of public administration remains weak today. Lower tiers of government still turn to successively higher levels for all forms of decisional support, and the public continues to look towards central government for leadership on local issues. In this complex and transitional institutional environment, SANBASUR has taken on the key roles of coordinator and facilitator between stakeholders at multiple levels in this unstable institutional framework, as depicted in Annexes 1.3 and 1.4. The problem facing SANBASUR is how to transfer its regional expertise to a national programme in this complex institutional environment and phase out by 2006.

3.2.2 Objective and Key Stakeholders:

Given the nature of the challenges facing the sector, the SANBASUR working group defined their guiding objective for the use of the Mandala (refer to section 3.1 at the beginning of this chapter) as being **capacity building, innovation and coordination** as vehicles for the sustainable delivery of decentralised water and sanitation services.

The main stakeholders involved in the realisation of this objective are shown schematically in Figure 11, below:

Figure 11: Stakeholders and their relationship with the project objective (SANBASUR)



The figure shows the respective importance (size of the circles) and distance of the stakeholders from the central goal. Pronasar is a large national programme that it is hoped will draw on the experience of the Sanbasur model in the future. WSP is the Water and Sanitation Programme of the World Bank.

3.2.3 Conclusions of the Working Group:

The stakeholders with the greatest influence over the realisation of the project objective were identified as being the Head of Sanbasur (the case study presenter) and the Water and Sanitation Project of the World Bank. The head of Sanbasur was chosen because of the perceived proximity of Sanbasur to the objective, and the WSP was chosen because of the particular strengths of the institution in terms of having access to a large range of influential interlocutors (lobbying power), access to state of the art knowledge, and access to significant sources of project funding.

Having identified these groups as holding the most influence over the potential for sustainable service provision through capacity building, innovation and coordination, the Sanbasur working group proceeded to construct Mandalas for each stakeholder in the hope of identifying positive recommendations that would lead to the realisation of the goal.

Unfortunately, the use of the Mandala as a means of analysing the "character" of an institution does not yield results that are easy to exploit. The analysis of the WSP produced a picture of the institution as a competent, professional and powerful promoter of state of

the art water and sanitation policy. The Mandala also showed that the WSP has an opportunistic side to its "character" and that it cannot go against the wishes of its host institution, the World Bank. However these insights did not help the workgroup to develop a blend of measures that would allow Sanbasur to withdraw from Cuzco's institutional landscape without undermining local capacity to manage existing water and sanitation services.

The Mandala for the project leader at Sanbasur revealed a competent, committed and altruistic individual at the head of a structure that was performing well. However, the results did not indicate a way to close down Sanbasur without causing considerable disruption to water and sanitation service delivery in Cuzco. Despite the scheduled closure date of 2006, the Sanbasur structure is required to make linkages between other stakeholders in the water and sanitation sector who do not otherwise interact in an optimal way. This situation is likely to continue until the recent decentralisation reforms in Peru have had sufficient time to bed in properly. The transfer of the Sanbasur methodology to Pronasar was seen as a possible interim solution, but since Pronasar is a large national programme, the transition is likely to be fraught with difficulties. At this stage, it is not possible to predict how Pronasar will perform or evolve. The conclusion of the working group was that at this stage in the project, no blend of actions would permit Sanbasur's supporting agency to withdraw from the programme without causing service disruption. The intermediate strategy of passing Sanbasur's responsibilities over to Pronasar may or may not function. In terms of exit strategies for external support agencies, the approach does not really represent a breakthrough in terms of sustainable service provision.

3.3 Latin America: SODIS

3.3.1 Background:

SODIS is a deceptively simple household technology for disinfecting clear drinking water using little more than recycled plastic bottles, time and sunlight. It is recognised by the World Health Organisation as an effective way of disinfecting water in order to make it safe to drink. In a total of 7 Latin American countries, the Bolivian-based SODIS Foundation raises awareness and promotes this extremely cheap and effective household technology by working through local partners. The Foundation provides local partners with broad-based support in the form of capacity-building, technical assistance, financial support, and organisational development.

However, despite the effectiveness, simplicity and low cost of the SODIS technology, the introduction of SODIS to a new environment has not always gone as well as might be expected. Over many years, the champions of this disinfection technique have seen that anchoring its use at household level is a surprisingly complex issue. Sustained facilitation and awareness-raising measures at local level are invariably needed in order to reinforce the comprehensive research that already shows how safe, cheap, easy and effective SODIS can be.

Perhaps the simplicity of the technology arouses too much suspicion, or the lack of opportunities for turning a profit prevents private sector players from joining the initiative. Whatever the reasons, SODIS does not spontaneously take root and 'sell itself'; successful SODIS promotion must overcome significant scepticism, indifference or passive resistance at many levels. Since the current funding phase for the SODIS Foundation is scheduled to

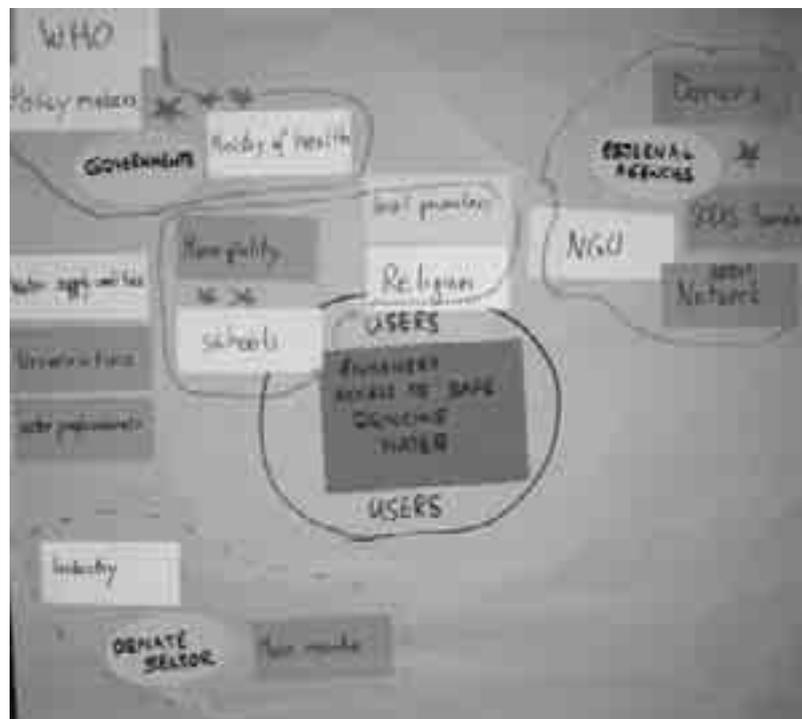
run out in 2005, the sustainability of SODIS technology across Latin America is now in question, and the programme's champions are in search of a controlled exit strategy that will preserve and build upon the progress that has been made to date.

3.3.2 Objective and Key Stakeholders:

Given the nature of the challenges facing the sector, the SODIS working group defined their guiding objective for the use of the Mandala (refer to section 3.1 at the beginning of this chapter) as being **enhanced access to safe drinking water**.

The main stakeholders involved in the realisation of this objective are shown schematically in Figure 12, below:

Figure 12: Stakeholders and their relationship with the project objective (SODIS)



The figure shows the respective importance (number of stars) and distance of the stakeholders from the central goal.

3.3.3 Conclusions of the Working Group:

The stakeholders with the greatest influence over the realisation of the project objective were identified as being:

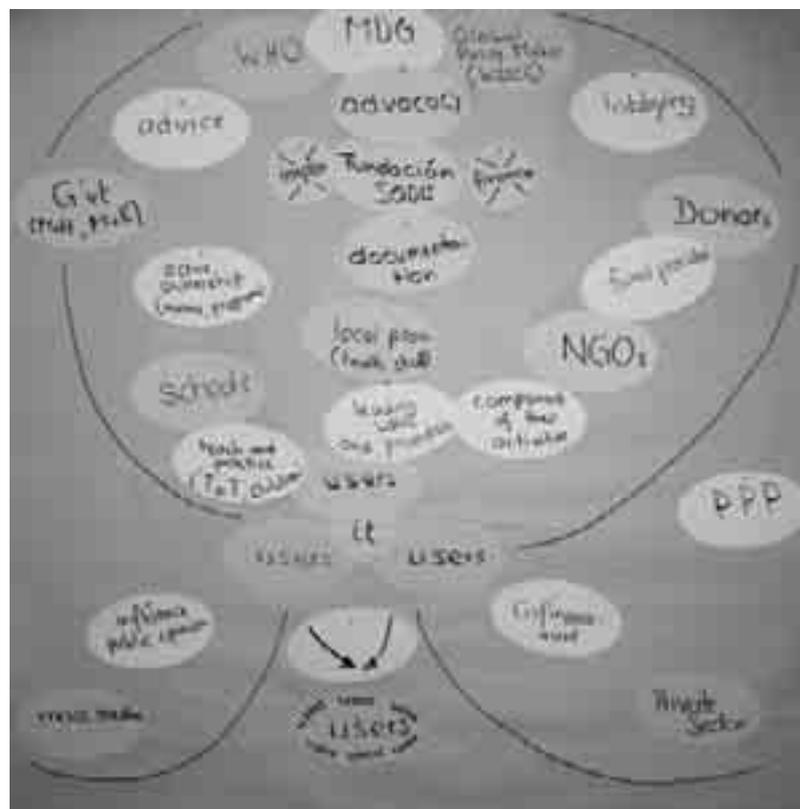
- the users of SODIS (particularly women)
- the SODIS promotion network through its project officer in Latin America (the case study presenter), the SODIS Foundation and the SODIS network
- the various levels within the ministries concerned with health, hygiene promotion and public drinking water supplies.

Having identified these groups as holding the most influence over the potential for SODIS promotion in Latin America, the SODIS working group proceeded to construct Mandalas for

each group in the hope of identifying positive recommendations that would lead to the realisation of the goal.

Unfortunately, the use of the Mandala did not appear to produce any clear insights as to how the goal could be reached and instead, the group produced a broad strategy for addressing problems that are already reasonably well understood amongst advocates of the SODIS technology. Since the SODIS programme is a regional initiative, it was difficult for the group to focus in on individual stakeholders with the potential to make a difference with respect to the project goal. The Mandalas that the group attempted to produce were in fact amalgams of analyses for a mixture of individuals and institutional hierarchies - and the results were particularly difficult to interpret (see section 4.4, "Other Observations" on page 39). The working group concluded that governments are particularly difficult to convince that SODIS can function as an effective source of safe drinking water at the household level. Inroads have been made by promoting SODIS in times of crisis and by courting the seal of approval from various influential UN bodies (such as WHO, UNICEF, WSSCC, the World Bank). Unfortunately, now that the effectiveness of the technology has been demonstrated, further opportunities for dissemination are rare. The group worked hard on an integrated promotion strategy involving a complete and diverse range of stakeholders, but it is hard to see how these conclusions will help to ensure that the SODIS Foundation stays solvent, or how the goal of the working group will be reached in the short to medium term.

Figure 13: Revised stakeholder relationships, with all actors working together for the promotion of SODIS



3.4 Lesotho

3.4.1 Background:

Raw sweet water is the main export of Lesotho and thus occupies a privileged position on the national political agenda. In addition, the Department for Rural Water Supply has been supported by SDC/Helvetas for many years. Over the years, the department has undergone many transformations. Together with SDC/Helvetas support, the department has recently followed a regime of sector reforms and reengineering with the goal of making the department autonomous – allowing the withdrawal of external support.

The reengineering process called for the department to implement a strategic retreat from the direct provision of services towards facilitation, with large numbers of public employees being encouraged to move into the private sector to implement works. Planning was initially also outsourced, but some of this responsibility was subsequently taken back under the direct responsibility of the department.

As the end of the final support phase from SDC/Helvetas draws near, the political process in Lesotho is reversing the sector reforms that SDC and Helvetas supported. The trend is a return towards direct provision of public services by public institutions, driven by strong political forces backed by influential figures. It is worthwhile noting that South Africa is the main importer of raw water from Lesotho and that in a measure designed to reverse the social inequalities of the apartheid era, the South African government has taken the decision to subsidise the provision of large quantities of water to its citizens. In this light, the parallel with political changes in Lesotho's water sector is interesting.

The danger perceived by staff at the department is that when the current (and final) SDC funding phase closes at the end of 2004, national political processes will reverse the new structural reforms that aim for increased autonomy. These divergent strategies between the external support agency and the national government could place Lesotho's department for rural water supply in an unmanageable position.

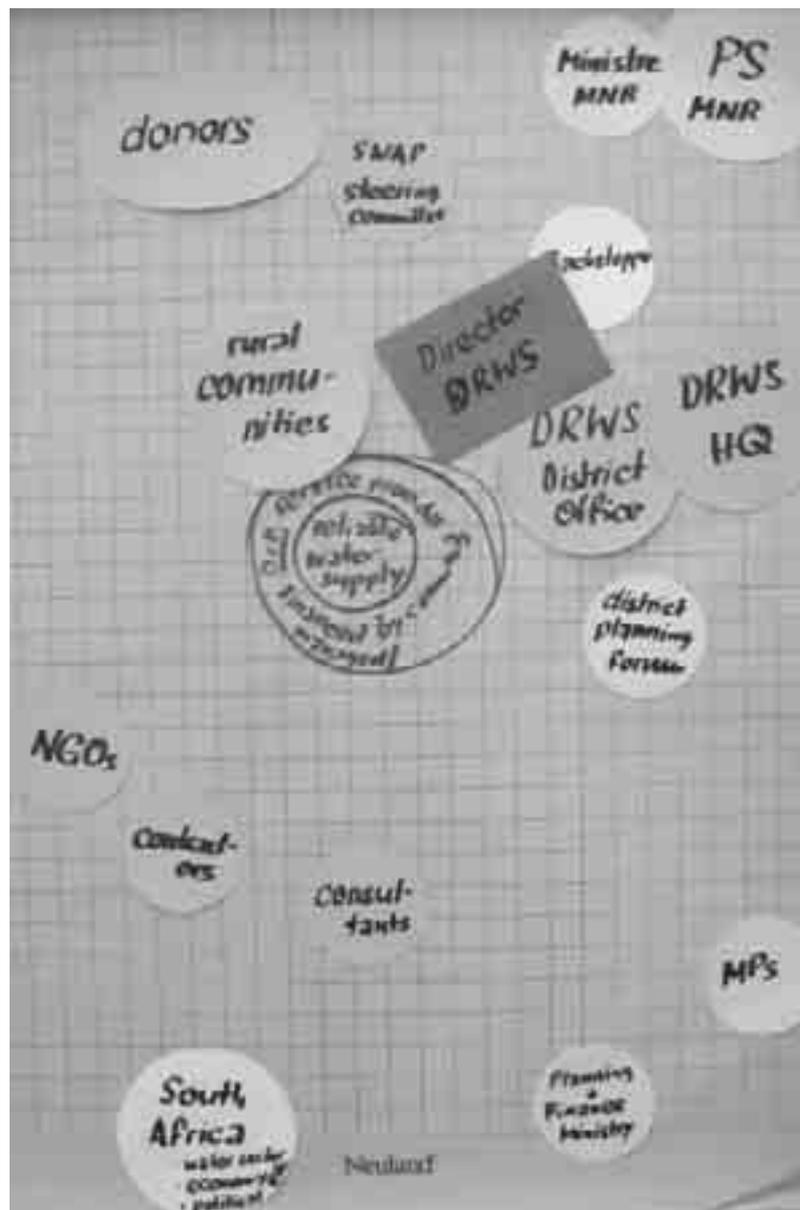
The case study presenter identified the need for greater political understanding and commitment towards SDC-sponsored sector reforms - reforms that aim to increase productivity and staff morale as the department strives to meet the objective of universal coverage by 2020.

3.4.2 Objective and Key Stakeholders:

Given the nature of the challenges facing the sector, the Lesotho working group defined their guiding objective for the use of the Mandala (refer to section 3.1 at the beginning of this chapter) as being the **reliable water supplies financed and managed at community level, with operation & maintenance conducted by trained service providers.**

The main stakeholders involved in the realisation of this objective are shown schematically in Figure 14, below:

Figure 14: Stakeholders and their relationship with the project objective (Lesotho)



The figure shows the respective importance (size) and distance of the stakeholders from the central goal.

- DWRS = Department of Rural Water Supply
- SWAP = Sector-wide approach
- NGO = Non-governmental agency
- MP = Member of Parliament
- MNR = Ministry of Mines and Natural Resources
- PS = Principal Secretary
- HQ = Headquarters

3.4.3 Conclusions of the Working Group:

The stakeholders with the greatest influence over the realisation of the project objective were identified as being the Director of the Department of Rural Water Supply (the case

study presenter), the users of the project services and the Principal Secretary at the Ministry of Mines and Natural Resources. The Lesotho working group proceeded to construct Mandalas for each of these groups in the hope of identifying positive recommendations that would lead to the realisation of the goal.

The outputs from the Mandalas suggest that water users feel disconnected from issues of sustainability and feel that public infrastructure (which includes water supply in this case) is owned and managed by the State. In order to demand new infrastructure or to request repairs to existing systems, users tend to turn to political mechanisms and refer to their MPs. This places the relevant ministers and principal secretaries under pressure to act, often using readily accessible funds and short-term responses.

The Mandala of the Principal Secretary at the Ministry of Mines and Natural Resources reinforces this analysis, symbolising an accomplished politician with the need to maintain a support base and taking a dim view of long-term and unpopular reforms. The Director of the Department of Rural Water Supply is portrayed as a competent and successful manager but also as a person who is ill at ease with confrontation and who would benefit from conflict mitigation and mediation skills.

The conclusions of the working group sought to integrate MPs into the DWRS reform process as a means of taking the pressure off the Minister and the Principal Secretary. MPs must be shown why reforms are being implemented so that they can buy into the concepts involved.

However, this process requires the initial support of the Principal Secretary in order to deliver results that can be used for dissemination purposes. Since the Principal Secretary is both results-oriented and loyal to his community, it was felt by the working group that the reform process should be piloted on the Minister's and Principal Secretary's native soil. It was further felt that the process should be tailored to give the maximum chance of visible success in a short time – in other words, implemented as a Quick Impact Project.

3.5 Nepal

3.5.1 Background:

Nepal is a small and highly mountainous country with varied ecological and climatic zones, bringing together a multitude of varied ethnic groups. Average living standards are low with annual per capita GDP of around 250 USD. In recent years, the country has undergone considerable political upheaval and remains highly unstable, with large rural areas under the control of Maoist insurgents who oppose to the current political regime and the monarchy.

The government has attempted to move away from centralised development policy towards decentralised, community-focussed approaches. Development initiatives focus on poverty reduction, particularly in the current 5-year plan (2003 – 2007). Within the water & sanitation sector, considerable emphasis is placed on the importance of services that are planned and managed by the users/user associations – often in partnership with non-governmental organisation, community based organisations and the local private sector. In recognition of the importance of women as a key user group with respect to water and sanitation services, a gender-sensitive approach is favoured.

As a key component of a broader developmental mandate, Helvetas has been involved in the promotion of greater access to improved rural water and sanitation services in Nepal since 1976. For the first 20 years or so, development initiatives were characterised by limited involvement of project beneficiaries, a practice that was common in development work at the time. However, during successive programmes from the mid 1990s onwards, programme approaches based on the deliberate inclusion of civil society groups led to a far more significant involvement of end users (including women and disadvantaged groups) in project design and implementation. Later project strategies included capacity-building measures through participatory approaches, and promoted greater environmental awareness and conservation.

The latest and most encouraging forms of support are based on lessons of the past and are founded on the following factors:

- an acceptance of the importance of partnerships
- the identification and collaboration with like-minded organisations
- capacity-building initiatives anchored at local level
- a recognition of the contribution of social, economic and environmental factors towards project success
- an acceptance that projects progress in a step-wise manner and that each new step builds on the successes of the past
- an understanding of water and sanitation projects as synergistic sub-components of broader development initiatives

Such approaches have produced encouraging results in terms of project acceptance and sustainability and have even influenced policy and strategies in the WATSAN sector at national level. The schemes constructed to date are functioning well, in terms of their technical performance, their management and their maintenance. The water and sanitation management committees are able to manage fund collection & mobilisation, routine operation & maintenance, and the extension of services. Sanitation promotion initiatives have also resulted in positive impacts; the overall assessment of the project implementers is that project schemes have the basic elements necessary for sustainable service provision.

The project has reached a stage where the withdrawal of external support from Helvetas is seen as the unequivocal demonstration of sustainable impact. However, after such a prolonged period of functioning with the "safety net" of an ever-present ESA, the project partners are understandably nervous about their ability to fly solo, particularly against the backdrop of considerable political uncertainty in Nepal – experience has shown repeatedly that the sustainability of water and sanitation infrastructure cannot be assured without long-term economic stability.

The areas where project staff feels that progress made to date could be undermined with the passage of time have been identified. There is a need to establish a mechanism whereby the water and sanitation management committees are independently able to ensure their continued growth in stature and capacity. It is also felt that the generation and management of funds for the operation, maintenance and extension of services remains vulnerable in the current climate of economic penury. A particular concern is the ability of the management committees to retain village maintenance workers and to ensure

their ability to function. The implementation of participatory operational plans developed by the management committees and the continued application of proven project approaches have not been tested over long periods under the current political climate and progress may be undermined with time.

Before the withdrawal of Helvetas from the programme, a study has made a series of recommendations designed to make the transition as smooth as possible. In particular, the study recommended that

- an inventory of the status of all schemes should be prepared
- a time bound estimate of the remaining shortcomings and project inputs should be drawn up
- the terms of partnerships between stakeholders should be clarified
- the communities should be briefed about the concept of demand-responsive support providers
- the timetable for the withdrawal of support should be communicated to the communities involved.

3.5.2 Objective and Key Stakeholders:

When the supporting agency withdraws from the community, the ultimate management responsibility rests with the water and sanitation management committee. The responsibility of this committee is to ensure that the project continues to function up to the end of its design life, at least.

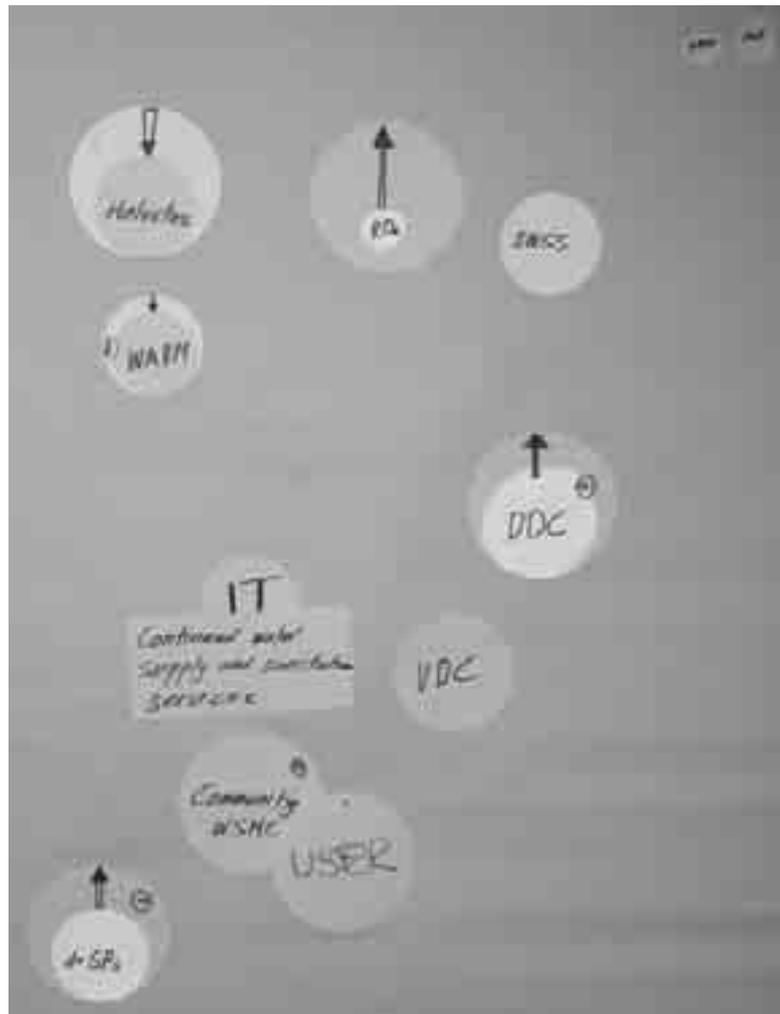
Keeping in mind the socio economic realities and technical capacities of rural communities in Nepal, the following proxies for sustainable services were envisaged by the workshop study group:

- The drinking water and sanitation systems continue to function smoothly and reliably.
- The management committees remain capable, functional and effective.
- Technical and financial resources continue to be available at local level/at the disposal of the management committees for the repair, maintenance and extension of the schemes.
- Funds continue to be mobilised as planned.
- Communities continually plan for the next stage of development of their water supply and sanitation services.

Based on these criteria, the working group defined their guiding objective for the use of the Mandala (refer to section 3.1 at the beginning of this chapter) as being **the continuation of the water and sanitation services that have been initiated by the project.**

The main stakeholder involved in the realisation of this objective are shown schematically in Figure 15, below:

Figure 15: Stakeholders and their relationship with the project objective (Nepal)



The figure shows the respective importance (size) and distance of the stakeholders from the central goal ("IT"). Additionally, the Nepal working group defined the current and anticipated future importance of stakeholders by superimposing circles. The arrows on such circled indicate whether a particular stakeholder is expected to become more or less important in the future.

- WARM = Water Resources Management Project, initiated by Helvetas Nepal
- Helvetas = Swiss NGO, based in Zürich
- VDC = Village Development Committee
- WSMC = Water Supply and Sanitation Management Committee
- DDC = District Development Committee
- DWSS = Department of Water Supply & Sanitation
- RO = Regional Office
- MPPW = Ministry of Physical Planning and Works
- MoF = Ministry of Finance
- drSP = Demand Responsive Service Providers

3.5.3 Conclusions of the Working Group:

The stakeholders with the greatest influence over the realisation of the project objective were identified as being the Helvetas project manager (the case study presenter), the

users of the project services and the Water and Sanitation management committees, the demand-responsive service providers and the District Development Committees. The Nepal working group proceeded to construct Mandalas for each of these groups in the hope of identifying positive recommendations that would lead to the realisation of the goal.

The principal recommendations of the group can be summarised as follows;

Some of the Mandalas that were completed produced inconclusive insights, but the resultant overview suggested that the key to project sustainability lay with the management committees themselves.

Given the inevitability of the withdrawal of external support at some stage, capacity enhancement of the water and sanitation management committees on a continuous basis was therefore seen as vital. This step will ensure that the committees consistently follow the tried and tested project approaches they have learned concerning the management of locally generated funds and the use of (local) trained technicians for the smooth functioning of installations.

The formation of a federation of water and sanitation management committees would enable the federation members to support one another – both in terms of their own capacity building requirements and also in terms of the capacity building requirements of other strategic stakeholders, such as the village maintenance workers. Such a federation would also be able to play an important role in the development of tariff frameworks and the mobilisation of finances to ensure that trained technicians remain motivated and remunerated for their work.

3.6 Ghana

3.6.1 Background:

Through various partners, externally supported improvement work for Kumasi's municipal sanitation services has been going on since 1989. The latest phase of project support (known as the Urban Environmental Sanitation Project 2, or UESP-2) is being planned with financial support from the World Bank. This latest project phase is scheduled to run until 2010. The main objectives of the programme are:

- To improve productivity and to raise the living standards in lower-income areas
- To establish better institutional and financing mechanisms and more effective policy framework so that improvements are sustained over time
- To build capacities of the Kumasi Metropolitan Assembly
- To develop and empower the private sector for sanitation services delivery

The programme has been successful in improving the sanitation coverage from 26% in 1990 to about 60% in 2004 by promoting and subsidizing new sanitation facilities and constructing appropriate treatment facilities - two faecal sludge treatment plants and one landfill. The institutional set up of the programme has progressively evolved from hired project contract staff towards a concept of mainstreaming within the Kumasi Metropolitan Assembly. The project has also succeeded in securing the involvement of local private service providers in faecal sludge collection and haulage, and in the operation and

maintenance of public sanitation facilities under a BOT (build, operate and transfer) contractual arrangement.

However, despite an increasing involvement of the private sector in service provision, and a greater capacity of local authorities to manage such arrangements, the Kumasi Urban Environmental Sanitation Project still faces serious challenges. These challenges include:

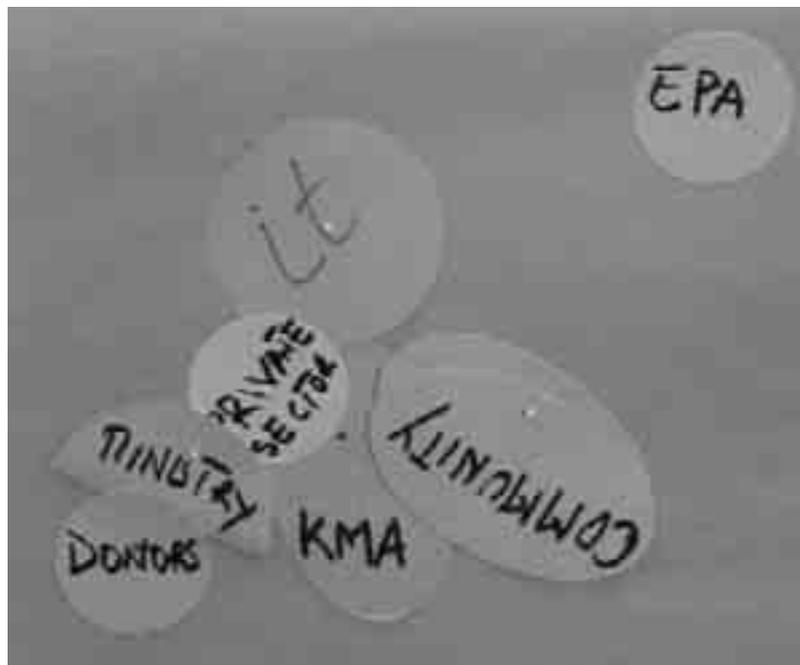
- securing funds to respond to the demand for new facilities (charges for public services have been introduced relatively recently and at a broad social level, they are largely misunderstood and viewed with suspicion),
- guaranteeing the sustainable operation and maintenance of existing facilities,
- attracting and keeping qualified staff,
- and successfully implementing the concept of mainstreaming after knowledge transfer and capacity development phases.

3.6.2 Objective and Key Stakeholders:

Given the challenges facing the project in spite of the progress made, the Ghana working group defined their guiding objective for the use of the Mandala (refer to section 3.1 at the beginning of this chapter) as being the **operation, maintenance and enhancement of facilities with attention to cost recovery.**

The main stakeholders involved in the realisation of this objective are shown schematically in Figure 16, below:

Figure 16: Stakeholders and their relationship with the project objective (Ghana)



The figure shows the respective importance (size) and distance of the stakeholders from the central goal ("it").

Ministry = Ministry of Local Development and Rural Development (policy, guidelines, coordination, co-financing)

KMA	=	Kumasi Metropolitan Assembly (bye-laws, project identification, project preparation, project management, service provision, revenue mobilization)
EPA	=	Environmental Protection Agency EPA (regulation, permits, monitoring, enforcement)
Donors	=	World Bank & other donors (funding, guidelines, approval, monitoring & evaluation)
Private Sector		(construction, service provision)
Beneficiaries		(frontline monitoring, financial contribution)

3.6.3 Conclusions of the Working Group:

The stakeholders with the greatest influence over the realisation of the project objective were identified as being the project manager (the case study presenter), the users of the project services (served community) and the private sector service providers. The Ghana working group proceeded to construct Mandalas for each of these groups in the hope of identifying positive recommendations that would lead to the realisation of the goal.

The principal findings of the group can be summarised as follows;

The Mandala tool helped the group to understand the overwhelming importance of social stigma surrounding waste management in Ghana; whilst the served communities expressed muted appreciation of the project outputs; all Mandalas contained strong negative feelings and low prestige resulting from involvement with waste management. The project leader expressed the view that the team could only ensure its motivation through the injection of new blood, and the private sector was equivocal about potential business opportunities within the waste management sector.

In spite of (perhaps because of) these insights, the group was unable to develop a clear strategy for securing the O&M of project facilities and for securing additional funds (from local and external donors) for the project continuation as demand for sanitation facilities rises. The Mandalas showed that willingness to pay for services was likely to remain low in the future and that significant subsidisation through external support agencies (the Govt of Ghana also places sanitation quite low on a long list of priorities) would be required well into the medium term, as sensitisation continues.

Chapter 4 Discussion

Following on from the country specific insights and the practical observations of the workshop excursion (refer to section 6.2), the workshop organisers attempted to draw some overarching conclusions about the sustainability of externally-supported development initiatives. In order to derive such insights, it was necessary to break up the case-study working groups and reconstitute workgroups that transcended the geographic boundaries of the previous group exercises. About ten such groups were formed, selecting group participants at random from the plenary assembly. These groups were asked to formulate their outstanding questions and lessons learnt regarding the availability of services while minimising the external support.

4.1 Lessons - Sustainability

Many groups had their original viewpoints on externally-supported, sustainable impact challenged by the workshop process. This was apparent at the end of the workshop in both the open questions (where participants were unsure how to define a clear point where a project could be considered as being sustainable) and in the general conclusions reached by the participants.

Most participants conceded that as far as external support is concerned, programme sustainability is inextricably linked with the concepts of (a) a dignified exit strategy, and (b) a lasting and measurable impact resulting from initial investments. In this sense, the notion of sustainability is rather bipolar – either an externally-provoked (or constructed) system can build up enough momentum to run indefinitely without further external assistance, or it cannot. In other words, there is no middle ground – when external input ceases, an intervention is either perfectly sustainable and goes on for ever without further external inputs, or the impact of the intervention starts to fade along with the external support.

However, by using the Mandala to gain a holistic view of individual livelihoods systems at strategic points/levels in a project environment, the workshop has shown that this bipolar model is inadequate for determining which projects are sustainable and which are not. Whilst a particular system may not be sustainable, altering the boundaries of the system may redefine the identities of its key stakeholders, and such changes can be beneficial. Taking this observation into account when assessing the “sustainability potential” of a project, it is helpful for external support agencies to overlay the principle of subsidiarity on the original (bipolar) model.

Subsidiarity means that external assistance should be sourced as close to the point of application as possible. Assistance at community level should be sourced at district level; if this is not possible, the assistance should come from a regional level; if not possible, then from a national level; and if still not possible, then from the international level. When seeking to scale down the degree of external support or investment given to an established intervention, this should be done progressively, respecting the principle of subsidiarity and gradually seeking to reduce the distance between the point of support provision and the point of application.

In practical terms, this means that a local level intervention may be wholly “unsustainable” as a stand-alone concept, but the same model may become “sustainable” if it is considered

as part of a larger system. This may not be all that surprising; many in the water and sanitation sector feel that the concept of subsidisation is both workable and sustainable (and perhaps even unavoidable at times) - whilst still recognising the major challenges of developing and implementing subsidisation policies that actually reach their intended objectives.

With their overall conclusions, the workshop participants suggested that an ESA should not shy away from the concept of sustainable subsidisation *per se*, but should allow the principle of subsidiarity to guide support strategies. In making remote support mechanisms less remote over time, it may ultimately be possible for conventional external support agencies to make a total and dignified exit from an intervention. However, this will not always be the case when seeking to assist the poorest of the poor. In deciding where and how to deploy its (limited) resources, the workshop participants felt that an ESA should be guided by the open-ended concepts of support minimisation and subsidiarity rather than by a time-limited, “all or nothing” approach to exit strategies.

4.1.1 What is a sustainable livelihood system?

By definition, an unsustainable livelihood system either transforms or dies, and a sustainable livelihood system does neither. Since death of all livelihood systems is inevitable sooner or later (another of the workshop conclusions), there can be no such thing as a sustainable livelihood system in the strictest sense of the term; the question is rather “how long can a *so-called* sustainable livelihood system exist, and what form(s) must it take in order to do so?” If little or no change is needed to reach (or maintain) maximum potential, it is said to be sustainable. In this construct, livelihoods systems seem rather organic and alive - they seek to exist for as long as possible, they seek stasis or growth, and those in stasis may succumb to external influence (and thus change) at any time. Within such a dynamic model, there may be livelihoods systems, which rely on forms of *indefinite* external support in order to sustain them.

The 9-square Mandala provides us with a systematic methodology for assessing what factors favour the sustainability of a livelihood system at a given time and to suggest what may happen to it in the future. Perhaps unsurprisingly, the predictive capabilities of the Mandala methodology are not foolproof and do not reach very far. Nevertheless, in cases where a development project is aiming for sustainable results over and above considerations of scale or speed of impact, the Mandala still has its uses.

In terms of the exit strategies of an ESA, the Mandala provides a time-limited snapshot of whether the withdrawal of support will result in programme degradation or not, and it also provides indications of what must be done in order to increase the chances that the programme achievements will be sustainable.

In terms of the maintenance of a livelihood system, the Mandala shows us how the various key elements interact with each other and what their relative priorities are likely to be. This may give valuable insights on how to target the inputs of a development project so that they have a desired and lasting impact. The Mandala is able to qualify hierarchies of personal priorities for persons within a given system. If this information is generated for key persons within the system (selection of key persons is a crucially important prerequisite for the meaningful use of the Mandala), it can then be used to interpret the way the overall system may change in response to external influences.

4.2 Lessons - Selection of Interventions

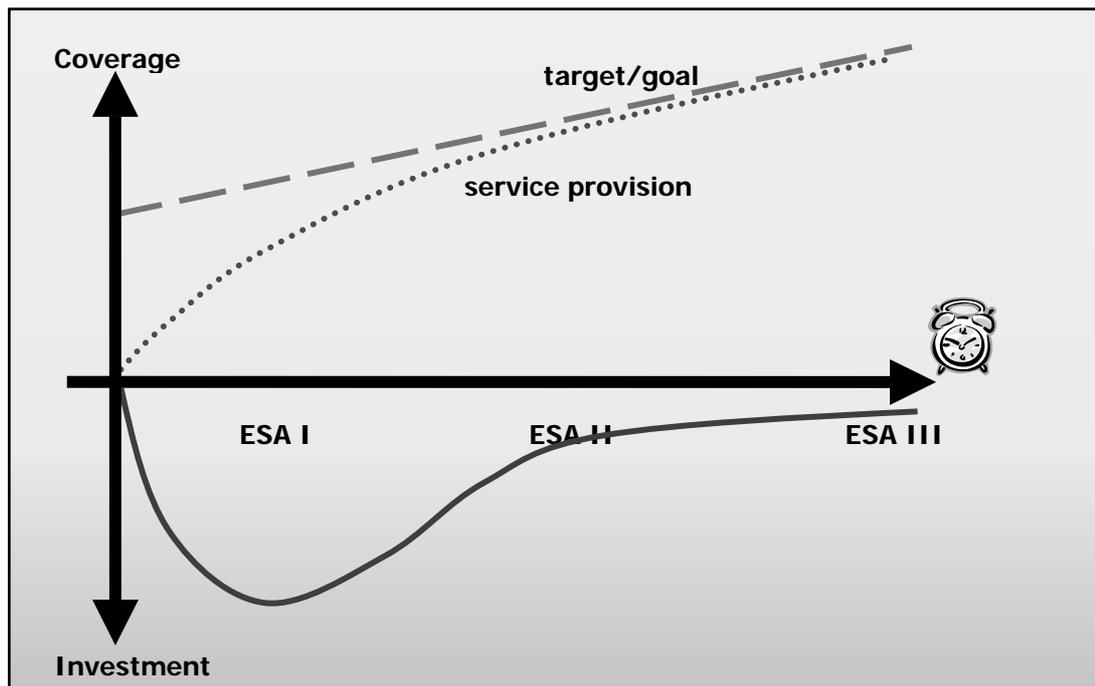
It is clear that an external intervention driven by humanitarian or developmental imperatives seeks to change a livelihood system for the better. It is also clear that ideally, the agents of such change seek to engineer it and then withdraw. Finally, it is clear that after such a withdrawal, these agents of change hope that the effects of their intervention will be long-lasting.

Perennially faced with an imbalance between resources and needs, how can these agents of change pick out interventions where all three objectives are likely to be achieved?

Closely related with the questions raised in section 4.1 and provoked by the workshop theme, the participants demonstrated a clear desire for guidelines to assist with the selection of the right mix of actions that will favour a successful and sustainable support intervention. Whilst the Mandala indicates the mix that is needed to construct a sustainable livelihood system around externally engineered change, the participants were also able to draw important conclusions regarding the identification of existing systems that are more likely to absorb such change successfully.

First of all, participants recognised the stark reality that a needs-based planning approach does not necessarily lead to a sustainable outcome, irrespective of how well it has been engineered. Planning that concentrates on ambient needs rather than on existing resources may seek to influence livelihoods systems so vulnerable that the “right mix” may simply not exist, and permanent outside support is essential to ensure any form of ongoing benefit. In cases where sustainability is a principal objective, it is impossible to overstate the importance of holistic, means-based planning – based on an understanding of the resources controlled by *all* stakeholders.

Secondly, participants saw that external support agencies cannot always turn away from crippling needs, even in cases where the Mandala shows that a viable exit strategy cannot be developed. It is important to recognise such cases at the very outset of project planning and either to set time boundaries for the support period and then set *corresponding* performance indicators, or to plan for a truly open-ended support period and to adopt a strategy that seeks to minimise and/or localise (but not necessarily eliminate) support over the long term.

Figure 17: Sustained ESA Intervention Profile

This conclusion is visualised graphically in Figure 17, and it is useful to compare the investment and coverage curves of Figure 17 with those of Figure 2 on page 8.

The Mandala can give considerable insight into the long-term investment support profile; if most squares in the Mandala give cause for hope, then the area between the investment curve and the time axis in Figure 17 will be small and the curve may even reach an exit point (intersecting the time axis). However, if many of the squares in the Mandala flag up the need for outside support, the area of the curve will be large and the curve may indicate that there is no exit point in sight for the ESA.

Figure 17 illustrates the workshop conclusion that planning approaches balancing needs with available resources may call for open-ended and evolving external support. Section 4.1 showed that livelihoods systems change over time, and that although a well-engineered intervention strategy may never reach a complete exit, it can still seek to minimise (and localise) external support by transforming the role and identity of the ESA as time goes on. With such a strategy, the impact of initial investments may be highly and rapidly visible, (and costly), perhaps in the form of physical infrastructure development; later support would be less visible, less dynamic and financially less onerous, perhaps based on interventions such as coaching, problem solving, backstopping and facilitation. In developing an overall intervention strategy both the support agency and the beneficiaries should plan resource allocation to correspond with the anticipated support profile, perhaps planning a coordinated sequence of ESA interventions right from the outset.

Finally, if we revisit the observation that needs cannot always be ignored on the grounds that sustainability is unattainable, another interesting insight crops up. Citing limited resources and humanitarian goals, ESA frequently try to target the needs of the “poorest of the poor”, without necessarily considering that translating such a policy into action means isolating and then working with the least viable livelihood systems that are available. Whilst the humanitarian concerns underpinning such policies cannot be criticised, by excluding

more sustainable livelihood systems and rejecting a broader target group, the ESA has selected a project with the lowest probability of sustainability. Perhaps broadening the system to include some more sustainable livelihood systems would lead to a greater overall success rate. In practice this would mean not trying to isolate and concentrate only on the poorest of the poor but rather ensuring that they are included in a wider range of livelihood systems to form a more robust overall target group.

4.3 Lessons - Policy Aspects

In using the Mandala to analyse specific cases of externally-supported development initiatives, the workshop participants endorsed a broad range of development policy principles from a new perspective. Many of these policy principles are currently seen as being state-of-the-art approaches – it is both interesting and reassuring that the use of the Mandala confirms the legitimacy of such approaches.

The policy principles that the Mandala's use particularly supported included:

- Subsidiarity – managing issues as close to their point of origin as possible (e.g. the community management approach, the household-centred approach)
- Balanced development – incorporating social, technical, economic, financial, institutional and environmental concerns in a holistic manner.
- The IWRM and SWAP approaches – both involve the consideration of very broad 'sustainability systems' and therefore incorporate the potential for intelligent, internal cross-subsidies.
- Private sector participation/public-private partnerships in the provision of public services
- The promotion of viable supply chains in support of long-term O&M strategies
- Considering drinking water as a "common good" – a non-excludable good with competitive uses and an economic value.
- Demand-responsive (as opposed to supply-driven) approaches to promote ownership
- The active management of available knowledge can be effective in building capacity at all levels – a great deal of learning that is already available within the sector is either not being accessed at the right time or is not being accessed at all.

4.4 Other Observations

In addition to the main discussions surrounding 'sustainability' and 'the right mix of tactics in every ESA toolkit', the observations of the workshop participants included a number of interesting stand-alone conclusions.

- The Mandala shows that the very notion of external support can be considered as something of a contradiction in terms; once support is provided, it becomes part of the livelihood system it is aimed at (a precondition for ownership and maintenance issues) and so it is therefore not 'external' but an 'internal' component of the Mandala. In many cases, the term "remote support agency" (or RSA) might be more meaningful substitute for "external support agency" (ESA). Such a change in terminology might also give added meaning to the related concept of exit

strategies – since “exit” from inside a system has considerably more meaning than “exit” from outside a system.

- The Mandala is a powerful cross-cutting analytical tool that must be mentally visualised at all times. Its use at all stages of the project cycle will point to strategy options at key milestones, but it is difficult to integrate the use of the Mandala within the existing framework of more conventional planning tools (such as logical framework analysis, etc).
- It is important to recognise that the Mandala represents a means of assessing the livelihood systems of individual people. Using a real or imaginary person in order to construct a Mandala representing the livelihood system of a group or institution is a complicated and subjective exercise, and the results are particularly difficult to interpret.
- The Mandala is a useful vehicle that enables engineers and social scientists to communicate effectively with one another on project design and implementation issues.
- For an ESA to generate meaningful information using the Mandala, it is absolutely vital that the livelihood systems selected for analysis are chosen with the utmost care. In order to make a meaningful selection, an unambiguous goal underpinning the support intervention must be established, and the relationships between the main stakeholders who are involved with the realisation of that goal must then be identified. If this important preparatory step is not taken, the information generated by the Mandala’s use is almost impossible to integrate in a project planning process.

4.5 Concluding Remarks

In closing the discussion on the week’s learning, the organising committee reflected on the workshop topic and process. It was felt that AGUASAN’s strengths include the group’s ability to identify challenging, topical issues and its subsequent willingness to tackle them in a competent and professional manner despite the risks involved. The annual workshop is a rather unique platform for reflection on important issues and this is its principal value.

The 2004 workshop topic was particularly relevant against the backdrop of the Millennium Development Goals – goals that the global development cooperation community is committed to realise. The 2004 topic was also particularly ambitious and at its closure, the strategic issue of how to provide sustainable services without sustained external support remains open. However, the Mandala is clearly an interesting tool which can be used both (a) to set sustainable goals and (b) to identify challenges and bottlenecks in achieving sustainable goals that have been set without its use

Part Two: The Method

Chapter 5 Preparation

5.1 Selecting the Theme and Inputs

This report describes a workshop report that was conducted in Switzerland as a response to the growing sense of pressure as time marches towards 2015 and the “deadline” for the realisation of the Millennium Development Goals approaches. These goals are extremely ambitious and the challenge of meeting them in good faith – particularly in sub-Saharan Africa – is particularly daunting. Figure 1 on page 7 graphically represents the “double-whammy” effect of a growing pool of failing infrastructure and the overwhelming field of as yet un-confronted needs. The development community can only hope to reach the MDG in time if the rate of growth of failing infrastructure can be brought under control – in other words, made sustainable without external support.

The workshop organising committee was mindful of this state of affairs in weighing up possible options for the 2004 workshop topic. The initial hypothesis was that different cultural values between peoples might be a contributing factor behind why some public infrastructure systems are sustained and developed over centuries while others fail as soon as early investors withdraw their support.

The first task of the organising committee was to try and develop a methodology to test this controversial hypothesis. However, based on discussions with potential resource persons, the committee was obliged to revise the hypothesis. As the process of developing a testing platform progressed, it became clear that the hypothesis was flawed – it became clear to the committee that the concept of “sustainable services” is not culture-sensitive but that “culture” is a rather poorly understood influencing factor in a much broader framework of priorities and concerns.

The goal of the workshop then became to deepen the understanding of such broader frameworks in order to discover how “sustainable services” could be successfully embedded within them. In this way, the stage was set for the study - and subsequent application - of the Mandala’s analytical framework with respect to five real case studies where sustainable services remained an elusive goal.

5.2 Preparing the Case Studies

The successful approach developed in AGUASAN workshops is to provide a particular framework or methodology for looking at a limited number of case studies in considerable detail, and then to consider how ideas that each study generates could be applied in practice. Not only does this approach provide good opportunities for the participants to learn from the experiences presented in each case study, it also encourages groups of participants (all specialists in their own fields) to make realistic and practical proposals that can be implemented in a defined situation. It is expected that all participants learn something about the workshop topic based on this approach, and that the case study presenters gain inspiration and fresh, practical ideas concerning their particular cases. By

analysing the case-specific recommendations produced in this manner, it is also possible to make general statements regarding the analysis of the workshop theme.

Due to the size of the 2004 workshop, five case studies were selected by the workshop steering committee instead of the usual four; from a broad range of programme specific candidates, interesting cases were finally selected from Peru, Lesotho, Nepal, Ghana and Latin America.

The case study presenters were each asked to prepare a short (five minute) presentation of their case. On the basis of these presentations, participants would then decide which case study group to join. In-depth presentations by the case study presenters then gave each working group more information about the cases under scrutiny.

The larger number of cases in 2004 meant that the time available for plenary analysis of the cases was limited. The analysis conducted during the workshop has been expanded upon during the report-writing process (which incorporated a peer-review with selected workshop steering committee members and resource persons).

5.3 Workshop Organisation

Preparation and coordination of content & workshop steering committee	Franz Gähwiler, HELVETAS François Münger, SDC Armon Hartmann, SDC Karl Wehrle, Skat Consulting (Chair) Martin Wegelin, SANDEC
Facilitation/Moderation	Tonino Zellwegger
Secretariat – Rotschuo	Roger Schmid, Skat Consulting
Secretariat – St. Gallen	Gisela Giorgi, Skat Consulting
Finance of organisation and programme	The Swiss Agency for Development and Cooperation (SDC) Bern

Chapter 6 The Workshop Programme

6.1 The Main Sessions

6.1.1 Monday 28 June

start	finish	topic	presenter	report ref.
11:00	12:00	Arrival, check-in, a chance to meet informally	All	
12:00	14:00	Lunch		
14:00	14:10	Welcome; introduction to the programme & objectives	KW	
14:10	15:10	Personal presentations	All	
15:10	15:20	Coffee break		
15:20	15:30	Presentation of the context	FM	1.2
15:30	15:45	The workshop theme	KW	2.12.2
15:45	17:45	Introduction to the Mandala	RH, SP	2.3, 2.4
17:45	18:00	Overview of the workshop programme	TZ	
18:00	20:00	Dinner		
20:45	-	Informal evening presentations	All	

Remarks:

In his welcome, Karl Wehrle pointed out that this was the largest AGUASAN workshop to date. As usual, there had been more applications than there were places and the size of the intake in 2004 (45 persons in total) reflected the level of competence and experience of the participants. He also pointed out that this year had produced the best gender balance so far (8 persons in total).

As an icebreaker, each AGUASAN workshop calls for the participants to present themselves briefly in plenary. In general, all participants are asked to bring a form with their photograph and some personal details; these forms are then posted in the plenary hall to help the participants get to know one another quickly. The workshop steering committee tries to link the design of this form with the workshop theme, and 2004 was no exception; participants were given free rein to complete a page of A4 with their reaction to the open question “how am I planning the next phase of my life?”

François Münger explained the position of SDC with respect to the Millennium Development Goals and the upcoming UN “Water for Life” decade (March 2005 – March 2015). He reiterated that there was no going back on Switzerland’s commitments within the framework of the commission on sustainable development (CSD). He also pointed out that the concept of sustainable impact occupied a place of particular importance within the framework of new strategies and policies governing SDC’s water sector.

6.1.2 Tuesday 29 June

start	finish	topic	presenter	report ref.
08:30	08:45	Review of the previous day's programme	Group	
08:45	10:15	Using the Mandala – group exercise	SP	2.4
10:15	10:30	Coffee break		
10:30	12:00	Plenary feedback of group exercise – using the Mandala (part I)	Groups	
12:00	14:00	Lunch		
14:00	15:30	Plenary feedback of group exercise – using the Mandala (part II)	Groups	
15:30	15:45	Coffee break		
15:45	16:15	Questions to the resource persons	RH	
16:30	17:30	Short presentations of case studies	TZ	Chapter 3
17:30	18:00	Formation of working groups	All	
18:00	20:00	Dinner		
20:45	-	Informal evening presentations	All	

Remarks:

Once Ruedi Hoegger had explained the background to the development of the Mandala and walked the participants through its application on the afternoon of the first day, Smita Premchander presented the plenary with a hypothetical problem case. She then split the participants into groups and asked each group to use the Mandala to examine the livelihoods system of selected stakeholders involved with the problem case, identifying reasons, which may encourage or discourage positive action. These working groups were then asked to present the results of their analyses in plenary. At the end of this exercise, participants were given the opportunity to ask questions to the resource persons concerning the use of the Mandala and the interpretation of the results produced.

The case study presenters were each given 5 minutes to present his/her case using either a poster or excerpts from a PowerPoint presentation. Participants were then given the opportunity to indicate their choice of case study, by writing their names and their first and second choice of case study. Since first choices would have led to impractically uneven group sizes, the Moderator asked for volunteers to move to their second choice. In this way, a roughly equal distribution between the case studies was achieved.

6.1.3 Wednesday 30 June

start	finish	topic	presenter	report ref.
08:30	08:45	Review of the previous day's programme	Group	
08:45	10:15	Presentation of cases in groups – defining the objective	Groups	3.1
10:15	10:30	Coffee break		
10:30	12:00	Group feedback in plenary – the objective defined	Groups	3.2.2, 3.3.2, 3.4.2, 0, 3.6.2
12:00	13:00	Lunch		
13:00	22:30	Excursion	All	6.2

Remarks:

Once evenly sized groups had been formed on the strength of the short presentations of the previous afternoon, the case study presenters were asked to lead their groups away and brief them fully on the details of their particular case. In this way, groups became acquainted with the context, the intentions (aims) and the important actors in each case. Groups were then tasked to establish a list of key actors who make the aim of the case possible. Using this list, groups were asked to compile their findings graphically, indicating the relative influences of the actors (and the strength of relationships between them) with respect to the aim. Posters produced in this way – identifying the aim and placing it at the centre – were then presented in plenary.

6.1.4 Thursday 1 July

start	finish	topic	presenter	report ref.
08:30	08:45	Review of the previous day's programme	Group	
08:45	10:15	Group case studies – selecting & analysing key livelihood systems (part I)	Groups	3.2.2, 3.3.2, 3.4.2, 0, 3.6.2
10:15	10:30	Coffee break		
10:30	12:00	Group case studies – selecting & analysing key livelihood systems (part II)	Groups	3.2.2, 3.3.2, 3.4.2, 0, 3.6.2
12:00	14:00	Lunch		
14:00	15:30	Group case studies – 2 sets of recommendations (group and presenter)	Groups	
15:30	15:45	Coffee break		
15:45	17:30	Plenary presentations of group recommendations	All	3.2.33.3.3, 3.4.3, 0, 3.6.3
17:30	18:00	Further questions to the resource persons	SP, CM	
18:00	20:00	Dinner		

Remarks:

Based on the identification of key stakeholders and their relative importance with respect to the main aim of the case, groups were tasked to select a limited number of the most important/influential actors and to look at their livelihoods systems using the Mandala. The case study presenter was asked to look at his/her own livelihoods system with the aid of one other group member. Results of the exercise were shared within each working group and insights/conclusions listed.

After lunch, each group was asked to split into two sub-groups after becoming acquainted with all of the Mandalas of the key stakeholders produced during the morning session. One subgroup would therefore host the case study presenter and one would not. Each subgroup was asked to formulate recommendations - or observations - concerning the optimum mix of external support measures (refer to Figure 3 on page 9) required to reach the aim of the case. All output produced in this way was presented in plenary towards the end of the day.

6.1.5 Friday 2 July

start	finish	topic	presenter	report ref.
08:30	08:45	Review of the previous day's programme	Group	
08:45	09:45	Formation of study groups and synthesis of findings	Groups	
09:45	10:15	Poster exhibition of synthesised conclusions	All	Chapter 4
10:15	10:30	Coffee break		
10:30	12:00	AGUASAN's 20 year jubilee review	FG	6.3
12:00	14:00	Lunch		
14:00	14:30	Open questions from the study groups	TZ	Chapter 4
14:30	15:00	Feedback from the case study presenters	Group	3.2.3, 3.3.3, 3.4.3, 0, 3.6.3,
15:00	15:20	Suggested topics for future workshops	TZ	Annex 1.2
15:20	15:40	Plenary evaluation of the workshop	TZ	6.4
15:40	16:00	Closing comments and presentation of certificates	KW, FM	4.5

Remarks:

On the strength of the previous afternoon's case specific recommendations, the Moderator divided the participants into random groups of four or five persons. These new working groups were then asked to reflect on the lessons of the week regarding the availability of services while minimising external support. In carrying out this task, participants were also asked to collect questions that remained open to them. Each group summarised its findings on flip charts and the results were displayed in a plenary exhibition. In-depth analysis of these results has been expanded upon during the report-writing process (which incorporated a peer-review with selected workshop steering committee members and resource persons).

In his closing remarks, Karl Wehrle commented that the workshop had been a success in spite of the size and the difficulty of the subject material. He reflected on the need for a shift in thinking from the withdrawal of external support towards the optimisation of remote support, as demonstrated in practice during the excursion. He noted that the concept of sustainability is not static but is a dynamic, living goal and that the Mandala

demonstrates this clearly, as well as showing that people – rather than systems – determine whether services can be sustainable or not. He then thanked the organisers of the Jubilee review and promised to place the drinking water samples that participants brought to the workshop for all over the world on display at Skat in St Gallen.

Finally and on behalf of the workshop steering committee, Karl thanked those responsible within SDC for having consistently supported the annual AGUASAN workshop and for having allowed the steering committee to continue to take risks in organising this landmark event.

6.2 The Excursion

Mid-way through the workshop, the participants travelled from the seminar location to two locations in the canton of Uri. The purpose of the excursion was to practice using the Mandala in a real setting in Switzerland, and to collate and distil the lessons learned from this collective experience. In Altdorf, the delegation was received and briefed by Eng. Heinz Weber of the cantonal administration, and at the Berggasthaus Z'graggen on Brüsti, (commune of Attinghausen) the delegation was hosted by Mrs A. Limacher.

6.2.1 Part 1: Altdorf

The town of Altdorf is situated alongside the river Reuss as it discharges into the lake of Lucerne. The Reuss valley forms part of a major communications route crossing the Alps, connecting Switzerland with Italy. The relationship between the river Reuss and the highway and railway that run alongside it (thus passing via Altdorf) could be described as bittersweet; these two communications axes only exist because of the Reuss valley, but Alpine river flows can change dramatically and severe flooding at the mouth of the Reuss (cutting road and rail communications) is always a seasonal possibility.

It should be noted that no flood protection plan can ever provide a total and open-ended guarantee against uncontrolled flooding, and the costs of flood protection infrastructure climb to infinity as the theoretical ideal of complete protection is approached. With conventional flood protection strategies, infrastructure is designed to withstand a flooding event of a certain magnitude only. Typically, engineers design for a 50 or 100-year return period; in other words, the worst flooding event for the last 50 or 100 years is taken as the baseline for disaster mitigation planning.

Unfortunately, in 1987 the people of Altdorf experienced first hand what happens when the selected return period is reset by the natural course of events; freak weather conditions coincided with other (man-made) factors and the flow in the Reuss suddenly doubled its 50-year maximum. The existing flood defences were quickly overwhelmed, and local inhabitants were quick to learn that breached flood defences can lead to far more destruction than having no defences at all.

Faced with the astronomical costs of upgrading their flood defences to cope with a much greater maximum flow in the Reuss, the inhabitants of the Reuss flood plain changed the basis of their flood mitigation planning. Instead of attempting to contain events below a 100-year maximum (and becoming totally overwhelmed by anything larger), a paradigm shift was adopted. The new disaster mitigation plan is based on the idea that flooding is an omnipresent danger and it responds to events in different ways according to their severity – more severe events call for more drastic responses.

In order to manage the threat of catastrophic flooding and the damage that ensues, the road and riverbanks around Altdorf have been carefully engineered to channel floodwaters into prioritized holding zones for subsequent discharge into Lake Lucerne. As part of this flood management plan, the highway itself has been designed to operate as part of a larger floodwater evacuation channel.

Although the master plan creates winners and losers in terms of vulnerabilities to flooding (those living within the hierarchy of protection zones, and those outside), the project did not seek to compensate the losers. The plan was accepted by those who would be negatively impacted by its implementation, thanks to an intensive consultation process based on the premise that no better solution existed. Indeed, the plan was accepted despite the provision that those who would be negatively affected by its implementation were authorised to veto it – a power which they expressly declined to use.

In Switzerland, administration is highly decentralised and cantons raise their own taxes. Uri is an extremely mountainous area - and since only 1% of the total surface area is given over to human settlements and 8% is given over for agricultural activity, Uri is not a wealthy canton. After the 1987 flood, the combined costs of rehabilitation and the new infrastructure underpinning the new flood management plan far exceeded the reserves of the cantonal authorities.

In order to raise the necessary capital, the task of raising funds was shared amongst various interested parties – including the federal government (military concerns), the federal road and railway authorities, national telecommunications companies, and the cantonal authority of Uri.

The exercise demonstrated that it is not always possible to solve local infrastructure problems at a local level and that a sustainable system can only be created by broadening its initial borders. It also demonstrated that within these borders, cross-subsidisation may be required on a permanent basis and that such an arrangement can be to the satisfaction of all within the system. The exercise further demonstrated that it is not always possible to find equitable solutions across the system and that the existence of winners and losers does not necessarily destabilise the system as a whole - provided that a comprehensive and genuine buy-in has been obtained from all stakeholders involved.

6.2.2 Part 2: Brüsti (Berggasthaus Z'graggen)

The second part of the excursion took place at the “Z'graggen” mountain lodge on Brüsti, an alpine pasture overlooking the Reuss valley commune of Attinghausen (1,500 inhabitants). Attinghausen is situated roughly 3km southwest of Altdorf and sits at the upstream end of the Reuss valley flood protection scheme. In this relaxed setting, participants were able to discuss with the local authorities of Attinghausen as well as with a number of local inhabitants.

Discussions were conducted both in plenary (question and answer sessions) and in small groups; workshop participants were encouraged to use the Mandala to gain an understanding of the livelihoods systems of farmers and local officials with particular emphasis on the sustainability of water and sanitation systems. (In fact, the management of water supply and sanitation systems resembled countless other community-based solutions throughout Switzerland – upon written request, a case study analysis of 4 typical community-based water supply and sanitation systems in Switzerland can be obtained from the Skat Foundation, Vadianstr. 42, CH-9000 St Gallen.)

At a very local (community) level, the participants were shown that Attinghausen's local economy and tax base is not capable of supporting the development of major infrastructure. Nonetheless, such infrastructure is needed for a variety of reasons – systems to control peak water flow into the Reuss valley form part of the overall flood management plan, and federal regulations governing safe and sustainable waste management must be followed.

The farmers working the steep alpine slopes in Uri cannot hope to compete with imported goods or with goods produced in Switzerland's lowlands. Yet if these farms are allowed to fail financially, a vital environmental control mechanism (protecting the Reuss valley) would be abandoned in the process. In order to construct sustainable livelihoods systems for the benefit of all therefore, a Federal subsidisation policy broadens the Attinghausen system – local farmers are encouraged to go on managing Uri's alpine pastures by means of economic incentives that are based on the surface area to be farmed, the altitude of the farm, the severity of the relief, and the environmental impact of the farming methods adopted. Without such subsidies, farming in remote areas would not be economically viable. Even with them, many farmers must also take up seasonal employment with local industry or the service sector in order to make ends meet; subsidy levels ensure that farming is only part of the overall economic base within their livelihoods systems.

With such a modest economy, the canton of Uri does not generate much tax revenue, and so the costly business of infrastructure construction and waste management must also be handled on a cantonal (rather than on a municipal) basis, with the economically stronger areas supporting the weaker ones for the benefit of all.

A striking observation made by many participants was that using the Mandala can produce surprisingly candid and powerful revelations. By analysing a livelihood system in a structured way, the user is encouraged to probe areas that may normally be considered too sensitive to approach. This auto-censorship is highly subjective (it is deeply rooted in the cultural background of the questioner) and the workshop participants experienced first-hand that it is not always well-founded. The excursion hosts responded to all manner of personal and financial questions with the utmost frankness and revealed a great deal about their trials and tribulations in their lives – information that clearly helps to devise sustainable systems based on external assistance.

6.3 The Jubilee Celebrations

2004 marks the passing of a significant milestone in AGUASAN's history – the holding of the 20th consecutive annual workshop in what has become a very successful series. The event was also significant in that the core team behind this success story has launched a process of rejuvenation, with a number of doyens electing to take up less influential roles in the future.

The completion of the 20th workshop saw Armon Hartmann officially step down from the workshop organising committee as SDC's long-standing representative. Karl Wehrle has consistently played a pivotal role on this committee since the start of the workshops in 1984; although Karl will continue to play a role in workshop organisation in the future, his intention to scale down his involvement in future was made clear. Tonino Zellwegger, who has moderated every workshop with aplomb for 10 years, also announced that the 20th workshop would be his last. These changes coincided with personnel movements at Skat

and at Helvetas, causing Adrian Coad to step down as rapporteur and Franz Gähwiler to step down as a member of the organising committee.

To mark these significant milestones, a small celebration was held to show particular appreciation for the sustained services rendered by Armon and by Karl¹. The heritage behind the AGUASAN group and the workshops was summarised in drama, bringing out some of the milestones and highlights in terms of the shifts in strategic thinking of the group. This was followed with a presentation made on behalf of the participants – of water samples from each country represented and more often than not, taken from systems that either Karl or Armon had worked on. These water samples were then used to wash the feet of these two AGUASAN personages - in a tongue-in-check gesture of cross-cultural sensitivity, and out of genuine respect and gratitude for services rendered to the sector over the years. The session closed with a plenary toast offered by the seminar venue team - to the successes of the past and to the challenges of the future.



“Gifts” of muddy water are opened warily by the committee



A salute to AGUASAN’s heritage and a toast to the future



Armon and Karl reap the benefits of long and illustrious careers



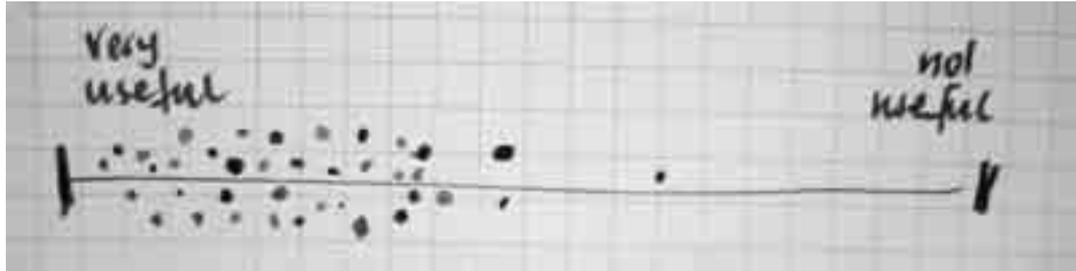
The 1984 workshop was abandoned due to flooding at the venue

¹ For more information on the history of AGUASAN and of the AGUASAN workshop, see “AGUASAN – learning from a remarkable community of practice” by Urs Karl Egger, Skat Foundation, September 2004. A selection of relevant publications are available for download at <http://www.skat-foundation.org/publications/knowledge.htm>

6.4 The Plenary Evaluation

At the end of every AGUASAN workshop, participants are invited to take part in a short analysis of the way the workshop was conducted. On some occasions in the past, participants have been asked to complete evaluation questionnaires, but this has not always generated many results. The 2004 evaluation was based on simple questions and voting exercises, with participants being asked to place a mark on a sliding scale against a question as illustrated in Figure 18, below.

Figure 18: “How useful did you find the Tool (Mandala)?”



The questions asked by the organisers, and the interpretation of the results from the resultant voting exercises, are presented in Figure 19 on page 52.

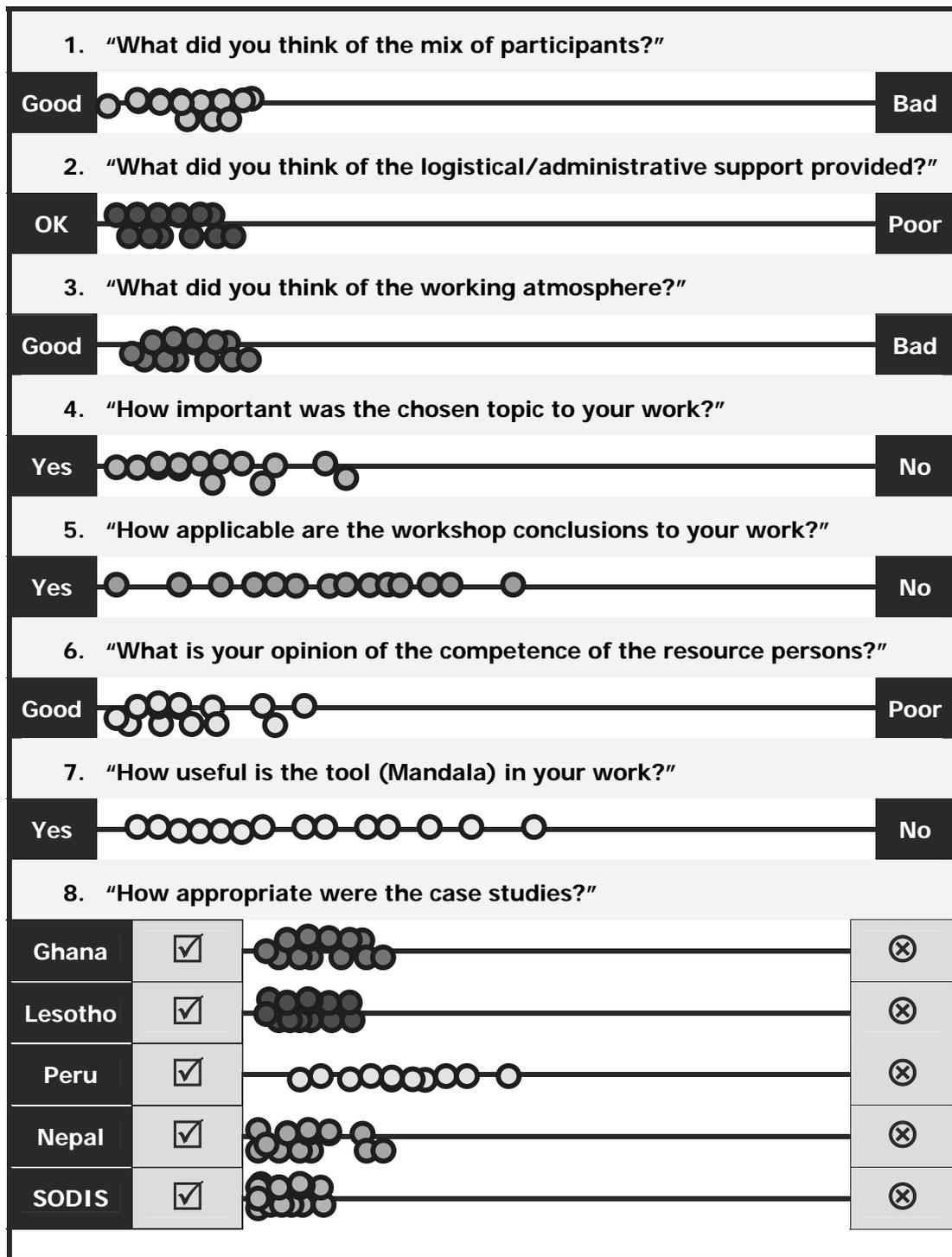
Most participants expressed a high degree of satisfaction at the end of the workshop. A “feel good effect” is not unusual at the end of any workshop and is generally an indication of satisfaction based on complex issues. A workshop may seek to address a particular problem but nonetheless represents an opportunity for likeminded individuals to network, to share on any number of parallel issues of concern, to identify new opportunities or simply to catch up with each other. The generally positive feedback at the end of the 20th AGUASAN workshop 2004 is shown in the individual voting exercises, with mean point of all clusters towards the positive end of each sliding scale.

Within this generally positive feedback, it is possible to make more detailed observations. The wider dispersal of voting clusters for questions 5 and 7 show that participants were not entirely convinced that the workshop conclusions could readily be implemented in practice, or that the use of the Mandala could be readily mainstreamed. In making written comments on the usefulness of the Mandala during the voting exercise, a number of participants reinforced these observations. The broad dispersal of the voting cluster for question 4 showed that some participants felt that the link was rather tenuous between the stated purpose of the workshop (as laid out in the workshop announcement) and the final conclusions drawn. In making written comments on the importance of the topic selected during the voting exercise, some participants reinforced this observation.

The bunched voting clusters in positive zones for questions 1, 2, 3 and 6 suggest a high degree of satisfaction with the work of the organising committee - in administering the venue and participant selection, and in developing and implementing the workshop methodology.

Considering the case studies, the case study groups voted on the relevance of their own work. The dispersal of the voting cluster for the case study from Peru indicated that the participants of this group questioned how appropriate this case was within the context of the workshop. This may be due to a combination of factors but was surely influenced by language difficulties and scale and complexity of the case.

Figure 19: Evaluation of the Workshop



In making general comments on the country cases, participants expressed regret that more plenary discussion did not take place. Since the size of the 2004 workshop called for 5 case studies instead of the usual 4, insufficient time was available for plenary discussion of each case. This may be an indication that the workshop size reached beyond its upper limit in 2004.

Annexes

1.1 List of Participants

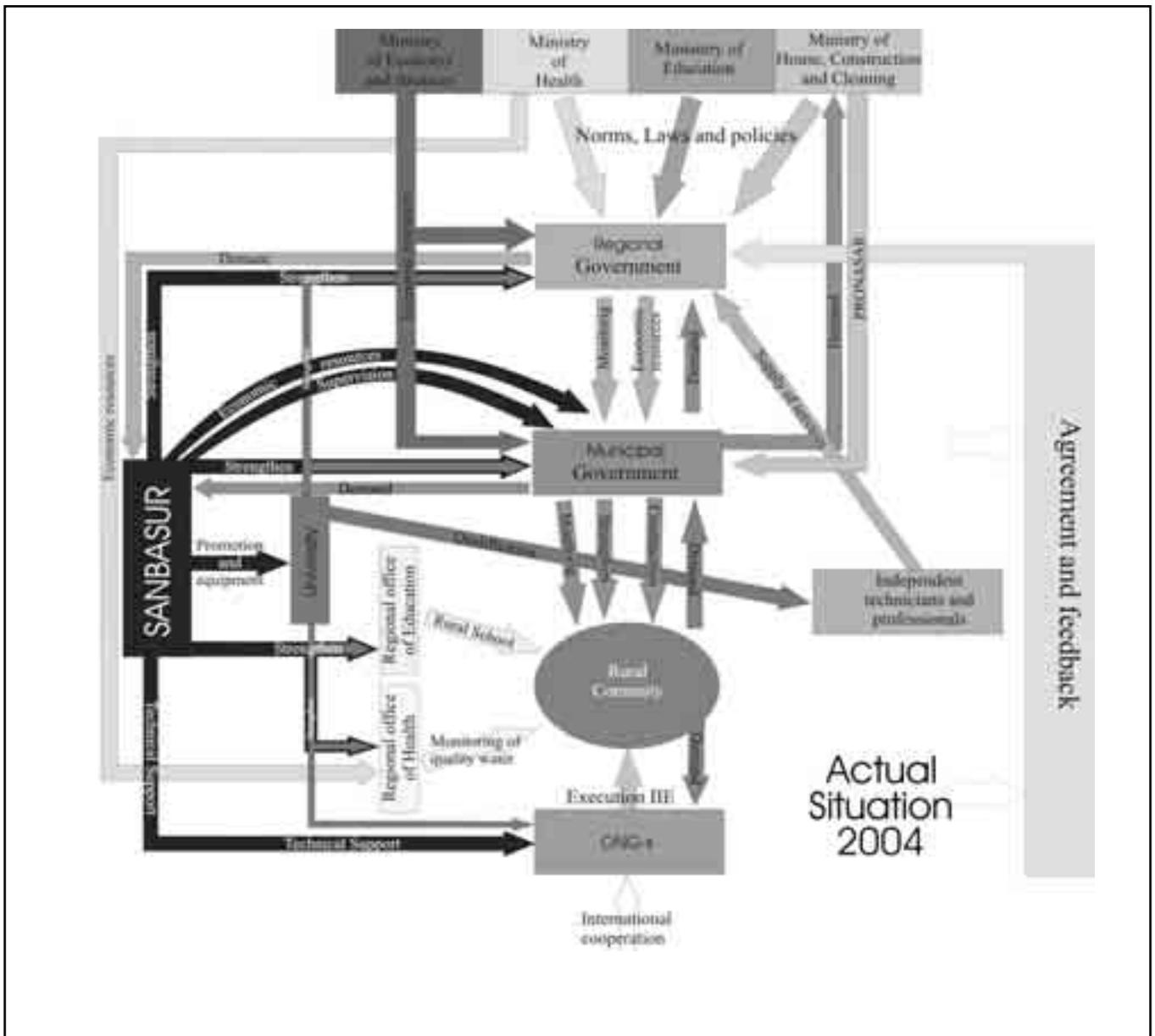
Last name	Forename	Country	Email	Role
Amegnran	Yaotré	Burkina Faso	amegcy@yahoo.fr	Participant
Biswas	Shirin	Bangladesh	shirin@ngof.org	Participant
Bovier	Jacques	Kenya	jacques.bovier@nai.rep.admin.ch	Participant
Casella	Deirdre	Netherlands	casella@irc.nl	Participant
Eder	Gerald	Austria	gerald.eder@hydrophil.at	Participant
Gilly	Marco	Eritrea	sdcmrg@eol.com.er	Participant
Guindo-Sidibe	Fatoumata	Mali	paieau@helvetas-mali.org	Participant
Hartung	Hans	Germany	hansfhartung@aol.com	Participant
Herath	Neil	Sri Lanka	hslneil@eureka.lk	Participant
Ischer	Markus	Cameroon	markus.ischer@gmx.net	Participant
Jayawera	Palitha	Sri Lanka	cosi@sltnet.lk	Participant
Karmacharya	Binod	Nepal	helvetas@warm.wlink.com.np	Participant
Kenyi	Joseph	Kenya	jkenyi@unicef.org	Participant
Koné	Doulaye	Switzerland	doulaye.kone@eawag.ch	Participant
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1.2 Suggested Topics for Future Workshops

In a plenary meeting, the following topics were suggested for a future workshop. The workshop steering committee promised to consider them at their next meeting.

- Pro-poor approach
- Links: micro-credit & W&S
- Productive uses of water
- Pooling Funds – Project/Programme
- Private sector involvement
- Valorisation for W&S sector service provider
- Water for all & all purposes
- Virtual Water
- Water for Improved livelihoods
- Demand Management
- W&S in Small Towns & Slums
- New Approaches to Sanitation
- Some for All or All for Some
- Linking IWRM & WS
- Transforming NGOs into business entities
- W&S & urban agriculture
- Conservation / Saving Water
- How to involve the rich / wealthy
- N/S collaboration in W&S
- How to increase local investment for W&S
- W&S & Culture
- Effective N-N and S-S cooperation
- Quality vs. Quantity
- Use a “consequent” business approach

1.3 Case Study PERU: Institutional Framework 2004



1.4 Case Study PERU: Institutional Framework 2004

