

More Benefits for Households from Water and Sanitation through Intersectoral Synergies

Can the impact on poverty be improved by linking water & sanitation with health and income generation?

Report on the 22nd AGUASAN Workshop
Gwatt, Switzerland
June 26 to June 30, 2006

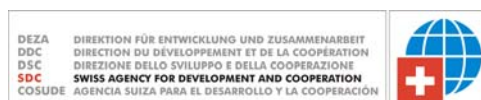
A workshop for project staff, consultants and desk officers



Compiled by Roger Schmid, Skat



Sandec
Water and Sanitation in
Developing Countries



skat Swiss Resource Centre and
Consultancies for Development

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“More Benefits for Households from Water and Sanitation through Intersectoral Synergies - Can the impact on poverty be improved by linking water & sanitation with health and income generation?”

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Abstract

The 22nd AGUASAN workshop dealt with the topic “More Benefits for Households from Water and Sanitation through Intersectoral Synergies” and explored the potential of a “Cross-Sector Approach”, linking water and sanitation with health and income generation interventions, for having greater impact on the people’s livelihoods and on poverty alleviation. From the angle of vision of a water and sanitation (W&S) sector professional, the cross-sector approach (CSA) was understood as going beyond one’s core business and looking farther behind sector boundaries in search for genuinely joining forces with other sectors and realizing multiple benefits to households and increased impact from synergetic and combined approaches.

Various topic cases linking effectively W&S with environmental health aspects and income generation opportunities were presented and assessed, and the learnings and insights transferred to the personal working situations of some participants in working group sessions. The outcomes of the various sessions resulted in a documentation of expected and perceived benefits from water and sanitation interventions as well as in strategic and practical recommendations about how making the CSA happen.

There are a series of expected benefits from improved W&S which can be considered as the driving forces for change and for the improvement in the living conditions of households, but many of them can fully unfold only if they are addressed in an integral way by taking into account cross-sectoral aspects. It became obvious, that W&S is not merely important for health reasons: if investments are properly done, they can bring enormous economic and social benefits that are key in building sustainable livelihoods for the poor and that are positively perceived by them. Therefore governments should consider W&S as economic investments (and not as merely social expenditure), prioritise them in their investment plans and get international finance institutions to support suitable programmes.

The strategic approach developed for launching activities based on a CSA starts from setting the entry point at the people’s level and goes in a participatory bottom-up process through scaling up, facilitated by local consultation forums and meso level multi-stakeholder platforms, right up to lobbying for the approach at policy and decision making level. The basic pre-condition defined for successfully introducing a CSA is the existence of a need expressed by the people that can be addressed. Further the institutional framework has to be (or to be influenced to become) favourable for implementing cross-sectoral cooperation and adequate coordination capacity at local level has to be available or to be fostered.

Water and sanitation sector professionals are the initiators and catalysers for such a cross-sector approach, but they are advised to stay with their core business without attempting to become an expert in the related fields. Rather they seek to link their competencies, their own interventions, their specific concepts and approaches with the expertise, activities and resources in the other complementary sectors for a genuine multi-actor and multi-sector cooperation mutually beneficial for all parties involved, based on shared roles and responsibilities in a commonly agreed on plan of action and evolving in a climate of trust and confidence.

Résumé

Le 22^{ème} séminaire AGUASAN a abordé le sujet intitulé "Davantage de bénéfices issus de l'eau et de l'assainissement pour les ménages à travers des synergies intersectorielles". Il a par cela exploré le potentiel d'une approche transsectorielle ("cross-sector approach (CSA)" en anglais), liant, pour avoir un plus grand impact sur les moyens d'existence de la population et la réduction de la pauvreté, l'eau et l'assainissement avec la santé et les interventions génératrices de revenus. Du point de vue d'un professionnel du secteur de l'eau et de l'assainissement, l'approche transsectorielle a été comprise comme allant au-delà de son métier principal et de voir plus loin derrière les frontières du secteur en vue d'assembler véritablement les forces avec d'autres secteurs, de réaliser des bénéfices multiples pour les ménages et d'accroître l'impact par des approches synergiques et combinées.

Différents cas liant effectivement l'eau et l'assainissement avec les aspects de la santé environnementale et les opportunités génératrices de revenus ont été présentés et évalués, et les leçons apprises et connaissances acquises ont alors été transférées aux situations de travail personnelles de quelques participants dans des séances de travail en groupes. Les résultats des différentes séances ont permis d'établir une documentation des bénéfices attendus et perçus découlant des interventions en eau et assainissement, ainsi que des recommandations stratégiques et pratiques sur la manière de mettre en place l'approche transsectorielle.

Il y a toute une série de bénéfices attendus d'une amélioration de la situation en eau et assainissement. Ces bénéfices peuvent être considérés comme les forces vives pour un changement et une amélioration des conditions de vie des ménages, mais plusieurs d'entre eux peuvent se réaliser complètement seulement s'ils sont adressés d'une manière intégrale en tenant compte des aspects transsectoriels. Il est devenu évident que l'eau et l'assainissement ne sont pas seulement important pour les questions de santé: si les investissements sont faits correctement, ils peuvent apporter d'énormes bénéfices économiques et sociaux qui sont la clé pour construire des moyens d'existence durables pour les pauvres et qui sont perçus positivement par ces derniers. De ce fait, les gouvernements devraient considérer l'eau et l'assainissement comme des investissements économiques (et non pas comme des dépenses sociales essentiellement), les prioriser dans leurs plans d'investissement et obtenir des institutions de financement internationales le support pour des programmes appropriés.

L'approche stratégique développée pour lancer des interventions basées sur l'approche transsectorielle débute par ancrer le point d'entrée au niveau de la population et se poursuit, dans un processus participatif du bas vers le haut, à travers un passage à l'échelle - facilité par des forums de consultation locaux et des plateformes multi-acteurs au niveau intermédiaire – jusqu'au lobbying pour l'approche au niveau politique et de prise de décision. Le préalable de base identifié comme clé à l'introduction réussie de l'approche est l'existence d'un besoin exprimé par la population et qui peut alors être répondu. De plus le cadre institutionnel doit être (ou être influencé pour devenir) favorable à la mise en place d'une coopération transsectorielle et une capacité de coordination adéquate au niveau local doit être disponible ou encouragée.

Les professionnels du secteur eau et l'assainissement sont les initiateurs et les catalyseurs pour une telle approche transsectorielle, mais ils sont conseillés de se concentrer sur leur métier principal sans essayer de devenir des experts dans les secteurs connexes. Ils cherchent plutôt à lier leur compétence, leurs propres interventions, leurs concepts et approches spécifiques avec l'expertise, les activités et les ressources des autres secteurs complémentaires pour une véritable coopération multi-acteurs et multi-secteurs mutuellement bénéfique pour toutes les parties impliquées, basée sur le partage des rôles et des responsabilités dans un plan d'action établi d'un commun accord et en évoluant dans un climat de confiance mutuelle.

Resumen

El taller Nº 22 de AGUASAN, bajo el tema: “Más beneficios para los hogares en materia de agua y saneamiento a través de sinergias intersectoriales”, analizó el potencial de un enfoque transsectorial que combina intervenciones en agua y saneamiento con actividades generadoras de ingresos y actividades del sector salud, con el fin de obtener un mayor impacto en las subsistencias de las personas y la lucha contra la pobreza. Desde el punto de vista de un profesional del sector agua y saneamiento se entiende por enfoque transsectorial (CSA, por sus siglas en inglés) el intento de ir más allá de las actividades específicas propias de la profesión, cruzando las barreras del propio sector para unir fuerzas con otros sectores, buscando lograr así beneficios múltiples para los hogares y un mayor impacto con enfoques combinados y sinérgicos.

Fueron presentados y evaluados varias historias de caso donde habían sido combinados eficazmente el trabajo en agua y saneamiento con aspectos de salud ambiental y oportunidades de generación de ingresos. En sesiones de grupos de trabajo, los aprendidos de estos casos fue luego transferido a situaciones del trabajo personal de algunos participantes. Las conclusiones de estas sesiones resultaron en una documentación de beneficios percibidos y esperados de intervenciones de agua y saneamiento, y se formularon recomendaciones prácticas y estratégicas para de la aplicación del enfoque transsectorial.

De mejoras en agua y saneamiento se puede esperar toda una serie de beneficios. Estos beneficios esperados son los impulsores del cambio y del mejoramiento de las condiciones de vida en los hogares. Pero los beneficios se logran a cabalidad solo si el enfoque es integral y se toman en cuenta los aspectos transsectoriales. Es obvio que el agua y el saneamiento no son solo asuntos de salud - si las inversiones en el sector son realizadas de forma apropiada, pueden traer tremendos beneficios económicos y sociales que son la clave para lograr subsistencias sustentables para los pobres, apreciadas por ellos. Por ese motivo, los gobiernos debieran considerar inversiones en agua y saneamiento como inversiones económicas (y no simplemente un gasto social), priorizarlos en sus planes de inversión y buscar el apoyo de las instituciones financieras internacionales para programas apropiados.

El enfoque estratégico desarrollado para emprender actividades basadas en un enfoque transsectorial comienza colocando el punto de partida en el nivel de las personas, sigue por un proceso ascendente de participación, con el apoyo de foros de consulta locales y plataformas multi-actores en el nivel medio, hasta llegar directamente a ejercer presión política (lobbying) por el enfoque a nivel gubernamental. La precondition básica para una introducción eficaz del enfoque transsectorial es que exista una necesidad expresada por las personas que podrían ser beneficiadas. Además, el marco institucional debe ser (o susceptible de ser influenciado para llegar a ser) favorable para la implementación de cooperaciones transsectoriales, y a nivel local debe existir (o ser fomentada) una adecuada capacidad de coordinación.

Profesionales del sector agua y saneamiento son los iniciadores y catalizadores de un tal enfoque transsectorial. Se les recomienda seguir con sus actividades específicas propias de la profesión y no pretender de convertirse en expertos en los sectores relacionados. Más bien deben buscar los puntos de conexión o enlace de sus competencias, sus propias intervenciones, sus conceptos y enfoques específicos con los conocimientos, las experiencias, las actividades y los recursos de los demás sectores complementarios para lograr una genuina cooperación multisectorial con la participación de todos los actores, la cual será de beneficio mutuo para todas las partes involucradas y estará basada en responsabilidades y roles compartidos dentro de un plan de acción concertado desarrollado en un clima de confianza mutua.

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Acronyms and Abbreviations

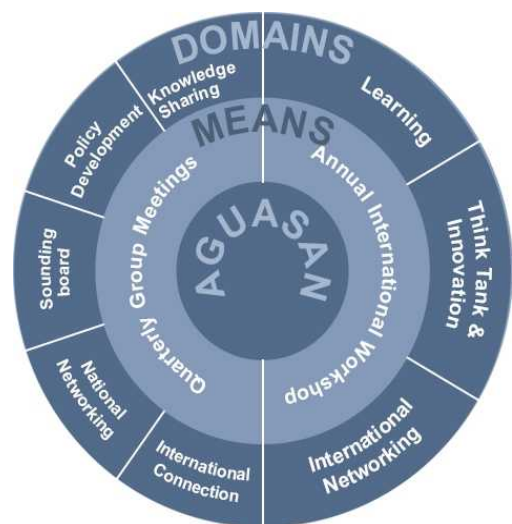
5Ps	Product – Price – Place – Promotion – People (in marketing)
Agridea	Swiss Centre for Agricultural Extension and Rural Development
AGUASAN	Swiss community of practice in water supply and environmental sanitation
CD	Compact Disk
CLTS	Community-Led Total Sanitation
CoP	Community of Practice
CSA	Cross-Sector Approach
CWP	Ceramic Water Purifier
DALY	Disability-Adjusted Life Year
Eawag	Swiss Federal Institute for Environmental Science and Technology
GDP	Gross Domestic Product
Helvetas	Swiss Association for International Cooperation
ITN	Insecticide Treated Nets (in malaria prevention)
IWRM	Integrated Water Resources Management
MDGs	Millennium Development Goals
MIS	Micro Irrigation System
MoU	Memorandum of Understanding
MUS	Multi-Use System
NGO	Non-Governmental Organization
O&M	Operation and Maintenance
PET	Polyethylene Terephthalate (a plastic)
PPP	Public-Private Partnership
PVC	Polyvinyl Chloride (a plastic)
Sandec	Department of Water and Sanitation in Developing Countries at Eawag
SDC	Swiss Agency for Development and Cooperation
Skat	Swiss Resource Centre and Consultancies for Development
SME	Small and Medium Enterprises
SNNPRS	South Nations Nationalities and Peoples' Regional State (Ethiopia)
SODIS	Solar Water Disinfection
STI	Swiss Tropical Institute
SWOT	Strengths, Weaknesses, Opportunities, and Threats
W&S	Water Supply and Sanitation
WASH	Water Supply, Sanitation and Hygiene
WHO	World Health Organisation
WSP	Water and Sanitation Program (World Bank)
WWT	Waste Water Treatment

1 Introduction

1.1 AGUASAN and its workshops

AGUASAN is an interdisciplinary Swiss community of practice (CoP) bringing together a wide range of specialists to promote wider and deeper understanding of key issues in water supply and environmental sanitation in developing and transition countries. The CoP builds on committed sector professionals from diverse specialised institutions involved in Swiss development cooperation and research. Since 1984, **AGUASAN meetings** are held four times a year where its members share experiences and information related to the sector, discuss successes, problems and innovative solutions, and develop practical recommendations. The CoP constitutes an essential link in the water and sanitation sector networking strategy of the Swiss Agency for Development and Cooperation (SDC) and plays through this an important role in defining the agency's knowledge objectives and in implementing the tools supporting the related knowledge management processes.

Over and above the regular meetings, AGUASAN representatives from SDC, Skat, Helvetas and Sandec organise every year in June an international **AGUASAN workshops** in Switzerland. Here project field staff, desk officers, researchers, consultants, other sector specialists and wider development practitioners from all over the world come together for five days to reflect collectively on a cutting edge theme of the sector. AGUASAN workshops foster a mutual learning experience and aim at utilising the broad and multi-faceted knowledge gathered by participants, to mutually elaborate strategies and conceptual tools of practical use in development work. The year 2006 saw the 22nd consecutive workshop in what has become a very popular, successful and respected series of innovative events.



1.2 About this report

The present report summarizes the presentations made, the discussions held, the results obtained, the learning achieved and the knowledge generated during the 22nd AGUASAN workshop convened from June 26 – 30, 2006 in Gwatt (Switzerland). During the five days, 36 development professionals from all over the world delved into the issue of the “**Cross-Sector Approach (CSA)**” by trying to tackle jointly the topic formulated as: ***More benefits for households from Water and Sanitation through Intersectoral Synergies – Can the impact on poverty be improved by linking water & sanitation with health and income generation?***

This document is not a self-contained disquisition on the CSA in development cooperation, but reflects the individual knowledge and insights of the participants at the workshop and the outcomes they have performed together. In the following, the workshop report is split in two parts. “**Part One: The Topic**” deals with the thematic content of the workshop as follows:

- Chapter 2 gives an **outline** of the 22nd AGUASAN workshop by spelling out its background, goal and objectives and expected results as well as the process undergone.

- In chapter 3 the **thematic framework** is described, stating what angle of vision and scope were adopted, what model was used to address the topic and what tools were used to tackle the related issues.
- Chapter 4 presents the **topic cases** used as illustrations of how water and sanitation is, and can be linked, to environmental health aspects and to income generation opportunities.
- Throughout chapter 5 the attempts made to **transfer the CSA to the personal working situation** of the participants are documented by taking up the outcomes of five specific working groups having dealt with the issue in different contextual and thematic settings.
- The **synthesis and conclusions** regarding the topic dealt with are contained in chapter 6 – a self-standing chapter for the quick reader - where the insights gained, the lessons learned and the recommendations developed for a successful application of the CSA are gathered.

“**Part Two: The Method**” addresses the methodological and organisational aspects of the workshop throughout the following sections:

- Chapter 7 sets down the **workshop organisation and methodology**, from its preparation, through its realisation, down to its final assessment.
- Finally chapter 8 addresses the **resources** of the current event and for future AGUASAN workshops.

Beyond the elements contained in this report, the inputs made to the topic, the background and resource documents referred to as well as the pictures from the visualisations elaborated during the workshop and from the working environment are provided on the **resources CD** appended in the back cover of this document.



PART ONE: THE TOPIC

2 Workshop outline

2.1 Background

Are the potential benefits from improved water supply & sanitation systems sufficiently understood and utilized?

For many years the domestic water supply and sanitation (W&S) sector has focused on the health benefits that can be achieved through supply improvements and educational activities, based on the premise that more and better W&S can help to improve the health of individuals. W&S are seen to matter as issues because of the jeopardy to health resulting from inadequate access to such basic services. This perspective is however fairly negative and misses the role other benefits resulting from improved W&S services have on the development of assets and resources by which people construct their livelihoods.

In some cases, reference is made to social benefits such as more prestige, gaining time, etc, but there is obviously an additional set of potential benefits that is not always recognised. This concerns the economic benefits that can accrue to individuals, households and communities: e.g. the construction, operation and maintenance of water systems can provide employment opportunities; water and wastewater can be used for agriculture. Productive uses of water at the household level can include a range of small-scale activities that enable people to grow food, earn income and save expenditure. These issues may be particularly relevant to the livelihoods of the poorer members of society. Moreover, the use of W&S systems for multiple purposes can improve people's motivation to maintain them because of additional perceived benefits.

BENEFITS OF IMPROVED HOUSEHOLD LEVEL WATER AND SANITATION

Better health – more and better quality water, and improved hygiene, reduce diseases. Healthy people are able to work and live a more productive life.

Timesavings – reduced time and effort spent for collecting water. Given suitable opportunities this saved time can be turned into money by poor people.

Expenditure savings – reduced expenditure on the generally expensive water provided by water vendors, and less money is spent on drugs to cure sicknesses.

Well-being – reduced pressure on people. As well as time saved, there is less stress, anxiety, and improved safety when water supplies are close to home.

Education – with more time and improved health, children are able to attend and perform better at school. Adult learning can also be facilitated.

Environmental sanitation – good drainage improves the local environment, and reduces the risks of diseases transmitted by water-based vectors like malaria.

Productivity and income – opportunities for water-based livelihood activities are increased and lead to improved employment, productivity and incomes. Non-water-based livelihood activities are possible due to timesavings, better health and occasions to invest savings.

Investment - expenditure savings and improved incomes have a multiplier effect. Money can be invested in other activities leading to greater returns.

Food security / nutrition – home-based (nutritious) production is enhanced when improved water supplies make backyard irrigation or livestock keeping easier.

(Adapted from Moriarty & Butterworth, 2003)

To support the realisation of full benefits, these socio-economic changes may have to be traced beyond the project live cycle. This is not only complex and costly because these changes can occur at any time of the system life cycle, but also because livelihoods are dynamic and responses to a given situation are not fixed.

Can the impact of improved water supply and sanitation systems be increased?

Water and sanitation programmes and projects tend to be implemented in a way that they miss the opportunity of exploiting synergetic effects with other sectors such as e.g. health and agriculture. This approach results often in reduced impact from W&S interventions themselves. The promotion of innovations suitable to enhance the impact of W&S requires not only a greater quantity and quality of knowledge of the households and the strategies than current participatory methods demand, but also multi-sectoral inputs which may not always fit well with the existing institutional boundaries and priorities. To be able to implement cross-sector cooperation it is most important to understand the full range of interactions among the sectors concerned.

Research shows that the health benefits from improved W&S systems only become effective when they are combined with other measures regarding health improvement (e.g. improved nutrition). Furthermore, the potential for additional income generation is often overlooked. It can be expected that W&S interventions will only achieve their full potential if they are planned and implemented as part of an integrated programme in which the different sectors collaborate such that all elements of (poor) people's lives are taken into account and benefits are inclusive.

2.2 Goal and objectives

Against this backdrop, the workshop meant to consider the potential benefits of W&S interventions in an integral way, and to examine interactions with other sectors, particularly regarding health and income generation. The **overall goal** of the workshop was to: *Explore opportunities to enhance and sustain the effect of water supply and sanitation improvements on the achievement of the Millennium Development Goals (MDGs) and on poverty alleviation through a cross-sector approach.* Therefore, the **specific workshop objectives** were to:

- Identify additional impact potentials of W&S interventions by a CSA, in particular by exploring joint synergies with the health and income generation sectors;
- Find effective ways to understand effective and perceived benefits occurring from a CSA;
- Explore the potential of the CSA for improved operation and maintenance of W&S systems;
- Develop creative ideas for putting the principle of a CSA into practice.

KEY QUESTIONS ADDRESSED IN THE WORKSHOP

- ☞ ***“What health and other types of benefits can be expected from W&S interventions – and how do the various stakeholders perceive them?”***
- ☞ ***“Beyond a sole sectoral approach, what can interactions with other sectors bring – and how can those be implemented?”***

2.3 Expected results

The expected results of the workshop were that:

- Learning and raised awareness regarding the potentials and the significance of the CSA is achieved among the participants;
- Expected and perceived benefits from W&S interventions through a CSA are reviewed by taking into account the both the users' (households') and providers' point of view;
- A documentation of all possible benefits that can be expected from a CSA is drawn up;
- Effective ways to better understand and guide user's perceptions are identified;
- A series of practical approaches and ideas to realize increased effects of W&S interventions on peoples' livelihoods from interactions with the health and income generation sectors is available;
- A set of strategies for applying the acquired knowledge regarding the CSA in programs and projects is developed.

2.4 Workshop process

Given the scale and significance of this challenging theme, the workshop process was conducted in such a way that the learning community could take full advantage of the knowledge and the experience that the participants gathered:

WORKSHOP PROCESS

Based on **topical contributions from experienced resource persons**, the participants explored the dimensions of a CSA and the way they could contribute with their skills.



From the step above, the participants were primed to make in working groups an attempt to **transfer the knowledge acquired regarding the CSA to a set of personal cases**.



A **synthesise of the learning and insights** acquired allowed to draw more universally valid strategies, methods and actions regarding the implementation of the CSA.

This process, led to a learning experience for all, to the generation of knowledge and to potential for applying the acquired knowledge in each ones own working situation.



Beyond exploring the thematic aspects, the workshop procedures adopted aimed further at:

- Proceeding in an open and participatory manner;
- Using visual aids and a variety of working methods and teaching materials;
- Alternately working in plenary and in groups;
- Having time for informal exchanges in a friendly setting.

3 Thematic framework

3.1 Angle of vision

To halve, by 2015, the number of people without sustainable access to safe drinking water and basic sanitation is the target set for the W&S sector in the Millennium Declaration. But for each and all of the MDGs, W&S are key since they are crucial to all forms of socio-economic development and a necessity for nature's processes.

„Combating poverty is the main challenge for achieving equitable and sustainable development, and water plays a vital role in relation to human health, livelihood, economic growth as well as sustaining ecosystems“

International Conference on Freshwater (2001)

It took the development community quite a bit of time and effort until recognizing in the 1980s that sanitation had to be integrated with water supply. And it was Vision 21, which brought the tripartite concept of Water Supply, Sanitation and Hygiene (WASH) firmly on the forefront of the development agenda. Today the framework of Integrated Water Resources Management (IWRM) has priority in the international dialogue and in the sector policies of external support agencies – such as the SDC - and national governments. IWRM can be defined as a process that promotes the coordinated development and management of water (for people, food production, nature and other economic activities), land and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. One cutting-edge issue is nowadays the productive use of water at household level: an issue that is typically located at sectoral interfaces, between domestic / household, agriculture, industry and commercial.

This all is to highlight that W&S professionals - through WASH activities and by implementing the IWRM process - deal effectively already with sector interfaces and linkages and collaborate with other domains, be it e.g. with education (hygiene education), public health (health promotion) or agriculture (small-scale productive use of water). In the present workshop, these aspects are referred to as the **“Core Business”** of W&S sector professionals. The **“Cross-Sector Approach”**, as understood in the topic, should go beyond this core business however, *looking farther beyond sector boundaries in search for genuinely joining forces with other sectors and realizing multiple benefits to households and increased impact from synergetic and combined approaches and interventions*. Seen the workshop set-up and the nature of its participants, the angle of vision adopted was essentially the one of a W&S sector professional “jumping out of the sector box” and looking beyond his/her core business for finding ways to provoke and make happen a cross-sector approach to problem solving and sustainable development - and this in spite of having a single, narrowly defined MDG for W&S to perform against.

3.2 Scope

From this angle of vision, a cross-sector approach has a multitude of facets and dimensions. Seen the time available at the workshop and the aim to end up with practical recommendations and tools, the topic was consciously scaled down to the linkages of water and sanitation with the **health sector** on the one hand, and with the **income generation sector** on the other hand.

3.2.1 Water, sanitation and environmental health

For addressing the linkages of W&S to health, the workshop focussed on **environmental health**. Environmental health measures aim at preventing health risks through the control of

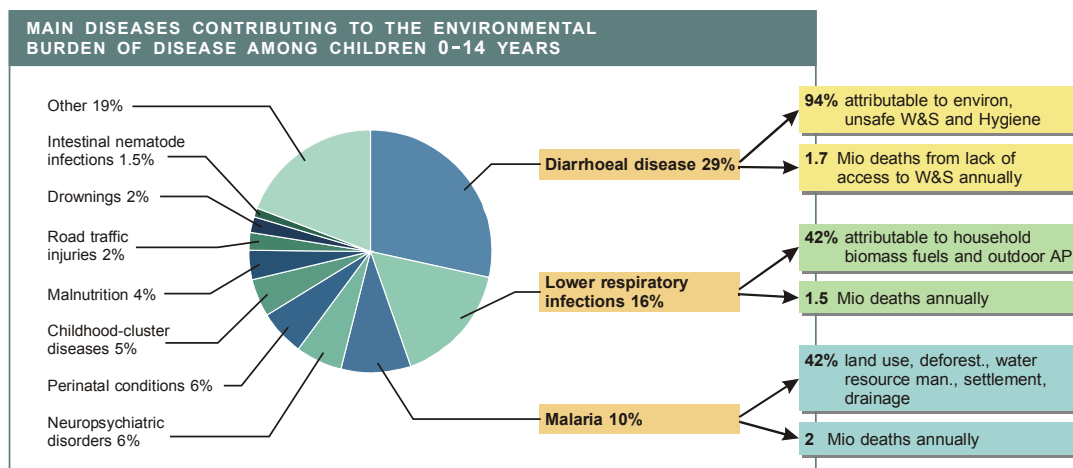
human exposure to microbiological agents, chemical agents, disease vectors and physical / safety hazards (i.e. injuries, accidents, fire, radiation). Nutrition, soil contamination, water pollution, air pollution, safe drinking water, noise pollution, light pollution, waste control, and public health are integral aspects of environmental health. Globally, an estimated 24% of the **disease burden** and an estimated 23% of the premature deaths can be attributable to environmental factors, with large regional differences due to differences in environmental exposures and access to health care. Children suffer a disproportionate share of the environmental health burden - globally the per capita number of healthy life years lost due to environmental risk factors is five times greater for children below 5 years than in the total population.

DEFINITIONS: *by the World Health Organisation*

Environmental health comprises those aspects of human health, including quality of life, that are determined by physical, chemical, biological, social, and psychosocial factors in the environment. It also refers to the theory and practice of assessing, correcting, controlling, and preventing those factors in the environment that can potentially affect adversely the health of present and future generations.

Disease burden is the impact of a health problem in an area measured by financial cost, mortality, morbidity, or other indicators. It is often quantified in terms of *Disability-Adjusted Life Year (DALY)*, which combines the burden due to both death and disability into one index. This allows for the comparison of the disease burden due to various risk factors or diseases. It also makes it possible to predict the possible impact of health interventions.

The figure below shows the burden of the **three major environmental diseases** – diarrhoeal diseases, lower respiratory infections and malaria – and the important share water, sanitation and hygiene aspects hold in it. Poor water quality continues to pose a major threat to human health. Diarrhoeal diseases alone amount to an estimated 29% of the environmental diseases burden (and about 4.1 % of the total global burden of disease) and are responsible for the deaths of 1.7 million people every year (WHO, 2006).






Source: Prüss & Corvalan, WHO, 2006

A significant amount of diseases can thus be prevented through improved access to safe water supply, adequate sanitation facilities and better hygiene practices. But for reducing the burden of environmental diseases synergistic interventions of the W&S and health sectors are required, i.e. need to be generated. A catalyser for doing this is the fact that the three major environmental diseases are **all concentrated around the household**. A household-centred approach focussing on changing knowledge, skills and attitudes is hence a most promising one.

3.2.2 Water, sanitation and income generation

For addressing the linkages to income generation, the workshop focussed on the potential **economic benefits** from W&S improvements and on **income opportunities** they can trigger. Access to clean water and adequate sanitation is foremost a major improvement in livelihood quality, but often there are also significant economic benefits associated through **increased opportunities for livelihood activities**. The possibilities for water-based livelihood activities - e.g. brick-making, irrigation on small plots around homesteads (vegetables, fruit trees), livestock keeping, agro-processing activities - are increased because people can access more reliable and productive supplies. Non-water-based livelihood activities are possible because of timesavings, better health and opportunities to invest expenditure savings. All those lead to increased employment, productivity and incomes.

Around the world billions of people lack access to the most basic services: water, sanitation, education, and electricity. And when these services are provided they are often done so in a way that fails to adequately take into account the special needs and livelihoods of the poor. Or they do so in a way that does not make use of the full potential of the new service to reduce poverty. This is the case with much water supply, be it provided by the domestic or irrigation sector, which in focusing on narrow sectoral paradigms often ignore the reality of the multiple uses to which people put water in their lives. **Multiple use water services** can mean providing:

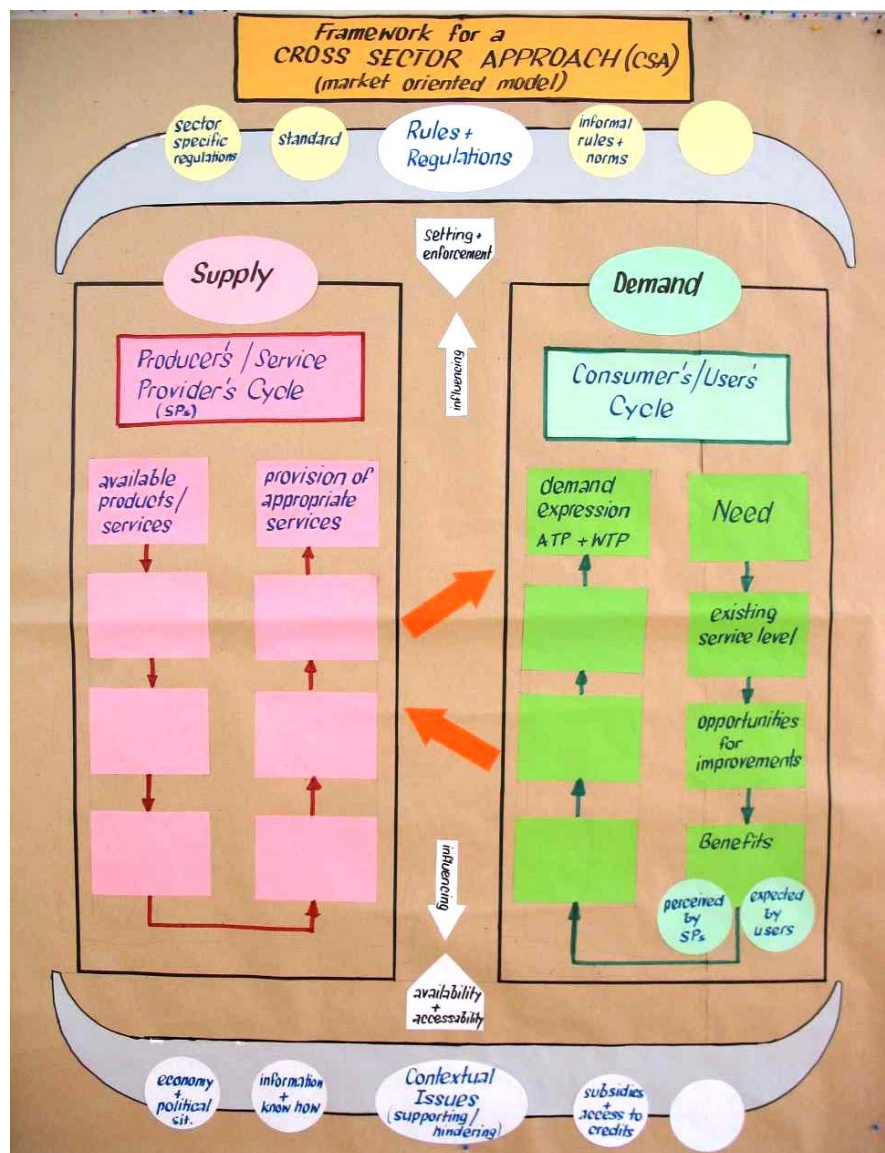
Description	Example	Key issues
Irrigation water for drinking purposes "Domestic-Plus"		Water quality for domestic use
Drinking water for irrigation "Productive-Plus"		Water quantity for productive use Universal coverage
Household level water systems "Multiple-use system (MUS)"		Upscaling of access to sources and technologies

But most systems are designed for single uses and any "add-on" is considered merely "illegal", is often banned and, in the best case, is tolerated. Single use design origins in the bureaucratic splitting of responsibilities for the sectors concerned. It is however a fact that most single-use schemes realized are invariably transformed into de-facto multiple-use schemes by their users.

Next to livelihood activities, the workshop scope embraced also income generation opportunities from the **provision of W&S goods and services through small-scale and medium sized enterprises**. This private initiatives comprise of a myriad of small and tiny service providers (masons, installers, dealers of spare parts, water vendors etc.) but includes also more formal sector companies such as producers and dealers in fittings, ceramic tiles, building materials, pipes, water filters and sanitary ware. It is an often underestimated but important sector of the economy that can be mobilised to be allied towards income generation and poverty reduction.

3.3 Conceptual model

For providing a frame within which the topic, issues and key questions of the workshop could be addressed, a **market-oriented model** as displayed below was introduced. This model shows the market relationship between the consumers (demand side) and the providers of goods and services - (supply side) by putting it in the **context** of the prevailing rules and regulations as well as of other (supporting, hindering) contextual issues like natural resources, socio-cultural aspects, information and know-how, political situation and economic aspects. At the core of the model are the **demand cycle** – which departs from the existence of a need and ends at the expression of a demand - and the **supply cycle** which goes through the product development process, from the potential product up to the provision of appropriate goods and services¹.



The aim of the (unfinished) model was to describe interventions based on a cross-sector approach, and W&S sector interventions themselves, as a product (goods and services) developed and provided in a market-driven setting. The model helped to structure the thinking, and developments made during the workshop, which in turn contributed to:

¹ This model has been developed in the AGUASAN workshop 14 (1998) on "Technology and balanced development"

- Flesh out the model's steps in both cycles, mainly related to the concepts of **expected and perceived benefits** (see 4.1 and 4.2) and the **delivery of a multi-use system** (see 4.4);
- Tackle the dynamics, which need to take place between users and providers (the market) by looking at **boosters and incentives in product delivery** (see 4.3); and
- Give responses on how to address and positively **influence contextual issues** allowing for scaling up and cross-sector cooperation (see 4.5).

By doing this, the findings and outcomes would then provide elements to answer the workshop's key questions regarding expected and perceived benefits and regarding the way of making cross-sectoral interactions happen.

3.4 Tool for the conceptual model

The mechanisms ensuring that the supply meets the demand, and vice-versa, can be described as marketing tools. Marketing knowledge is therefore useful for disseminating and scaling up goods and services in any sector and the **5 Ps of marketing** (adapted from Philip Kotler) can serve as a basic guideline for this endeavour:

- **Product – or what the clients want / need:** Standardised products designed after the principle “one size fits all” can not cater to the needs of different segments of people: a range of products need to be made available according to tastes, purchasing power, family size and other differing needs. Products are also often associated with emotional values such as prestige, beauty and are most desirable if they can meet people's dreams.
- **Price – or what the clients want to / can pay:** Different people may be able to pay different prices: even luxury products for the rich can stimulate the demand of the poor. However, for poor people, pricing is different and affordability is key. Products can be made affordable through cheaper designs or through credit schemes and instalment buying.
- **Place – or where clients can buy the product:** Supply chains for goods and services are crucially important for a steady supply and maintenance of systems. Very often, subsidised delivery mechanisms prevent the emergence of adequate supply chains: instead of procuring equipment through public channels, supply chains can be stimulated, if local private stockists, vendors, installers can be implied in publicly financed programmes. Training and certification of providers can greatly help in improving their status.
- **Promotion – or what will create the desire:** Creating markets by stimulating the demand for goods and services requires substantial promotion efforts, especially in rural areas. The awareness for benefits from a product must be drastically enhanced; efficient and effective promotion campaigns – using the most advanced advertisement techniques, but also the right targeting approaches based on solid market research – are needed.
- **People – or what will influence the clients:** People's behaviour changes may be more influenced by peer groups and social pressure than by direct rational conviction. Water supply and especially sanitation can be greatly influenced by social pressure, if village leaders, government officials, religious leaders and children disseminate and enforce behavioural changes and can also stimulate a great deal of demand.

The 5 Ps as a tool for designing actions and support has been applied at several occasions as guidelines for applying the conceptual model throughout the workshop process.

4 Topic cases

The topic cases brought forward by different resource persons aimed at deepening the workshop topic and at presenting practical examples and implications of cross-sector linkages between W&S and the health and income generation sectors. They allowed the participants to be sensitized on the issues, to address the various questions raised and to equip themselves with ways of thinking and practical tools to work on their personal cases later on in the workshop process.

4.1 Expected benefits from environmental health interventions – a global study

Many environmental health interventions are economically competitive with more conventional curative health-sector interventions, meaning that the economic return in preventive measures is higher than in curative measures. In the preceding chapter we saw that water, sanitation and hygiene aspects hold an important share in the burden of the major environmental diseases. Diarrhoeal diseases alone amount to an estimated 29% of the environmental diseases burden and 94% of those are attributable to unsafe water, sanitation and hygiene practices.

A key target of the MDGs is halving the proportion of people without sustainable access to safe drinking water and sanitation by 2015. Globally, the World Health Organisation (WHO) has estimated that the economic benefits of investments in meeting this target would outweigh costs by a ratio of more than 8:1. These - most globally spread, measurable and significant - benefits included **gains in economic productivity** as well as **savings in health-care costs** and **savings in healthy life years lost**, particularly as a result of diarrhoeas, intestinal infections and related malnutrition. Providing access to improved drinking water would produce considerable **timesavings** for collecting water. The table below summarizes a global cost-benefit analysis when meeting in the developing world the MDGs for W&S separately or combined, as well as with additional improvement of drinking water quality such as point-of-use disinfection (Hutton, 2006).

Intervention	Costs (million \$)	DALYs averted (million)	Health cost savings (million \$)	Productivity (million \$)	Value of saved life (million \$)	Time savings (million \$)	Benefit-cost ratio (\$ return per \$1 invested)
Water Supply MDG "alone"	1'748	1.5	546	1'148	677	12'958	8.8
W&S MDG "combined"	11'047	4.9	1'870	3'880	2'461	121'060	11.7
W&S MDG "combined" + "disinfection"	26'225	27.6	9'735	24'098	13'487	242'120	11.0

From a health point of view, achieving the W&S MDG target definitely brings economic benefits (benefit-cost ratio of about 9:1 for water supply improvements alone), even more if W&S improvements were combined (benefit-cost ratio of about 12:1). This is due to the nature of **competing risks**, stating that if one part of the burden is taken away (e.g. through safe water supply), then another risk will inevitably eliminate partly the gain.

A major issue is also the **secondary contamination** of drinking water, for which the same study showed that household water treatment and safe storage is an option of particular potential, as this intervention results in high health improvements while incremental costs remain low compared to other types of interventions (benefit-cost ratio of 11:1).

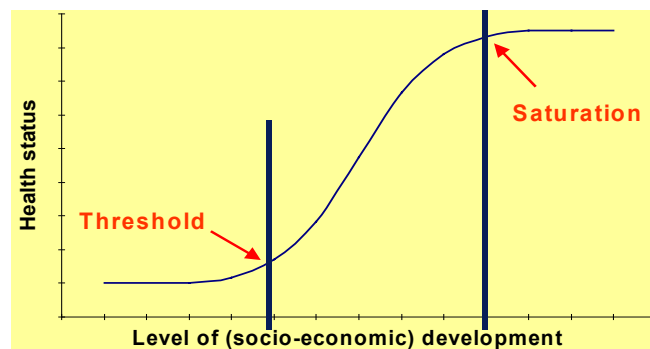
ADDRESSING MULTIPLE DISEASES - THE CASE OF HANDWASHING PROMOTION:

Human faeces are the main source of diarrhoeal pathogens, shigellosis, typhoid, cholera, all other common gastro-enteric infections and of some respiratory infections. While secondary measures (fly control, food handling, water purification) may have an impact, far more important are primary barriers (sanitation, handwashing). These barriers prevent faecal pathogens from reaching the domestic milieu in the first place. Handwashing interrupts the transmission of disease agents and can significantly reduce diarrhoea, respiratory infections and eye diseases (conjunctivitis, trachoma).

A recent review (Curtis and Cairncross 2003) suggests that handwashing with soap can reduce diarrhoeal incidence by 42-47%, while ongoing work by Rabie et al. suggests that a 30% reduction in respiratory infections is possible. This remains true even in areas that are highly faecal contaminated and have poor sanitation. Another study found that children under 15 years living in households that received handwashing promotion and soap had half the diarrhoeal rates of children living in control neighbourhoods. This evidence suggests that handwashing is one of the most effective means of preventing diarrhoeal diseases, along with safe W&S, and that it can have a major impact.

Because handwashing can prevent the transmission of a variety of pathogens, it may be more effective than any single vaccine. Handwashing with soap at key times, however, is not widely practiced. Programs to promote handwashing with soap are amongst the most effective and cost-effective interventions for reducing infectious diseases in the world today. Whilst public agencies are interested in saving lives, private industry is interested in selling soap. This is the rationale for public-private partnerships to promote handwashing with soap (<http://www.globalhandwashing.org>).

Further the effort towards addressing environmental diseases is guided by the **threshold-saturation theory** regarding the effect of W&S investments on the health status. According to the figure below, there exists a threshold in the socio-economic development level beneath which water supplies and/or excreta disposal facilities alone result in little detectable improvement in health status. Under such poor conditions, frequently encountered in poor settlements of developing countries, there are multiple and simultaneous routes of disease transmission and the levels of nutrition and personal hygiene are so low that most individuals have low resistance to disease. Reducing this exposure to disease slightly only, say by improving the quality of drinking water only, would not necessarily lead to any measurable improvement in health status. A prudent health promotion policy would, in addition to water supply, involve the development of an integrated, broad-spectrum programme involving various areas of sanitation, nutrition, education and primary health care, coupled with efforts to encourage general economic and social development.



Similarly, at the higher end of the socio-economic scale, saturation is reached beyond with further significant health benefits cannot be obtained anymore by investments in W&S facilities, but will result from other measures. This would of course not yet apply often in the developing countries. In conclusion, a single W&S intervention may thus often not impact enough on the disease burden to achieve tangible health impacts of individuals and the community. This does not mean that in such poor settings improved water supplies or sanitary facilities do not make any sense before general economic development has taken place. Socio-economic development and W&S investments are definitely not separate issues, and W&S interventions have more beneficial effects than on health only. Interventions addressing environmental health risks have thus to be considered by nature as **multi-faceted and multi-sectoral**.

4.2 Perception of health and benefits from W&S – the case of Dar es Salaam

For international experts health is a comprehensive concept closely linked to bodily, material, spiritual and social well-being. But what does health mean to women living in a poor neighbourhood of an African city? A study carried out within the framework of the Dar es Salaam Urban Health Project (1992-2002), sponsored by the governments of Tanzania and Switzerland and executed by the Dar es Salaam City Council and the Swiss Tropical Institute, tried to answer part of this question.

“STAYING HEALTHY IN DAR ES SALAAM”

Dar es Salaam experienced a rapid population growth in the 70's / 80's along with a general economic and basic infrastructure decline. Rapid reforms since the mid-90's led to democratisation, liberalization and decentralization, but also to important increases of expenses in all sectors, with an accumulation of extra costs at household level.

The study focused on the “Ilala Ilala” area of the city, a high density low-income settlement located at 5 km from the city centre where about 10'000 residents in a large ethnic heterogeneity (predominantly Moslem and Swahili speaking) dwell. The approach aimed at assessing the health definitions, explanations and activities of a sample of 100 households and 20 cohorts.

The study found that women of the “Ilala Ilala” community see **health as primarily related to livelihood, hygiene and care**. To stay healthy one has to fulfil basic needs (food, water, shelter), keep the body and home clean and take good care of the family. Since the state and newly privatized services hardly reach them and husbands often fail in their role as breadwinners, women bear a growing burden in daily health practice. They become increasingly vulnerable, unless they manage to create a new balance by improving their knowledge, becoming economically more independent and raising support within the household and in social networks and organisations.

The Ilala Ilala people consider **W&S as central health concerns**: they expect W&S improvements to establish convenient, affordable and socially acceptable access to reliable, continuous and good quality services covering basic needs and household level and providing better health and living conditions. But as they lack access to functional infrastructure and services, they **organize themselves** at household or house community level to fulfil their basic needs (getting water, getting rid of solid waste, emptying cesspits). But for doing this effectively they would need more information and support from “strong” public or private institutions. A clear understanding of the social organization around water and waste management is therefore needed to identify entry points for improvements and political action, and a task-centred interaction is a useful methodology for identifying improvements on the level of household, social groups, the community and upper levels of society.



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HEALTH IN WOMEN'S WORDS...*(Ilala Ilala community in Dar es Salaam)***Health definitions:**

- Good health can be seen from the body of a person, being portly, not slim.
- You look at somebody's body. A person may be big but looks weak. Weakness is a sign of illness.
- A person's eyes, if they are lively, and the way a person walks. Weariness is a sign of bad health.

Health explanations:

- Good health is good body, good spirits, basic needs fulfilled, cleanliness and care.
- You should get what is needed for life: nutritious food, cleanliness, clothes and housing. You cannot be healthy, if you do not have money. But how can you stay healthy, if there is no water?
- Good health is the way a person lives, where she lives and the food she eats.

Health activities:

- Struggle for income, food, hygiene, child and health care.
- Getting water from own taps at midnight (when water is available), street sellers, neighbours, relatives and friends or from the well at the mosque → household level management
- Getting rid of solid wastes by digging garbage pits around the house or hiring men to collect the garbage → household level or house community management
- Removing fluid wastes by city council truck (only for the rich and businesses) or local experts → house owner or house community management.

When comparing the situation in the community described above with other socio-cultural settings, it can be said that:

- People are generally more worried about economic issues elsewhere than in the Dar es Salaam community studied, where the health issue dominates. Tanzanians appear to be very much educated in health issues, but they feel abandoned from the government and vulnerable in front of the prevailing sanitary conditions: *"We have the knowledge, we are aware that things are bad and can be changed – but what now?"*
- The expectations of users vary over time, but they often feel like not being able to have an influence on the situation. Positive government reforms can make people open to new service concepts, and if they are well informed and motivated, they start with their own activities. Globally, people do not expect "all government", but need generally more support.
- Water quality appears to be largely an issue of trust – *"Who tells us that this water is safe?!"* – and water supply services depend largely on such trust. Though the women in Dar es Salaam knew that the water was not of best quality, they had to buy it from this cheapest source in order to save money. The definition of "clean water" is often quite different though in rural areas and the "water -> sanitation -> hygiene -> health chain" is less obvious for rural populations than in such urban settings.
- The Ilala Ilala community trusts the informal waste collection service, but not bigger companies they don't want to pay. The social inter-linkages make them to continue paying the informal service providers and to protect the livelihoods of the collectors (solidarity), displaying more than just a linear thinking of "I pay for what I get". Further it becomes obvious that the Ilala Ilala people are focussing on keeping their own immediate environment clean, and do not care much about what is happening further down the "process chain" (e.g. where the collected wastes are finally dumped). As it is often the case elsewhere, the small service providers in Dar es Salaam are very active but lack management skills to build up and maintain a healthy business.

- The smaller the area / village is the more present is ownership and engagement due to proximity and immediate interests of people. The heterogeneity of urban areas does therefore not allow drawing generic conclusions regarding ownership and engagement there (e.g. tap in house -> I pay; public tap stands -> I don't pay). The case also shows that money saving for maintenance requires appropriate fund management. This makes savings possible but exerts often an important pressure on the managing body.

4.3 Boosting demand and supply

4.3.1 “Putting a tiger in the tank” – or better delivery in the W&S sector

Achieving the MDG targets requires a massive scaling up of delivery capacity in the W&S sector. In the past, the delivery mechanisms have relied extensively on government structures or NGOs, applying heavy subsidies. These approaches were often supply driven and did not always produce satisfactory results. Private initiative can play a major role in W&S and the scope for improving the demand orientation is not fully exploited, yet. New marketing strategies can be applied to increase the dynamics of the demand, to stimulate efficient supply chains and at the same time to reach the target group of the poor more sustainably. The examples in the box below illustrate the scope of improvement if modern marketing strategies are applied instead of top-down subsidy approaches. It recognises that money invested in “software” for demand creation is more effective than focussing on hardware delivery and subsidies alone.

MODERN MARKETING STRATEGIES INSTEAD OF TOP-DOWN SUBSIDY APPROACHES

Hand pumps: For decades, hand pumps needed to be very solid, long lasting and distributed by public agencies. This is justified in many cases. However, examples in Bangladesh, Vietnam and Central America show that cheaper models, supplied by a competitive private sector fulfil a very high demand, can be maintained locally and serve the purpose as well – or even better – than the previous supply driven “standardised” pumps. However, it appears that private supply chains have mainly worked well in countries with high population densities and failed in many African countries.

Sanitation: Free or subsidised distribution of latrines with emphasis on the hardware has not led to any sustainable adoption rates while demand oriented strategies have had considerable amount of success in many countries, such as in Bangladesh, parts of India and in Vietnam. Demand driven sanitation by the private sector positioning latrines as desirable goods for comfort, privacy and prestige has worked remarkably well. On the other hand, hardware driven approaches have often failed: The Government of Andhra Pradesh in India has constructed 2.95 million toilets for poorer rural households by spending 52,3 million Euros on sanitation promotion and construction subsidy over the last three years. However, only 50 percent of these latrines are used.

PUT A TIGER IN YOUR TANK!



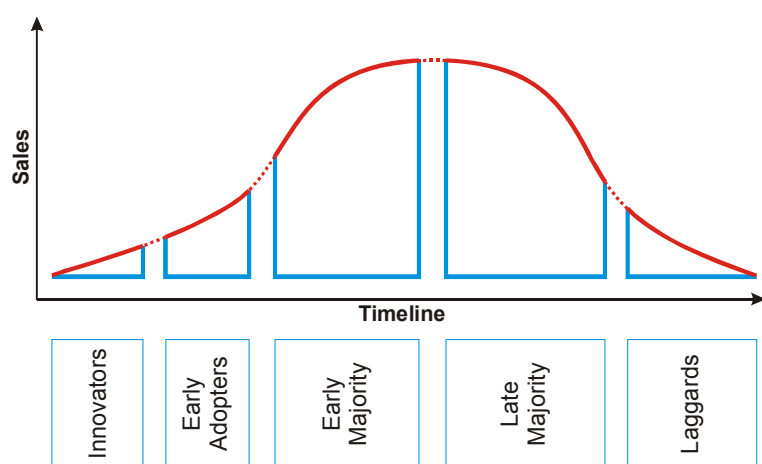
In 1959, the *Tiger* came to life, when an advertiser sat thinking up symbols of power for a local Esso campaign and created the world famous slogan: “Put a Tiger in Your Tank”. In the 60’s the tiger symbol became even a sign of sympathy. As an analogy, the tiger for the W&S sector is about getting incentives to speed up W&S delivery by boosting the supply, the demand and the appropriate use of goods and services, whilst applying modern marketing and communication. Marketing knowledge can thus be very useful for disseminating and scaling up W&S services and products. **Boosters and other incentives** on both sides of the market-oriented model – on the supply and on the demand side – are necessary to get the market on track.

EXAMPLES OF W&S PRODUCTS BOOSTERS AND INCENTIVES	
<p>Examples of demand side boosters:</p> <ul style="list-style-type: none"> - Additional comfort, privacy and joy - Improved safety and protection - Expenditure savings of medical costs - Savings on other household expenses - Increased prestige, social status, lifestyle - Social pressure - Leasing or rental systems - Rotating funds with waiting list - Demonstration sites - Child and civic education 	<p>Examples of supply side boosters:</p> <ul style="list-style-type: none"> - Profitable and prestigious supply chains - Branded products - Certified services and professionals - Generic marketing and advertisement - Product development and adaptation - Product packaging - Small credits, public subsidies for start-ups - Training in technology and management
<p>Examples of other incentives (additional income):</p> <ul style="list-style-type: none"> - Increased food production through fertilising with urine - Increased incomes from selling water, flowers, woods, food or from hosting tourists - Enriched food diet from home gardening and better nutrition through boarding school - Increased income from services provided (e.g. washing point for laundry) - Energy production through biogas plant 	

But incentives alone are not enough, as the benefits have to be put into a **message**. And because W&S deals with issues that are rather difficult to communicate, we need to think about communicating better these incentives (or selected ones) using the right messages and conveying the right values. The first thing to know is the market itself, or who are the **customers** (and who aren't). The market is never homogeneous and always partitioned by groups of people, and if we deal with discontinuous innovations (e.g. sanitation for people who are used to open defecation) there is a "chasm" between each group. A product will never be able to reach all of them simultaneously and **market segmentation** is an important step to be more targeted.

The figure below shows a typical sales curve for an innovative product (from introduction of the product, through maturation until saturation of the market) with the respective group of people adopting the product in the different phases. These **groups of people** can be described as the:

- **Innovators:** These are some pioneers, which always want to be the first ones having a new product and trying it out even if nobody else has it yet.
- **Early adopters:** These people want to be modern and are therefore open for new things. Their decisions for acquiring an innovative good or service are mostly driven by „idols“ which are already in possession of the given product.

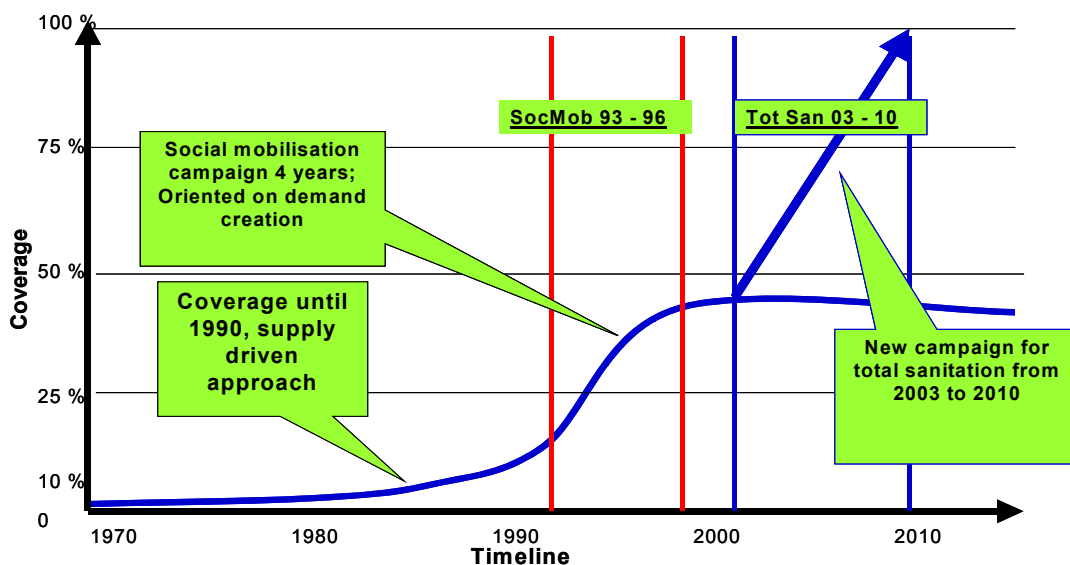


- **Early majority:** These people usually want to make part of the group having an innovative product once many people around them have already acquired it. Their decision to buy is in that sense driven by "peers".

- **Late majority:** These people adopt innovative goods and services once they have become really a mainstream attitude. They are driven by the masses and by the positive statements those make about a given innovation.
- **Laggards:** These people will only adopt an innovative product if there is really no other choice anymore. From a marketing point of view, these are the “hopeless cases” and targeting specifically this group is economically often not worthwhile.


4.3.2 Towards total sanitation – the case of Bangladesh

Until the mid-90s, various donors supported up to 1'000 governmental latrine production centres in rural areas of Bangladesh. But latrine coverage remained at a low level, despite the high investments made. This situation changed drastically when a new approach was adopted – moving from a cheap hardware focus towards social mobilization, to create a **market for private latrine producers**. The latrine coverage increased rapidly, and thousands of new jobs were created in the private sector. Towards the end of the century, Bangladesh started pioneering the **community-led total sanitation (CLTS)** approach with highly promising results and a new national campaign for CLTS was launched in 2003. CLTS is an approach that enables local communities to analyse their own environmental sanitation conditions and initiate collective local actions to build and use latrines, without the need for external subsidies.



The **success factors** for this pushing change in approach and the substantial increases of coverage can be explained according to the 5 Ps of marketing:

- **Product:** Departing from the limping concept of “one size fits all”, the approach developed a large **range of products** according to the different needs of different people (e.g. SanPlat or water-seal, concrete or PVC pan, direct or offset pit). Much effort was put into developing further the technologies by improving the pans and goosenecks, whilst reducing their costs. Further the client can choose the superstructure according to their preference: many clients chose simple plastic sheets, others preferred galvanised iron sheets - although the latter are less pleasant (hot in summer, cold in winter), they are considered as more prestigious. Latrines in Bangladesh have become far **more than just a piece of hardware** and the motives for purchasing one are very much related to comfort, privacy, safety and prestige.

- **Price:** An important spin-off of the variety of products is the **variety in prices**. Within the product range there are “hyper-cheap” products (starting at ½ US\$) and “luxury” ones (up to 15 US\$)². The cheapest model can serve as an entry point, but many people want to have more than just the simplest model, especially if prestige plays a leading role.
- **Place:** In 1990, when first **small private workshops** started to produce and sell latrines, 660 government owned latrine production centres running on subsidies were in place. The “social mobilisation campaign” was then the driving force for a demand push and a real take off took place in 1995 were some 6’000 small workshops were operating **private sector driven supply chains**. These became highly competitive and the stocks were piling in the government centres, despite the subsidies they provided. Today an estimated 10-20’000 private workshops are operating in Bangladesh.
 
- **Promotion:** From the Bangladesh case it becomes obvious that latrine promotion does not work by conveying the message “be afraid of diarrhoea – and for this reason buy a latrine”. What worked was communicating the “**dream of having a nice bathroom**”. The concepts of privacy and comfort (especially for women), and of prestige (important for men) were exploited in the social marketing messages. Hygiene education in schools was another entry point for latrine promotion and children got ashamed not having a latrine at home.
- **People:** Sanitation is a definitely a private and a public good, and to promote such a good, **social and community strategies** are required. Social pressure is the preferred means for influencing people in the CLTS approach. To reach in a village the objective of “no more open defecation” + “all have a latrine”+ “all have a notion of hygiene”, a process using participatory rural appraisal methods is conducted. As facilitators, the village leaders’ role is to encourage people to talk out why they defecate in open spaces. The aim is to bring about a collective sense of shame (joint walk of shame in village) and disgust (common calculation of faeces), strong enough to make people change their behaviour and collectively work to ensure that every community member has access to a latrine, however simple.

4.3.3 From a technology to a product – the case of SODIS



SODIS is a simple water treatment process used at household level for improving the microbiological quality of drinking water by exposing plastic bottles filled with contaminated water to the sun to inactivate pathogens causing diarrhoea. It is a low-cost method using only locally available resources such as **sunlight and empty PET-bottles**. Several health impact studies have been conducted in SODIS users’ communities and have shown that the health benefits of SODIS use are significant: diarrhoea incidence of users was reduced by 20 to 50%. If it is so simple, so cheap and so effective, it should be the ideal technology to be copied by anybody! But experience shows that it is not evident for SODIS to become a self-promoting method.

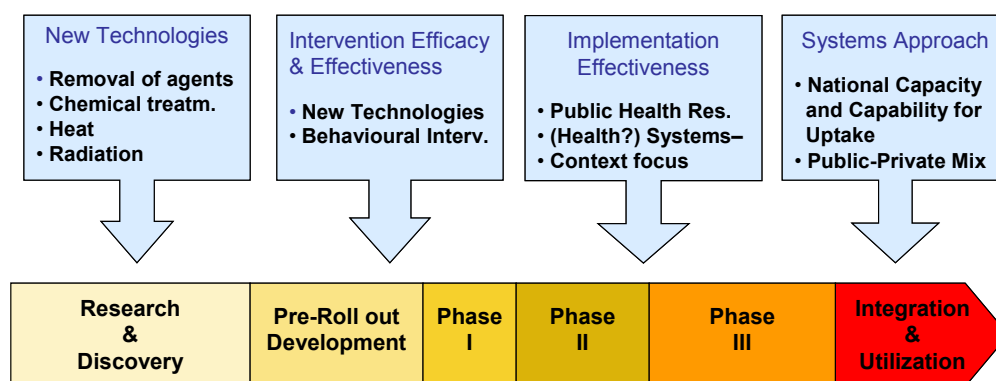
² Prices are excluding superstructure

SOLAR WATER DISINFECTION - SODIS: (<http://www.sodis.ch>)

SODIS uses solar radiation and temperature to inactivate pathogens causing diarrhoea. Contaminated water is filled into transparent plastic bottles and exposed to the sunlight for 6 hours. During the exposure, the ultraviolet radiation of the sunlight destroys the pathogens. A synergy of radiation and temperature occurs, if the water temperature rises above 45°C. SODIS is recommended by WHO as water disinfection method at household level, ideal to treat small quantities of water, and is part of WHO's international network to promote household water treatment and safe storage.

In 1991 Eawag / Sandec conducted extensive laboratory and field tests to develop the SODIS process. These revealed the SODIS process being a simple, low-cost technology with a great potential to improve the health of those still without access to safe drinking water. Since 1995, Sandec engages in providing information, technical support and advice to local institutions in more than 20 developing countries for the worldwide promotion and dissemination of SODIS.

Users consider the management of SODIS as rather cumbersome and that it does not always work (e.g. in the rainy season). Further SODIS is not always a perceived need, as the effects of the method have to do much with belief and not with rational convictions alone. And finally, SODIS marketed as a product for the poor using “poor” pet bottles, it is often considered as a “**poor product**”. The way out was to develop SODIS as a marketable product, becoming part of a more holistic solution going hand in hand with other suitable solutions (water filters, water boiling, chlorination, etc.) and changing the implementation message for social marketing from SODIS to home-based water treatment. The final step was then to move towards a multi-sectoral approach (health, education, water, private sector, community) and delivering SODIS as **part of an essential public health intervention package** that includes point-of-use water treatment. SODIS development and dissemination was thus a process in phases, starting from a single sound technology, going through defining a broader implementation approach and ending with involving the wider system to get the product integrated and used.



4.3.4 Introducing a product – the case of the ceramic water purifier in Cambodia

The Ceramic Water Purifier (CWP) is a simple, low-cost and low maintenance household water treatment technology that removes microbiological contamination at the point of use. 1'000 CWPs were distributed in 12 rural villages of Cambodia to test their performance under conditions of household use. Water quality tests were conducted over one year on over 900 input water and treated water samples. All households were interviewed prior to



receiving their CWP as well as three months after its delivery to assess **water-related expenses**, compliance with recommended **hygiene practices**, and **user satisfaction**. A subset of the recipient households was interviewed to determine the impact on CWP-users after one-year of use relative to a control group that did not have CWPs.

Under laboratory conditions, water quality tests showed 100% removal of faecal *E. coli* and total coli forms. Under conditions of household use, 98-99% of CWPs produced water meeting the WHO low-risk guidelines or better (10 or fewer *E. coli* per 100 ml). This percentage did not depend on the length of time that the CWP had been used in the household, nor on the quality of the input water (from rivers, lakes, tube wells, open wells, ponds, and rainwater). The type of benefits experienced by CWP users depended in large part on their water treatment practices prior to receiving the CWP:

THE CERAMIC WATER PURIFIER

A CWP consists of a porous, pot-shaped filter element made of kiln-fired clay impregnated with colloidal silver. The filter element is set in a plastic receptacle tank with a lid and a spigot. Raw water is poured into the filter and seeps through the clay producing potable water at a rate of 2-3 litres per hour. The filter element holds about 10 litres, allowing a family to produce 20-30 litres of water per day with 2-3 fillings.

Monthly maintenance consists of scrubbing the ceramic filter element to unclog pores and washing the receptacle tank and spigot to prevent bacterial growth. The cost of the CWP is approximately \$7.50 for a complete unit (including manufacturer and retailer profit, but not transportation costs) and approximately \$4.50 for the filter element alone, which needs to be replaced about once every 2-3 years.

- Households that **boiled** their drinking water prior to using the CWP **saved time** (22 hours per month for gathering firewood and boiling water) **and expenses** (an average of about \$1.40 per month for firewood).
- Households that **did not boil** the drinking water prior to using the CWP showed **significant health improvements**: half as many diarrhoea cases and 1/3 of diarrhoea treatment expenses per person, as well as 4 times fewer school / work days missed due to diarrhoea.

Regardless of prior water treatment practices, all CWP users realized savings in time and/or expenses that would allow the **CWP to pay for it in six months or less**. Almost all households reported a high degree of satisfaction with the CWP saying that it produced good tasting water, was easy to maintain, and was important to the family because of health benefits and elimination of the need to boil water. The disadvantages revealed are that cleaning the filter too often increases the chance of breakage and that re-contamination due to contact with dirty hands, surfaces, animals, etc. are possible. Further observations are that the CWP is not effective in a non-hygienic environment (e.g. pigs and chicken in the kitchen) and without basic personal hygiene (hand-washing, general cleanliness).

More than 70% of the people in Cambodia do not have access to safe water, even in suburban Phnom Penh, and diarrhoeal diseases are frequent. Some people are aware of the link between contaminated water and diseases (strongly correlated to education level), but a great majority is not heavily sensitised. Some people boil regularly their water, while the rich people are more and more buying bottled water – as there are no other technologies for household level water treatment known so far in the country. Two NGOs have introduced the CWP for the last 2 years in Cambodia and have sold so far over 60'000 filters. Such pro-poor market development enables the poor to benefit as participants in and customers of sustainable value chains and enterprises. Based on this information, the workshop participants developed in groups **marketing strategies** for the ceramic water purifier in Cambodia as given in the following box.

MARKETING STRATEGIES FOR THE CERAMIC WATER PURIFIER IN CAMBODIA

Group 1 / 2 - Introduction phase targeting “innovators” and “early adopters”:

Product: Sell the CWP as a status symbol (to be placed visibly in the living room) and bringing convenience. Make it a “beautiful” branded product that produces precious drinking water with an economic gain. Start with one well-tested model of high quality (certified by a reputed institute) and safety (indoor pollution free), with a guarantee and available spare parts. Based on market studies, additional models have to be developed later on.

Price: Start with a high quality product with a not cheap (fixed over a certain period) start-up price negotiated with the producer / lead agent and avoid through this the reputation as a cheap product with short service life.

Place: To be produced by experienced successful private sector actor, with e.g. a plastic producer as the lead agent (since he has already retail chains). The existence of distribution networks with good reputation should be a criterion to select the producer. High potential areas (urban and/or rural) should be selected for delivery.

Promotion: Position the “Smart product – Instant water” as a basic need for every household to have “bright” children and as a prominent gift item for special occasions (e.g. wedding). Produce tailored information packages: i) for women leaders disseminated through women associations; ii) for schools (incl. the filter) as teaching aid in school programs. Free samples should be placed at strategic places for demonstration purposes.

People: Targeting not poor people who do not have access to safe water (but boil it already) through influencers like teachers, students, pupils, and women leaders.

Group 3 / 4 - Maturation phase targeting the “early majority”:

Product: Produce modern designs of filters with different sizes (at least 1 big and 1 small) and colours, but without increasing complexity (keep spare parts at limited number). Brand the product as “Ceramic Tiger” and deliver it with an assorted water glass. Another approach could be to package the filter with other products (e.g. improved stove).

Price: Price the filter at 8US\$ (5US\$ for production, 2US\$ for retail and transportation, 1US\$ for marketing) and provide payment facilities with social support. Give a better price when the filter is bought together with the stove in a package.

Place: In the PPP, the public sector acts as the health promoter and the private sector as retailer. Target the (peri)urban area through supermarkets, wholesale markets and caravan markets, the rural area through village shops, weekly local markets and health centres.

Promotion: Position the product mainly along the health-hygiene line (health benefits for children and productive people, cleanliness) in rural areas, and along the convenience-modernity-hygiene line in (peri)urban settings. Promotion should be done in school, local media, wedding packages, by poster ads, and on demonstration sites (e.g. free access for health centres). Auto-promotion through users is stimulated by a 2nd water glass gift if a new buyer is brought in. The experiences acquired in the introduction phase are to be considered.

People: Closer targeting should happen based on a market study, but will include people boiling and people not boiling their drinking water. Influencers will be women groups, religious leaders, community leaders, schools and health centres.

4.4 Delivering multi-uses water systems – the case of Nicaragua

Safe drinking water is required but not sufficient to a worthy and sustainable development of the rural people. For a sustainable livelihood, the rural population also depends on productive and economic activities. In rural areas in Nicaragua, this productive activity is in most cases traditional agriculture, and the family well with rope pump remains to be one of the most important forms of water provision there. In several occasions rural families were observed using the water from their wells for a variety of activities beyond the simple consumption for nutrition and

hygiene purposes. Certain families have started to use their water for small garden (patio) irrigation to produce fruits and vegetables in the dry season. These observations as well as similar experiences made in other parts of the world (e.g. India, Bangladesh) have been the basic working hypothesis of the **Micro Irrigation Systems (MIS) project** aiming at exploiting synergies between existing drinking water wells and micro irrigation systems in rural Nicaragua.



THE MICRO IRRIGATION SYSTEMS PROJECT

Begin 2004, Aguasan Nicaragua, in collaboration with the international NGO CARE, initiated a pilot project in the North West of Nicaragua with the objective to investigate the potential of micro irrigation systems (MISs). The pilot region has a typical semi-arid climate and a marked dry season during 6 months of the year (Nov.–Apr.). The soils are generally fertile, and the ground water, due to a relatively high groundwater levels, accessible all year round.

The MIS consists of two barrels of 55 gallons capacity, a filter, tubes, and drop irrigation hoses for the irrigation of about 540m² of land. The targeted 29 poor farmer families received the system through an interest free micro credit of a US\$150 (total cost of the system). The majority of the families, whose farms size averaged at 3.22 hectares, belonged to the group of small-scale producers.

All families established a repayment plan with the NGO based on their average monthly incomes fluctuating between 59 and 83US\$. With the reception of the MIS, the families were capacitated in managing the system. They also received instructions in the production of vegetables. During the first 6 months, an agricultural extension worker of CARE visited the families on a regular basis to provide technical assistance. After this initial phase, however, the producers were left on their own.

The results of a study show **remarkable average net benefits** from vegetable production with MISs - approximately US\$177 for one production cycle of 3-4 months on a surface of 540m². During the dry season typically two production cycles are possible. The income generated through the MISs is thus **27% higher than the average income** in the region. Highest benefits were achieved through the production of tomato. Most families marketed their products themselves on the mayor markets in the region and the project observed a substantial increase in the capacity to understand and manage the market and its behaviour to sell products. The appreciation of the MISs by the farmer families was almost entirely positive. Some indicated to extend their system in the coming season by their own with money they have earned through the system. Among the most positive aspects, the simplicity, the manageability of the system, and the relatively low costs were mentioned. All families affirmed that they wouldn't have been able to acquire the system without external help because of the lack of access to a financial system.



- **The pilot project shows a series of potentials of the MISs.** The most important is its potential to be a real **economic alternative** to the rare opportunities the people enjoy. After an initial phase of learning the families can increase their income significantly through the work with MISs in comparison with traditional alternatives. Further, the beneficiaries in the project undergo an **entrepreneurial apprenticeship** allowing them to understand and anticipate better market behaviour such as price fluctuations. The MIS has also a great potential because of its suitability to the socio-economic context of the rural families in Nicaragua. Temporal male labour emigration is a serious problem with severe social impacts as families are left home neither without any economic support nor protection from crime and delinquency. The “social” value of the MIS, the fact that **men find a livelihood at home** and don’t need to seek any more employment off farm during the dry season, is substantial.
- **The project also reveals a series of weaknesses and challenges.** The most marked one is the **extensive use of pesticides** required for vegetables production. The incorrect use is not only a threat to those who apply them but also to the environment. Other difficulties are the level of **knowledge required** for the successful production and marketing of the vegetables and the **true involvement of women** beyond their simple labour contributions. The pilot project was designed to examine the potentials of the MISs at the micro level. Further challenges will have to be tackled if strategies are to be implemented to spread the technology at a larger scale. One of the mayor challenges for this would be the implementation of an independently functioning **auto-financing micro credit system** that allows small farm families having access to credits with reasonable interest rates.

4.5 Influencing contextual issues to enable cross-sector cooperation

4.5.1 Insecticide Treated Nets up-scaling – the case of Tanzania

From 1996 to 2000, the SDC supported in Tanzania KINET - a large-scale **social marketing programme** for ITNs (Insecticide Treated Nets). KINET broke new ground through its careful initial formative research, its original distribution and promotion approaches, and through a number of other innovations, such as a voucher scheme for providing pregnant women with cheaper nets. It demonstrated that children sleeping regularly under an ITN had a 27% better chance of surviving their fifth birthday than unprotected children. The prevalence of anaemia and parasitaemia was also reduced by over 60% among treated net users. For children alone in Tanzania these findings translate into the possibility of averting the deaths of 31,000 children each year. Subsequently, social marketing of insecticide treated nets was introduced at national scale in 2000.

MALARIA IN TANZANIA

Approximately 31 million people are at risk from malaria in Tanzania and this makes it one of the most highly endemic countries in the world. As a consequence there is a heavy burden of malarial disease, with an estimated 16 million episodes of illness killing 80,000 children every year.

Malaria consumes an estimated US\$ 119 million of resources per year (3.4% of GDP) through direct expenditures, loss of economic productivity and loss of economic opportunities. Malaria is through this a major contributor to the continuing cycle of poverty and low economic performance.

INSECTICIDE TREATED NETS (ITNS)

ITNs are a feasible and highly cost-effective malaria prevention tool. Evidence shows that ITN use reduces largely all-cause mortality in children under 5 years and the number of malaria episodes. Protected children are generally healthier, are less anaemic and grow better than those who are not protected. Protected pregnant women have less anaemia than unprotected women and their offspring have a better chance of survival.



One of the most important effects of the social marketing projects was their catalysing function to facilitate the emergence of a **strong commercial net market**. These projects were also instrumental in bringing about a number of crucial **changes in net taxation and insecticide regulations** in Tanzania. As a consequence of those projects, nation-wide net coverage has increased substantially, a strong commercial sector for mosquito nets has emerged and good wholesaling and retailing systems are now in place in all the country's regions. This favourable environment formed the basis for a **national ITN up-scaling strategy** developed jointly by all the major stakeholders in the country: the ministry of health, the donors, non-governmental organisations, the research community and the commercial sector (suppliers, distributors, wholesalers, retailers, advertising and promotion companies) for nets and insecticides. The plan was endorsed in 2000, is implemented by SMARTNET - a public-private partnership of all the stakeholders mentioned above - and is based on three main components:

- An **ITN coordination cell** within the National Malaria Control Program supervising the implementation of the strategy and assuming to the functions of the public sector in the public-private implementation partnership.
- A **nation-wide social marketing programme** aimed at supporting the commercial sector expansion for nets and insecticide (strengthening the supply side).
- The **Tanzanian National Voucher Scheme** aimed at providing a substantial discount on ITNs bought from commercial shops to pregnant women and mothers of children less than five years of age (strengthening the demand side and improving equity).

SMARTNET Public-Private Partnership

PUBLIC SECTOR	PRIVATE SECTOR
<p>ENABLING ENVIRONMENT</p> <ul style="list-style-type: none"> • Regulatory aspects • Standards and consumer protection • Taxes and tariffs <p>DEMAND CREATION</p> <ul style="list-style-type: none"> • Generic promotion • Targeted subsidy for high risk groups: <p style="text-align: center;">Vouchers distributed through clinics to every pregnant woman (1.4 mio per year)</p>	<p>SUPPLY</p> <ul style="list-style-type: none"> • Production of nets • New products • Wholesaling • Retailing • Branded advertisement <p>Supported by SMARTNET:</p> <ul style="list-style-type: none"> - Advertisement - Transport subsidies - Risk mitigation - Technology transfer - Lobbying with government

The strategy is based on a true, broad and working cross-sectoral **multi-stakeholder partnership** with an ITN market that has taken off on a large scale and in every corner of the country. Through the distribution of the product to a more **targeted group** – pregnant women and women with children below five – people most at risk can be effectively reached³. It is further true that the impregnation of the nets reduces the density of mosquitoes in the overall (as they get killed), improving the situation also for those who do not use or have one. But gradually the use of insecticide treated nets becomes familiar to the whole Tanzanian population, with sales figures of 1.8 million ITNs sold in 2004 (each one used by 2 persons on average) and 3 millions target sales for 2005 as well as an estimated ITN coverage of 30% end of 2004 (10% in 1999).

³ Evidence shows that with initiatives targeting the household level, often only the head of the household benefit effectively of the bednets.

4.5.2 Triggering national sanitation strategies – the case of Ethiopia

An assessment conducted in 2002 in the South Nations Nationalities and Peoples' Regional State (SNNPRS) of Ethiopia identified the following issues as key explanations to the poor sanitary situation in the region:

- Low priority and political commitment given to Environmental Health Services;
- Weak institutional capacity at all administrative levels, but chiefly at the peripheral level;
- Inappropriate mechanisms used for hygiene education and promotion;
- Weak integration among stakeholders and sectors (Health, Water, Education, NGOs);
- Low level of community participation.

SANITARY CONDITIONS IN THE SNNPRS

The SNNPRS is one of the 9 federal states, located in the Southwestern part of Ethiopia with a population of about 15 million (20% of the entire country) and an area of 118'000 km² (10% of Ethiopia) home to diverse cultures and scores of ethnic groups.

Today the potential health service coverage in the SNNPRS is estimated at 50%, whereas the access to human waste disposal systems (mainly traditional pit latrines) is 80% (up from 16% in 2003) and access to protected water supply is about 47%. Infant mortality and under 5 mortality rates are 113‰ and 192‰ respectively. Malaria, parasitic infections, diarrhoeal diseases, skin infections and eye diseases – all attributable to the poor environmental health conditions and lack of potable water – account to 60-80% of the overall burden of disease in the region.

Based on these facts, the SNNPRS piloted **integrated community health programs** in 6 districts. The pilot focussed on selected broad based, high impact public health interventions (latrine building, vaccinations, creating health posts, maternal and childcare, family planning, out-patients' department). The interventions were implemented through a family approach including village level planning by members of the community (heads of households, women, youth). Voluntary community health promoters were trained in communication approaches and social, cultural as well as religious groups in the community were used for the promotion. An evaluation of the pilots indicated that an 80-95% coverage of the programs was reached in the target villages and that more than 90% of the community volunteers had positive feelings about their contribution to the development of their community.

To facilitate the **scaling up** of the approach to all parts of the region, a concept paper for advocacy and consensus building was developed and consultations at all levels held. For enhancing leadership and community ownership in the process, a series of issues were also addresses:

- Signature of a **performance based contractual agreement** at each level containing commonly agreed on targets and allowing to enhance the accountability, mobilize the political system and reach consensus among the various partners including on community bylaws on those who are not abiding with the agreed interventions. A basic element in the approach is that no direct subsidies for hardware are provided – whilst public money is invested for hygiene promotion and improving institutional sanitation, it places responsibility for improved family hygiene & sanitation firmly in the hands of the households.
- Definition of an **appropriate mix of interventions and actors** out of the Health Extension Package proposed under the national Health Sector Development Program, by emphasizing on the environmental sanitation components and assigning two health extension agents (trained during 1 year) at village level for closing the institutional support gap and providing hygiene education and technical support at household level.

- Training, at a massive scale, of **community health promoters** selected on a voluntary basis and with the task to advise the community during social events on simple doable actions and to play a model role in the village (constructing and using a latrine, vaccinating the children, using family planning, having a clean home environment, etc.).
- **Integration of hygiene and sanitation activities with other development sectors** by signing a Memorandum of Understanding (MoU) with the bureaus of health, water resource development and education at regional level including joint planning and monitoring & evaluation of interventions.

Despite the fact that deep-rooted poor sanitary practices impacted on the momentum of progress and that shortage of water in some areas made improved hygiene practices difficult, the SNNPRS experience with its simple and action-oriented approach could bring positive results with increased access to / demand for sanitary services. The integrated implementation of basic services and the intensive and broad community mobilisation appear to be key to develop community ownership and to improved utilisation of the facilities. Further it shows that political commitment was a crucial driver of the process.

KEY INGREDIENTS FOR SCALING UP SANITATION & HYGIENE: EXPERIENCE FROM SNNPRS

- Public health proclamation, subject to regulation, ratified at regional level.
- A strategy for 100% sanitation and hygiene improvement is adopted and a specific budget for improved sanitation & hygiene is ratified.
- A commitment is given to mobilize existing human resources and putting people first by recognising the central role of better informed individuals
- An advocacy process is adopted including an extended process of consensus building on the importance of sanitation & hygiene and a universal acceptance that it is everyone's responsibility – both individual and collective
- There is a consensus on the basic minimum level of traditional household latrine which has a handwashing facility
- Political leadership and commitment is backed by performance contractual agreements reflecting a minimum performance level agreed by all
- The community is empowered and responsible for improved sanitation & hygiene using viable local solutions demonstrated by traditional leaders and voluntary community health promoters, supported by health extension workers.
- Intersectoral collaboration with a variety of creative methods but simple and consistent messages delivered by the health, water, education, rural development and agriculture sectors.
- Donor funding is provided which is appropriate for institutional latrine construction and gives an opportunity for demonstrating improved options
- Effective supportive supervision, monitoring (assessing performance) and evaluation.

The results of the pilot activities and the scaling up efforts in the SNNPRS formed the basis for the formulation of the **National Strategy for Improved Hygiene and Sanitation** that has been developed in 2005 to complement the existing health policy and the national water sector strategy. In 2006, the **National Protocol for Hygiene and “On-Site” Sanitation** followed with the aim to improve the implementation of this strategy. The protocol builds on a MoU signed between the Ministries of Health, of Water Resources and of Education – similar to the regional agreement achieved in the SNNPRS – which aims at strengthening and operationalising the coordination between the different sectors at national level. Moreover the allocation of a substantial portion of resources to hygiene and sanitation promotion has become a major criterion in the appraisal and negotiation of all W&S projects implemented in Ethiopia.

5 Transfer to the personal working situation

During one entire day, the workshop provided the participants with the occasion to work on their personal cases or working situation. Split in five working groups, the members of each group decided on which particular case (or several similar cases) they would discuss according to their role as case owner(s) or “friendly” experts and advisors. The objective of the group work was to identify the potential for increasing the impact of the case’s W&S interventions through a cross-sector approach. The broader aim was to get a collection of creative ideas to improve the interactions with the health and income sector to achieve an enhanced effect on people’s livelihoods and to develop practical approaches for putting the CSA into practice.

5.1 Mozambique: Improved water supply systems and livestock breeding

ISSUE

How can we exploit water supply interventions to create additional income (cash) on household level, which also serves for W&S reinvestments and systems maintenance?

WORKING GROUP

Sansão Cuambe (case owner, Helvetas Mozambique), Yeyung Ghogomu, Fatoumata Guido, Eduart Rumani, Bubamo Tuke and Karl Wehrle

BACKGROUND

Only about one third of the Mozambican population has access to safe water, and even less has access to proper sanitation (such as latrines). Consequences on living conditions are multiple, ranging from poor health to lower productivity due to the time needed (for women and children) to fetch water from open sources often with doubtful quality. Since 1979, Switzerland (SDC, Helvetas) is backing governmental efforts in the fields of rural water supply in the Northern provinces, through training (training institutions, scholarships, human resource department) and institutional support to central and provincial authorities. In 1995, Mozambique approved a National Water Policy that emphasizes community participation and contributions to rural systems. Sustainability is still a major challenge with improvements to be made in the active involvement of the communities in operation and maintenance, the technology choices authorized by the government and the weak capacities of the private sector and local NGOs. The reform of the public administration led in 1998 to the creation of 33 municipalities that have limited fiscal, administrative and patrimonial autonomy as well as resources though.



IDEA - OBJECTIVE

The idea promoted by the group is to enhance the multiple incomes from improved water supply systems (wells with hand or solar pumps, impounded water) for increased food security and reduced school dropouts (by reducing the children’s burden of water fetching and cow herding) by creating additional farming, fishery and livestock keeping opportunities.

PEOPLES' NEEDS

To identify the needs and demands as well as the potentials and constraints for developing this approach, a detailed market analysis will have to be conducted in consultation with the target group, the local government, the local NGOs and the local private sector. The working group identified the following needs of the people and which will have to be translated into demand in order to deliver goods and services against the objective:

- Improved access to sufficient and save water for drinking purposes, small agriculture, fishery and livestock breeding.
- Increased awareness on hygiene and sanitation issues, as well as of the economic value of water, which is considered as free public good so far.
- Enriched knowledge about the benefits of livestock breeding as it presents capital and not only prestige as considered so far.
- Enhanced institutional management capacities at district level as a response to the gap generated by the decentralisation process.

POTENTIALS

CONSTRAINTS / CHALLENGES

Addressing the people's needs as identified above can, according to the working group, build on a series existing potentials, but will also need to tackle concomitantly a range of constraints or challenges:

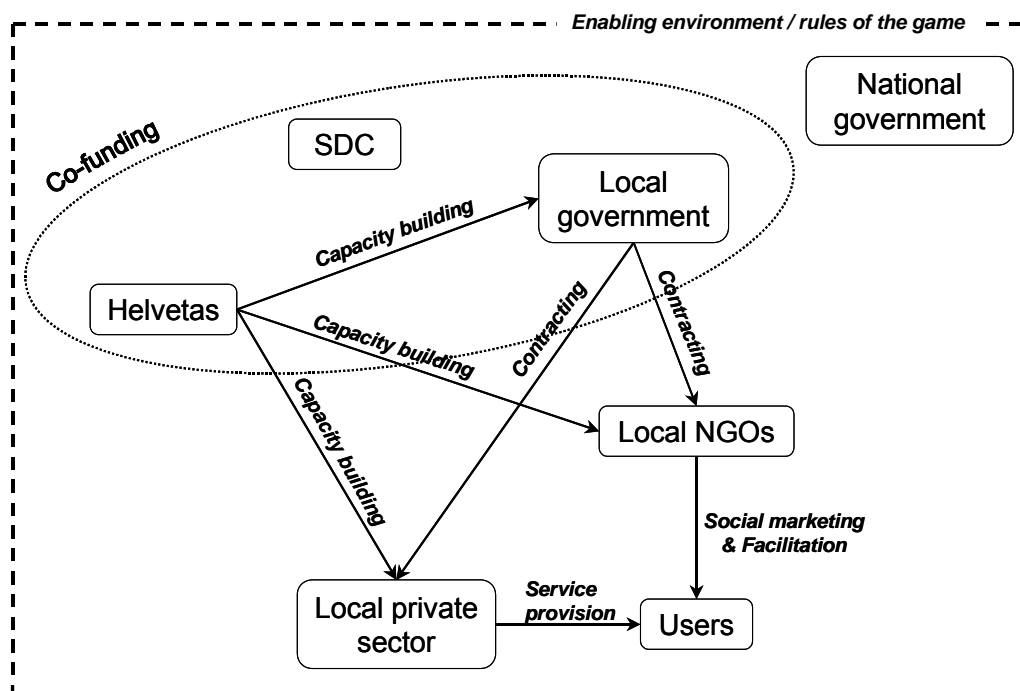
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| <ul style="list-style-type: none"> ▪ Local councils acting as project owners ▪ High number of existing livestock that can be valued to pay for the water supply service, and to sustain the systems ▪ Existing local NGOs as project partners ▪ Lack of alternative water sources forces the people to adopt the use of water from safer (improved) services ▪ Presence of donors willing to contribute to improve the prevailing situation ▪ Various potential water sources: e.g. rainwater harvested from corrugate iron sheet roofs, surface water from ponds ▪ Availability of technical capacities ▪ Substantial health effects being expected | <ul style="list-style-type: none"> ▪ Limited groundwater resources, some of which are salty ▪ Generalized poverty at household level ▪ Cultural aspect of women rarely being integrated in decision making processes at household and community level ▪ Animal breeders (nomads) depend not only on the availability of water, but also on sufficient grassland. In opposite to permanent settlements, such extensive animal husbandry is most appropriate in the regional context (environmental sustainability) and calls therefore for providing decentralized water supplies |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

THE 5 PS

Based on the analysis presented above, the working group derived a marketing strategy along the 5 Ps for promoting the idea:

- Product: Produce livestock for selling to create additional income on household level - a cross-sector approach combining a water supply with a livestock development program.
- Price: Engage the traders interested in buying cows in the financing of water supply development and upgrading.

- **Place:** Establish operational linkages between traders and breeders through local NGOs and the local private sector.
- **Promotion:** Promotion of livestock selling through traders (business package) and conveying promotional hygiene and education packages targeted at livestock breeders
- **People:** Local NGOs are responsible for social marketing & facilitation, while the private sector acts as services provider – both contracted by the local government. External agencies provide the capacity building, which will be transferred with time to the local NGO and / or private sector (intermediary services provider). The support is co-funded by the external agencies and the local government. The role of the national government is to create an enabling environment and to define the “rules of the game”



5.2 Nicaragua / Guatemala: Promoting the reuse of effluents in agriculture

ISSUE

How can we exploit sanitation interventions to create additional income (cash) on household level, which also serves for W&S reinvestments and systems maintenance?

WORKING GROUP

Gilda Rivera (case co-owner, Helvetas Guatemala), Nelson Medina (case co-owner, WSP Nicaragua), Silke Drescher, Neil Herath, Koné Koussé and Abdul Majid

BACKGROUND

Nicaragua has a population of 5.1 million and its main challenge is to overcome poverty (affecting 2.3 million) and inequity (45% of all income goes to the richest 10%). The economy largely depends on the agriculture and livestock sector (26.5% of the GDP). 35% of the active population are employed in the sector, another 25% depend on it as well in part time labour, agro industry, agricultural services, transport and market-

(66%) coverage continues to be low, particularly in rural areas (65% / 51%), and growing environmental degradation exacerbates the development gap. WSP supports in Nicaragua institutional strengthening for the W&S sector reform, the adoption of management tools for W&S systems and the promotion of condominal technologies for small towns.



Problems hindering social development in **Guatemala** include high crime rates, illiteracy and low levels of education and health. More than half of the 13 million people live in rural areas from agriculture and forestry. Land distribution is a major issue, as about 65% of the arable land is concentrated in the hands of only 2% of landholders. Besides their size, the remaining smallholdings are usually located on the worst land and suffer from loss of fertility and soil exhaustion (over-exploitation). Helvetas collaborates since 1972 with farmers organisations on the Altiplano in sustainable agriculture and marketing. Further it supports the peace building and decentralisation process as well as projects to preserve the natural resources, to develop IWRM and to strengthen community autonomy.

IDEA - OBJECTIVE

The idea developed by the group is to introduce improved wastewater treatment (WWT) processes in (peri)urban settings and to promote the reuse of the treatment effluents (treated water) in agriculture for given crops. Making (better) use of this up to now un-utilized resource of water would allow to generate additional income as it allows to have a second crop season for high added value products, e.g. flowers, animal fodder, energy plants (oil seeds, papyrus), trees (fruit and wood) and vegetables apt for further processing. The approach would be piloted on existing WWT plants (to be improved) in 4 countries (Nicaragua, Guatemala, El Salvador and Honduras) in a project reaching out to about 5'000 farmers (households).

IMPLICATIONS

The main implications identified by the group for achieving the objective set are of technical, financial and policy nature:

- **Technical:** Promoting the re-use of water from WWT processes requires extensive training and awareness raising in order the targeted households to adopt and correctly implement the new practice. Further quality control of the effluents and the grown products are necessary. Technical assistances would be delivered by the WSP through local NGOs (or other agencies) actively engaged in the agriculture sector already.
- **Financial:** The investment costs for the irrigation infrastructure have to be facilitated by micro-credit schemes provided by locally established micro-financing institutions advised by specialised local NGOs. Project management and promotional costs involved have to be borne by external support agencies (e.g. SDC, Austrian Development Agency).
- **Policy:** The lack of a policy on the reuse of treated wastewater in agriculture has to be overcome in collaboration with the national governments through a policy dialogue supported by WSP.

BOTTLENECKS / HURDLES	ACTIONS TO ALLEVIATE THEM
<p>The group identified further a series of bottlenecks (or hurdles) that have to be tackled by the promoters and indicated for each of those actions (with corresponding actors) to overcome them:</p>	
<ul style="list-style-type: none"> ▪ Finding and / or developing a market for the additional corps grown (depending on the crop(s) chosen) 	<ul style="list-style-type: none"> ▪ Market study and identification of most appropriate crop(s) (University / Dept. of Agriculture / Dept. of Energy)
<ul style="list-style-type: none"> ▪ Difficulties faced by potential individual farmers to access micro-credits for equipment, seeds, implements, etc. 	<ul style="list-style-type: none"> ▪ Creation of farmer groups / cooperatives (facilitated by local NGOs and in collaboration with micro-financing institutes)
<ul style="list-style-type: none"> ▪ Existence of hindering cultural taboos and traditional believes regarding human waste re-use 	<ul style="list-style-type: none"> ▪ Awareness raising / education emphasising on nutritional and economic impact (Dept. of Agriculture / Dept. of Education) ▪ Promotional activities (Municipalities, Dept. of Water, religious leaders)
<ul style="list-style-type: none"> ▪ Appropriate storage and conservation of the production 	<ul style="list-style-type: none"> ▪ Establishment or allocation of storage facilities (Municipalities)
<ul style="list-style-type: none"> ▪ Limited accessibility hindering the transport of the products to the market 	<ul style="list-style-type: none"> ▪ Opening up access roads (Municipalities) and provision of transportation services (private sector)
<ul style="list-style-type: none"> ▪ Lack of trust in the technology by the farmers and households 	<ul style="list-style-type: none"> ▪ Regular quality assessment (Dept. of Agriculture) and quality assurance (Ministry of Health)

5.3 Tajikistan: Introduce village based monitoring to improve health impact

ISSUE

How can we design water interventions so that they achieve a tangible result on the three major environmental diseases?

WORKING GROUP

Nicole Stolz (case owner, Caritas Switzerland), Bruno Duffau, Kaspar Grossenbacher, Hans Hartung and Laurent Nicole

BACKGROUND

In Tajikistan, the transition to democracy, the rule of law and a social market economy is taking longer than was assumed in the early 90s and poverty remains a central development issue. Since its independence from the former Soviet Union in 1991, Tajikistan has been exposed to civil war, natural disasters and economic failure. As a result of economic collapse and privatisation, unemployment and the shadow economy have increased sharply and the standard of living is still well below the level in the Soviet era. The lack of essential framework

conditions such as appropriate legislation and functioning judicial and taxation systems hinder the development of the private sector. Temporary migration of males seeking work has risen sharply in recent years and the wages they send home are an important part of the Tajik economy. However, with the actual peace and stability after the civil war, with the resumption of economic growth since 1997 and the reforms ongoing to restructure the economy, one can hope that progress can be achieved in poverty reduction during the coming years.



The rapid reforms have nevertheless also negative effects for the people, particularly in health care and education where state services have been cut back. The country's health sector plan emphasises the importance of primary health care development, in order to increase access for the poor and suggests the strengthening of public health services, including the prevention and control of tuberculosis, HIV/AIDS and malaria, as well as reproductive health. The decentralisation of the health system works on a policy towards payment of services and is based on the family doctor principle. It faces weak human resources in the sector though, mainly also due to the strong migration. The W&S sector sees a growing Government commitment but also a tremendous lack of resources. Water coverage is estimated at 93% for urban settings and 47% in rural areas, where boreholes, wells and shallow hand pumps are common. More than half of the drinking water consumed is considered not being safe. Sanitation coverage is 71%, respectively 47%, whilst sanitary conditions are often of rather low priority and hygiene education is ineffective. Routine maintenance of systems is in disarray.

In 2000, Caritas was mandated to implement, on behalf of SDC, the Regional Development Muminabad Project where the working sectors are agriculture, SME development, health, education and gender. A past project of Caritas in Tajikistan has been the "Resettlement of Refugees Kabodion" where 3 micro-concrete tile workshops were constructed and over 1200 returnees houses and around 300 schools, hospitals and medical points were rehabilitated.

IDEA - OBJECTIVE

The idea developed by the group is to introduce village-based health monitoring routine as an entry point for cross-sectoral collaboration and awareness rising about water related diseases. In order this integrated project to be able to play this catalytic role, an intervention package to improve health impacts, monitoring and information systems focussing on typhoid, diarrhoeal and respiratory diseases - the 3 major environmental diseases in Tajikistan is proposed.

ACTORS INVOLVED

The group identified a series of actors which would be involved in the undertaking:

- Local government
- Water associations
- Midwives
- Civil society
- Teachers
- Health staff (local level)
- SES (local sanitary body)
- Ministry of Health
- WHO

INTENTIONS	IMPLICATIONS	HURDLES
Below are given a series of activities the group proposed to be implemented at various institutional levels, spelling out what they entail and which are the hurdles to take in order to get the expected results:		
<ul style="list-style-type: none"> Child health is the entry point at village level 	<ul style="list-style-type: none"> Train interactive persons (midwives, teachers, etc.) together with sensitive people (e.g. children, pregnant women) on water related diseases 	<ul style="list-style-type: none"> Potential migration of trained people
<ul style="list-style-type: none"> Implementation of village based health monitoring 	<ul style="list-style-type: none"> Raise resources and capacities for data collection and processing for different levels / purposes 	<ul style="list-style-type: none"> Lack of resources and engaged people
<ul style="list-style-type: none"> Awareness raising for the relation water quality <-> health 	<ul style="list-style-type: none"> Elaborate communication strategy to make impact information public and enlarge competences of SES 	<ul style="list-style-type: none"> Weak public institutions and low demand for information
<ul style="list-style-type: none"> Linking the project with the emerging health sector reform 	<ul style="list-style-type: none"> Need to enter the national health policy dialogue (by involving SDC) and to strive for a recognition as a pilot project 	<ul style="list-style-type: none"> Lack of committed partner and difficulty to convince officials

5.4 Haiti: Wake up sanitation

ISSUE

How can we design sanitation interventions so that they achieve a tangible result on the three major environmental diseases?

WORKING GROUP

Elgo Eugène (case co-owner, Helvetas Haiti), Urs Fröhlich (case co-owner, consultant), Nicolas Morand, Herberth Pacheco, Fataou Salami and Michael Steiner

BACKGROUND



The Republic of Haiti (27'750 km²) occupies 1/3 of the Caribbean Hispaniola island (sharing it with the Dominican Republic) and includes many smaller islands. Its terrain consists mainly of rugged mountains with small coastal plains and river valleys. Although Haiti averages about 293 people/km², its population is concentrated most heavily in urban areas, coastal plains and valleys. A century ago, Haiti was a lush tropical paradise, with 60% of its original forest covering

the land. Since then, nearly all of its forest cover has been cut down, destroying fertile farmland soils while contributing to desertification. In addition to soil erosion, the deforestation has

also caused periodic flooding. As former French colony, the country declared its independence in 1804. Haiti has recently undergone a state of transition following an uprising, which deposed President Aristide in 2004 and until the election of President Préval in his place in February 2006.

Haiti remains the least-developed country in the Western Hemisphere and one of the poorest in the world. About 80% of the population lives in abject poverty, ranking the country second-to-last in the world. Nearly 70% of all Haitians depend on the agriculture sector, which consists mainly of small-scale subsistence farming. The country has experienced little formal job creation over the past decade, although the informal economy is growing. Difficulty in reaching agreements with international sponsors denied Haiti badly needed budget and development assistance. Consequently, the country experiences shortages, severe trade deficits, and periodic high inflation. Basic infrastructure for access to water (91% in urban settings, 59% in rural areas) and sanitation (52%, respectively 23%) are often inadequate, paired with the almost complete absence of waste collection and drainage at family and community level. Haiti. Since 1983, Helvetas supports the local development processes in rural W&S, sustainable agriculture, and conservation of biodiversity, adult education and culture.

IDEA - OBJECTIVE

The idea developed by the group is to build on functional rural and (peri)urban water supply programs in order to promote appropriate sanitation targeting the reduction of water-born diseases (mainly diarrhoea) by 50%. The aim is to reach an integrated approach to sanitation, including the management of human excreta, wastewater, storm water, garbage and sludge. The objectives of the proposed pilot project are to:

1. Create a demand for integrated sanitation (currently inexistent) by raising awareness about the importance of sanitation (establishing the link to health, social prestige, and convenience) among 80% of the people targeted and among all key actors
2. Attain access to integrated sanitation (with alternatives) for 80% of the targeted people, although they have very limited financial means only
3. Achieve that the 80% of the people targeted use and maintain the W&S facilities and up-keep related sanitation improvement activities

ACTORS (TO BE) INVOLVED

As listed by the group, there is a large variety of type of actors and sectors having a stake in sanitation promotion in Haiti. For the purpose of the pilot project, the partners to be involved are reduced to an optimum of actors absolutely required (marked with a ◀):

Types:

- Individual people and organized population ◀
- Local / regional administration ◀
- Central administration
- Local NGOs and other civil society bodies ◀
- Local private sector ◀
- Schools ◀
- University

Sectors:

- Health ◀
- Water & Sanitation ◀
- Finances
- Agriculture
- Culture
- Education ◀
- Planning
- Environment ◀
- Social development ◀

IMPLICATIONS	BOTTLENECKS
<p>The group has identified the following implications and bottlenecks for realising their ideas (pilot project):</p>	
<ul style="list-style-type: none"> ▪ Identification of a promising pilot area through a participatory approach ▪ Facilitation of the constitution of a multi-actor partnership and of the commitment of each partner ▪ Follow up of the project development cycle (from vision to implementation) under consideration of all the crucial marketing aspects ▪ Permanent monitoring & evaluation 	<ul style="list-style-type: none"> ▪ Financial constraints, i.e. low ability to pay of the people, weakness of the financial services and credit schemes, perverse effect of subsidies ▪ General ignorance and / or lack of knowledge regarding an integrated view on sanitation, resulting in a rather low priority given to it ▪ Impeding cultural barriers ▪ Insufficiency of the political framework (policy, law) and buy-in of politicians

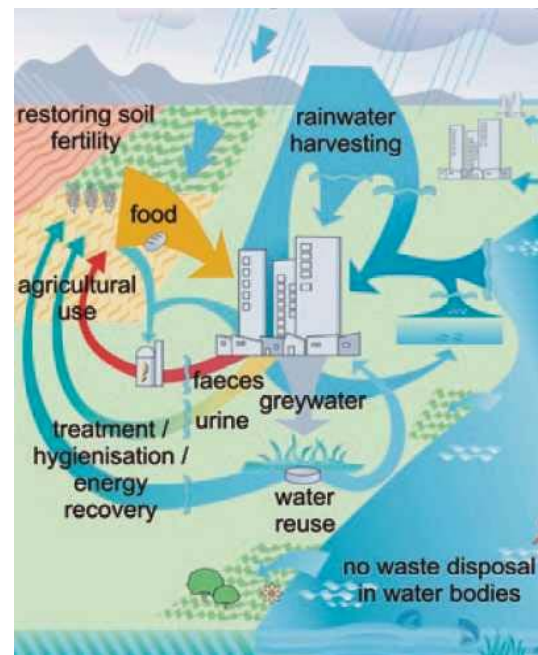
CONTRIBUTIONS BY W&S SECTOR	SUPPORT FROM OTHER SECTORS
<p>Specific contributions from the W&S sector (core business) as well as support from the other targeted sectors are required to deal with those implications and to alleviate the bottlenecks identified:</p>	
<ul style="list-style-type: none"> ▪ Expertise in the integrated sanitation approach ▪ Options of low cost technologies and services ▪ Standards for a range of technical and managerial options ▪ Expertise in community participation, “opinion building” and decision making 	<ul style="list-style-type: none"> ▪ Effective tools for environmental and health education ▪ Financial advices and mechanisms ▪ Expertise in agro-economy and agro-ecology (valorisation of wastes) ▪ Conflict mediation capabilities

5.5 West Africa: Cross-sectoral coordination for ecological sanitation

ISSUE
<p>The challenge: Jump out of the box! – Or how can we make cross-sectoral cooperation work?</p>
WORKING GROUP
<p>Cheick Tandia (case owner, CREPA), Sandjar Djalalov, Apollinaire Hadonou, Christoph Morger, François Münger, Yogesh Pant and Maria Pardo</p>
BACKGROUND
<p>Ecological sanitation (ecosan) is a new paradigm in sanitation that recognises human excreta and household wastewater not as waste but as resources that can be recovered, treated where necessary and safely used again. Ideally, ecosan systems enable a complete recovery of nutrients, organics and trace elements in wastewater and their reuse in agriculture. In this way, they help preserve soil fertility and safeguard long-term food security, whilst minimizing the consumption and pollution of water resources and recovering energy. Applying ecosan</p>

leads to public health improvements by minimising the introduction of pathogens from human excreta into the water cycle. Ecosan implementation gives preference to modular, decentralised partial-flow systems for more appropriate, cost-efficient solutions.

Ecosan initiatives are ongoing in many developing and developed countries, demonstrating that the system is viable as a decentralised infrastructure application with large potential for scaling up in diverse socio-economic locations in both rural and urban contexts. Ecosan emerges as a valid and promising sanitation option in the international discourse and the private sector has started to recognise ecosan as an emerging market for technology, service delivery and consulting services. CREPA has conducted a vast research programme on ecosan with pilot projects in 8 West and Central African countries and developed a strong specific expertise. It runs now dissemination activities focussing on capacity building in the region and spreading of research results worldwide as well as on scaling up the system.



IDEA - OBJECTIVE

The idea developed by the group is to promote the productive and safe - i.e. presenting no health risks - use of human waste through replication and scaling-up of ecosan systems in 10 West African countries. The promotion focuses on the valorisation of collected urine for fertilizing purposes in local agriculture.

DRIVING FORCES

In a first step, the group identified a series of driving and restraining forces impacting on the realisation of their idea.

- Recovered urine is recognised as substitute for mineral fertilizer in rural areas where the pilot projects have taken place
- Valorisation of urine can be regarded as a low-cost alternative and substitution to the importation of fertilizers, leading to expenditure savings for the farmers
- The collection and reuse of urine reduces water contamination, and hence public health problems, and increases the farmers' yields
- W&S sector professionals are receptive and keen to promote ecosan systems
- Ecosan systems are convenient, sustainable, autonomous and financially viable

RESTRAINING FORCES

- The substitution of mineral fertilizers through reused urine leads to a strong competition with the fertilizer industry and lobby
- Cultural resistances to the reuse of human wastes in agriculture exist and are strong
- Scaling-up to a critical mass encounters the difficulty of mobilizing (collecting) the required (viable) quantity of urine
- Rigid institutional and sector boundaries set major challenges for a cross-sector approach

A SWOT appraisal of the issue along the six strategic fields (social, environmental, economic, institutional, technological, and knowledge aspects) of SDC's sector strategy would allow to refine those driving and restraining forces and provide more precise ideas about their implications (see below).

IMPLICATIONS

The pilot projects need to be scaled up at district level and the outcomes of the process have to enter the policy dialogue in order to lead to the required policy change. A cross sector cooperation between the W&S, health, education, agriculture and environment sector as well as a broad stakeholder participation (public sector, civil society, private sector) must underlay to this undertaking.

CONTRIBUTIONS W&S SECTOR

CONTRIBUTIONS ALL SECTORS

Specific contributions from the W&S sector (core business) as well as joint support from all the other targeted sectors are required to deal with those implications and to exploit favourably the driving forces for the idea:

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ▪ Creation of a multi-stakeholder dialogue and platform at meso level, hosted by the local government ▪ Animation of an intersectoral steering committee aiming at: <ul style="list-style-type: none"> ○ Lobbying and awareness creation at policy level ○ Knowledge expansion at implementation level ▪ Expertise of participatory approaches at community / farmers level | <ul style="list-style-type: none"> ▪ Buy-in to the process and collaboration in the dialogue and the platform ▪ Joint definition of, and subsequent adherence, to clear roles and responsibilities of each actor involved ▪ Adoption of a common strategy which is approved by each sector head and followed by the various programs |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

6 Synthesis and conclusions

6.1 Starting point

The starting point for the workshop was the assumption that **more benefits to households can be achieved when water and sanitation (W&S) interventions are provide through a cross-sector approach (CSA)**, i.e. by exploiting effectively intersectoral synergies. In opposition to sector professionals dealing with their W&S “core business” - where they deal already with sector interfaces and linkages by their own initiative, the CSA was understood as looking farther beyond sector boundaries in search for genuinely joining forces with other sectors and realizing multiple benefits to households and increased impact from synergetic and combined approaches and interventions. Seen the multitude of facets and dimensions such an angle of visions bears and in order to deal with a scope that is manageable in a workshop, the topic was scaled down to the linkages of W&S with the:

- **Health sector** - by focussing on environmental health aspects; and
- **Income generation sector** - by focussing on income generation opportunities from multiple use water services and the provision of goods and services through small-scale and medium sized enterprises.

TOPIC CASES PRESENTED DURING THE WORKSHOP

- “Expected benefits from environmental health interventions – A global study”
- “Perception of health and benefits from W&S – The case of Dar es Salaam”
- Boosting demand and supply:
 - “Towards total sanitation – The case of Bangladesh”
 - “From a technology to a product – The case of SODIS”
 - “Introducing a product – The case of the ceramic water purifier in Cambodia”
- “Delivering multi-uses water systems – The case of Nicaragua”
- Influencing contextual issues to enable cross-sector cooperation
 - “Insecticide Treated Nets up-scaling – The case of Tanzania”
 - “Triggering national sanitations strategies – The case of Ethiopia”

Based on the insights gained from a series of topic cases (chapter 4) presented in the plenary and from the attempt to transfer the knowledge acquired to personal working situations of the participants in group work (chapter 5), the learning community of the workshop tried to answer the two key questions raised in the workshop topic:

☞ ***What health and other types of benefits can be expected from W&S interventions – and how do the various stakeholders perceive them?***

☞ ***Beyond a sole sectoral approach, what can interactions with other sectors bring – and how can those be implemented?***

PERSONAL CASES ADDRESSED IN THE WORKSHOP

- Mozambique: Improved water supply systems and livestock breeding
- Nicaragua / Guatemala: Promoting the reuse of effluents in agriculture
- Tajikistan: Introduce village based monitoring to improve health impact
- Haiti: Wake up sanitation
- West Africa: Cross-sectoral coordination for ecological sanitation

The findings of the workshop about expected and perceived benefits from W&S interventions and the practical recommendations developed jointly for making the cross-sector approach happen, pinpointing also the yet unanswered questions (open issues), are provided in the following sections of the report.

6.2 Findings about expected and perceived benefits from W&S

The topic cases and the personal working situations considered during the workshop gave ample insights into what benefits can be expected from W&S interventions and how they are perceived at the level of the end user and consumers. These benefits can be considered as the driving forces for change and for the improvement in the living conditions of households in an integrated sense.

6.2.1 Better health

More and better quality water and improved hygiene, lead to healthier people able to live a more fulfilled and productive life.

Water, sanitation and hygiene aspects hold an important share in the burden of the three major environmental diseases (diarrhoea, lower respiratory infections, malaria) concentrated in and around households.

The analysis referred to earlier in this report (Hutton, 2006) states that reaching the Millennium Development Goals (MDGs) for water supply alone (1.5 million Disability-Adjusted Life Years or DALYs averted), for W&S combined (4.9 million DALYs averted), as well as for the latter case but with additional improvement of water quality through point-of-use

disinfection (27.6 million DALYs averted), would have a significant positive impact on deaths, illnesses and disabilities. Evidence of major health impact is also reported from handwashing with soap (e.g. reduction of diarrhoeal incidence by 42-47% - from review), the application of SODIS (20-50% of all cause diarrhoea at population level could be averted – based on field tests) and the use of insecticide treated nets (ITNs) in Tanzania, where children sleeping under a bednet had a 27% better chance of surviving their 5th birthday.

The community studied in the Dar es Salaam case considers W&S as central health concerns and struggles for improved sanitary conditions in their settlement. This health-dominated perception there might be the result of extensive health education and promotion efforts undertaken in Tanzania, emphasised by the urban characteristics of the settlement though. The water -> sanitation -> hygiene -> health chain is indeed often less obvious for rural populations and for those which haven't been sensitized heavily on it by educational campaigns. Significant health improvements are also realized and perceived by the Cambodian households which adopted the ceramic water purifier (CWP) and which did not treat their water (by boiling) prior to using the filter – half as many diarrhoea cases as well as four times fewer school / work days missed due to diarrhoea are experienced.

Based on this evidence, the participants proposed to position the CWP mainly along the health-hygiene line when targeting the “early majority” segment of the market in Cambodia's rural areas. Also in some of the personal cases, health benefits were exploited as major booster of improved W&S interventions: substantial public health effects are expected from *combining water supply development with livestock breeding in Mozambique* and from *scaling up the reuse of urine in agriculture in the ecosan approach*; and awareness creation regarding water related diseases is the main objective when *introducing village-based health monitoring in Tajikistan* and considered as one of the main drivers for *waking up sanitation in Haiti*.

6.2.2 Time and expenditure savings

Improved W&S at household level lead to reduced time and effort spent for collecting water or getting medical treatment, and given suitable opportunities, this saved time can be turned into money or into enhanced and more effective school attendance and adult learning.

Reduced expenditure on the generally expensive water provided by e.g. water vendors, and less money spent on drugs to cure sicknesses, can result in important expenditure savings.

The global cost-benefit analysis (Hutton, 2006) estimates substantial health cost savings (\$500-1'000 million), respectively timesavings (converted into money, \$13'000–242'000 million) when investing to achieve the MDGs, depending on whether taking into account water supply alone, water supply combined with sanitation or additionally to the latter point-of-use water treatment. Households in Cambodia using the CWP experienced a timesaving of 22

hours per month used before for gathering firewood and boiling water, and they saved an average of \$1.4 per month for buying firewood. They also realized important health expenditure savings, as the treatment costs for diarrhoea dropped by 2/3. Money saving is also the major driving force for women in Dar es Salaam when buying the drinking water from the cheapest source, although they know that the water quality is not secured at any time.

In the personal case of *Mozambique*, the time saved by children for fetching water and cow herding through linking improved W&S with livestock breeding is expected to reduce significantly the school dropouts. Health expenditure savings are major arguments for introducing *village-based health monitoring in Tajikistan* and for *waking up sanitation in Haiti*. And finally expenditure savings on mineral fertilizer for the farmers switching to the use of recovered urine instead is the driving force for promoting the productive and safe use of human waste in the endeavour to *scale up ecosan systems in West Africa*.

6.2.3 Enhanced food security, productivity and income

Opportunities for water-based livelihood activities are increased through improved access to, and increased quantity of water at household level and lead to improved employment, productivity and incomes.

Home-based (nutritious) production is enhanced when improved water supplies make backyard irrigation or livestock keeping easier. Non-water-based livelihood activities are further possible due to timesavings and better health.

Again, the global cost-benefit analysis (Hutton, 2006) came up with important impacts on the peoples productivity when investing to achieve the MDGs: \$1'148 million by providing water supply alone; \$3'880 million when combined with providing sanitation; and \$24'098 million when adding point-of-use water treatment. The Nicaragua study has shown that small-scale farmers have reached remarkable net benefits (\$177 in one crop cycle) from vegetable pro-

duction (for own and selling purposes) when using a Micro Irrigation System (MIS) connected to their drinking water wells. The income generated through MISs is about 27% higher than the average income in the region.

The MIS is a real alternative to the rare opportunities people have in such settings. Further the social value of such alternatives is substantial, as men can find a livelihood at home and don't need to seek anymore off-farm employment, leaving their families without any economic support and protection from crime and delinquency. The introduction of MISs is based on observations made of certain families having started by themselves using their water for the wells for small garden irrigation to produce fruits and vegetables in the dry season (transforming their single-use scheme in a "domestic-plus" system), showing the relevance they attribute its benefits. Important effects of improved W&S interventions on livelihood creation are also shown in the

social marketing approach to sanitation in Bangladesh, where 10-20'000 private workshops are providing new income and job opportunities, as well as in Tanzania, where the supply chain development lead to a market of 2-3 million of ITNs annually with related employment and income opportunities.

Additional income opportunities for households are also the overarching goal and overall driver of several of the personal cases developed during the workshop: the *Mozambique case* aims at improved and multi-functional water supply systems allowing to produce additional livestock for selling to create increased incomes and food security at household level. Increased awareness on sanitation, hygiene and health is merely considered as beneficial "side-effect". In the *reuse of wastewater treatment effluents in agriculture in Nicaragua / Guatemala*, the basic idea is to use this un-utilized resource of water to generate additional farming incomes through a second crop season for high added value products. Also the *Tajikistan case* expects major health cost savings due to enhanced awareness about environmental diseases, and having through this a positive impact on the households' incomes and male labour migration. And finally the *ecosan case* aims at increasing the farmers' incomes by substituting expensive imported mineral fertilizers with low-cost recovered urine.

6.2.4 Increased investments

Expenditure savings and improved incomes have a multiplier effect: money can be invested in other similar or activities leading to greater returns, and in turn to improved markets for goods and services.

Money generated can also be invested for enhancing the sustainability of the systems, which produce the said savings and additional incomes.

The users of the CWP realized savings in expenses that allows them to pay back the initial investment (\$7.5) in six months or less. The core element of the filter (\$4.5) having a lifetime of at least 2-3 years, the additional savings realized after payback can be invested in other income generating activities. Also in the Nicaragua, some farmers using the MISs

(investment costs of \$150) indicated that they could pay back the initial investment in one year (after 2 crop seasons on 540m² of land) and that they would invest what they have earned to extend the system, i.e. buy an additional MIS.

In the *Mozambique case*, the working group proposed that the traders contribute, from their additional income due to increased livestock breeding, to financing water supply development, upgrading and maintenance. Additionally, and in parallel to the *Haiti case*, the increased understanding that water has an economic value – and that the service should thus be paid for – is supposed to contribute to better funded and managed maintenance schemes of the systems.

6.2.5 Well-being and social benefits

Improved W&S at household level can reduce the pressure on people and increase their well-being. Beyond time saved, there is e.g. less stress, anxiety, and improved security when water supplies and sanitary installations are close to home. Children perform better at schools and parents can more easily engage in adult education and social activities. Above convenience, prestige, social status and lifestyle can be positively affected by W&S interventions.

The most obvious example for improved well-being and social benefits is the communication strategy adopted in social marketing for sanitation in Bangladesh, where the concepts of privacy and comfort (especially for women), and of prestige (important for men) were successfully exploited. For the consumers, the "dream of having a nice bathroom" came true when investing in own sanitary installations.

Based on these cognitions, the participants positioned the CWP essentially as a status symbol (to be placed visibly in the living room) and a prominent gift (e.g. wedding) when defining the market strategies for the introduction phase in Cambodia. For the market maturation phase, more emphasis was then put on the convenience – modernity – cleanliness line when targeting (peri)urban dwellers (in opposition to the health – hygiene line indicated for rural areas).

6.3 Recommendations for making the cross-sector approach happen

6.3.1 The “core business” and beyond

As defined in the thematic framework, the angle of vision adopted throughout the workshop was the one of a *W&S sector professional “jumping out of the sector box” and looking beyond his/her core business⁴ for finding ways to provoke and make happen a cross sector approach to problem solving and sustainable development* (see 3.1). From this angle of vision and based on what has been developed throughout the various workshop sessions, the following **key principle** can be derived regarding W&S sector professionals dealing with the cross-sector approach:

***Stay with your core business –
and do what you know in an open and integrative manner!***

In order to underline this key principle, the following list of the most important “dos” and “don’ts” when going for a cross-sector approach can be formulated:

DO...	...BUT...	...DON'T
✓ Do preserve and / or reinforce your competencies in your own field...	✗	...don't attempt to become an expert in other / new fields.
✓ Do communicate openly and effectively, based on trust and respect, with other sector professionals...	✗	...don't keep back your own promising approaches and successes to perform against “your” single MDG target.
✓ Do optimise the impact of the sector's own interventions and the complementary actions...	✗	...don't build up new capacities of intervention in the other and complementing sectors.
✓ Do be open to for concepts / approaches established in the other sectors...	✗	...don't reinvent what exists already in the other sectors.
✓ Do involve other sector representatives in appraisals and pre-feasibility studies...	✗	...don't perform narrow sectoral assessments using only your tools and approaches.

6.3.2 Strategic approach

A generic feature of the cross-sector approach as highlighted by the workshop is that it is definitely complex and that it needs simultaneous multi-level interventions. But there is obviously a loophole by refraining from positioning oneself in the most difficult context and choosing the

⁴ Were sector linkages and collaborate with other domains – be it e.g. with education (hygiene education), public health (health promotion) or agriculture (small-scale productive use of water) - are already effectively dealt with.

most challenging issue to address from the outset. Next to a good understanding of the implications of (and current trends in) cross-sectoral collaboration, operationalizing a CSA requires an initiating and leading actor, who has a clear strategic approach in mind. The following principles could be the starting point for such a strategy:

- ☞ **Set the entry level:** The major challenge for making a cross-sector approach happen is probably to find the most appropriate entry point. Implementing a CSA should start from the people (users, beneficiaries) in a bottom-up process, as it is considered useful only when the approach targets the genuine and expressed needs of the people and when they get and perceive effective benefits for their life from it. Experiences gathered at this micro level will then allow scaling up the CSA.
- ☞ **Select an area of intervention:** The most promising area and size should be selected at the beginning – start small, but think big. The area should be small enough to be manageable in scale, but also large enough to generate a critical masse of activities and experiences as well as of felt benefits allowing scaling them up.
- ☞ **Build ownership through applying a participatory approach:** Initiate the CSA in a participatory way and identify the various parties and interest groups through a comprehensive stakeholder analysis. This requires the use of participatory methods and the creation of new, or the reviving of existing, functional consultation mechanisms and forums at the lowest operational and administrative level. In order to have an equitable and equilibrated participation in the process, there might be a need of enabling and empowering (training) several of the weaker stakeholders first.
- ☞ **Build trust among the various stakeholders by initiate multi-stakeholder platforms:** Introducing the cross-sector approach at micro level needs effective multi-stakeholder cooperation at meso level. Any project planning should commence only once inter-sectoral consultancies have taken place. As a matter of fact, a CSA can derive more and better results only when the specific individual interests and benefits as well as roles and responsibilities of all relevant parties are clearly defined, spelled out and acknowledged mutually (modalities and “rules of the game”). This allows sharing the responsibilities from the outset.
- ☞ **Establish awareness and transparency by conducting a comprehensive appraisal:** A detailed and inclusive SWOT analysis along the six strategic fields of balanced development (social, economic, environmental, institutional, technological and knowledge aspects), including an evaluation of the benefits and transaction costs, is to be considered as the groundwork for creating awareness, for developing ideas for action, for a productive stakeholder dialogue and for achieving win-win situations (the driving force) for all parties. The knowledge of all the pros and cons is essential for establishing a climate of trust and confidence among the actors. Only under those favourable conditions, there might develop a momentum to agree on a common plan of action.
- ☞ **Facilitate start up activities:** Fostering a cross-sector approach needs a “core action” or a clear “product” to make it happen and to be effective. The intervention package has to be endowed with an innovative marketing strategy, i.e. following the 5 Ps (product – price – place – promotion – people) of modern marketing. The process of introducing a CSA can be compared with procreating a baby and nurturing it: W&S experts seed the population and invites partners to define a common strategy for the development of the newborn,

they then foster his/her development and accompany the kid until it can walk alone. In doing this, W&S experts should catalyze the process, provoke synergies and provide for co-financing.

- ☞ **Get leaders involved:** Endeavours to initialize and catalyze a cross-sector approach should take fully advantage of involving leaders and leading groups in the process. A most promising way would be to find and get on board a champion for supporting the cross-sectoral activities foreseen.
- ☞ **Consolidate the change process through an essential follow-up of the actions:** In order to remain on track and to harvest the results of the activities, as arguments for scaling up and the policy dialogue, a persistent and consistent follow-up has to be conducted. There is no need to introduce new and heavy monitoring systems, as the existing ones of the various sectors concerned will already provide the essential information required. Rather facilitate regular multi-stakeholder review sessions and auto-evaluations at the level of the local consultation forums.
- ☞ **Lobby for the approach at higher levels:** The cross-sector approach is also felt to be especially relevant for policy making and awareness raising endeavours at decision maker's level. In facilitating and supporting lobbying for the CSA at higher levels, it is particularly important to use the power of data obtained from research and from essential monitoring and evaluation of the achievements at micro level. Processes dealing with establishing new policies are therefore excellent opportunities to introduce cross-sectoral concerns and establishing an enabling regulatory framework to the implementation of a CSA.

6.3.3 Pre-conditions for success

The basic pre-condition defined by the workshop for successfully introducing a CSA is the **existence of a need expressed by the people** that can be addressed. Throughout the workshop, various sessions have dealt with the dynamics of the user's / consumer's cycle (from need to demand), the producer's / service provider's cycle and their interactions - the market. Marketing may be necessary in many cases to make the users understand the benefits and through this to create a real demand.

Other pre-conditions that have to be met or created prior or during the introduction of a cross-sector approach are clearly related to the contextual issues. The **institutional framework** should be indeed favourable for implementing cross-sectoral cooperation and adequate **coordination capacity at local level** has to be available or to be fostered. Sectoral objectives e.g. may impede the convergence towards common cross-sectoral project and programme objectives. Partners with mono-sectoral attitudes, often reinforced by negative attitudes towards inter-sectoral collaboration at central level might not be willing to enter a cross-sectoral dialogue. Those attitudes and the livelihood systems of these actors have to be addressed carefully in order to induce a change. Drivers for such changes can be:

- Awareness creation events prior to project implementation (advocacy for achieving broader development goals, synergetic use of limited funds, joining forces for addressing complex issues, keeping sector-related technical aspects in their sole domain of influence, etc.)
- Clear commitments from other participating sectors with similar interests (find allies among more open partners), from the people and from local government officials;

- Horizontal and vertical knowledge sharing and dissemination of achieved outputs during project implementation (e.g. at multi-stakeholder review sessions), showing a positive balance of potentials and constraints for them and displaying clearly that the benefits are bigger than the “friction losses” due to increased cooperation and complexity.

6.3.4 Open issues

If the cross-sector approach might be understood from a W&S sector professional’s angle of vision – as addressed throughout the workshop – **changing the mindsets of the proximal partners** appears to be a major challenge yet. The workshop identified therefore also a series of requirements (tools, instruments, etc.) which are currently not met but which would be helpful to enhance the sector professionals’ capabilities in promoting and implementing successfully a CSA in their working relationships:

- A set of supporting tools giving **guidance in the initiation and management of multi-stakeholder platforms** at local level dealing with the promotion and coordination of cross-sectoral cooperation;
- A series of **CSA-related case studies**, including focus group studies, in different political and socio-cultural contexts providing insight into success, failures and lessons learned from earlier endeavours;
- A **checklist of actions** to be undertaken by W&S sector specialists for the initiation and promotion of a CSA;
- An advocacy-focussed **documentation of health impacts** generated by water supply, environmental sanitation and hygiene promotion interventions;
- A guidance **tool for enhanced marketing and promotional activities** in W&S projects and programs;
- A strategy for developing **basic services packages** targeting at improved W&S and health and enhanced income generation opportunities.
- Functioning **exchange and learning platforms** (CoPs) dealing with the issues and challenges of the CSA.

6.4 Insights and learnings

A series of personal insights and learnings by the participants they believe they will integrate in their future work, have been collected on the last workshop day. They highlight new, astonishing and interesting cognitions they made throughout the week and reflect part of the notices they recorded in their personal learning diaries. These insights and learnings are summarized below.

6.4.1 Regarding our core business

- It is a powerful means to highlight our core business in the six strategic fields for balanced development (SDC strategy in the water sector), looking concomitantly at the social, technical, economical, environmental, institutional and knowledge aspects of our interventions. One corollary of this approach will be to balance better the investments made in infrastructure development (hardware) with those made in capacity building (software).

- All interventions have to be based on a thorough needs assessment and require the development of a sound market strategy. And the approach chosen to respond to the needs might be different when dealing with different groups of people (e.g. being aware about the sanitation-health link or not at all). Marketing W&S goods and services for sustainability and scaling up is important, but there appears to be a general lack in applying effective tools and relevant experiences in proper market analysis and strategies for the W&S sector.
- A market-oriented approach to W&S, making a clear distinction between the supply side and the demand side, can make a large difference in sector program activities. The 5 Ps of modern marketing is a useful instrument in this and helps to look critically at planned, ongoing and past W&S interventions.
- The Bangladesh case promoting sanitation shows what massive impact an approach can have if indigenous methods, thinking and habits are integrated and respected in the social marketing process.

6.4.2 Regarding the links to health and income generation

- The concept of burden of disease may open opportunities for achieving massive impact. It became obvious that the health system has (or can) produce most useful data we can valorise and exploit in the W&S sector.
- Improved and combined approaches having a much bigger impact on the reduction of the burden of environmental diseases than narrow focussed interventions, the former have to become mainstream in our activities. Already the great impact of simple methods like SODIS should make us look for improved approaches and interlinked thinking.
- Linking of W&S interventions with income generation (and poverty alleviation) is quite innovative in many settings and situations, but it bears huge potentials anywhere. Gardening and small-scale irrigation appear to be very promising themes.

6.4.3 Regarding the CSA

- The CSA increases the benefits for households from W&S interventions and is a new opportunity to benefit the poorest. It is therefore attractive for communities as it aggregates values for W&S projects. A bottom-up, participatory approach is required – which is different from involving key stakeholders only.
- Cost benefit analysis, the concept of burden of disease and the 5Ps of modern marketing are applicable criteria, bear a huge potential and provide powerful arguments for the CSA and for achieving inter-sectoral synergies.
- The CSA is particularly useful for a comprehensive planning at project start-up in consultation with all concerned. Its adoption by all parties involved needs large investments in awareness building though. Possibilities and limitations for pushing the sectoral boundaries are determined by the stakeholders' thinking and openness.
- There are many challenges in establishing a CSA in a given context and situation. The crucial issue for launching cross-sectoral activities is to identify the most appropriate and promising entry point and to create leadership. The W&S sector is well positioned to take the initial lead in such an endeavour, but it is very important to assess the transaction costs before embarking on a CSA.

- Sanitation is no priority, but combining sanitation with income generation makes it much more attractive. We should look beyond our core business and address sanitation issues in a CSA realizing the most needed synergies with the health, education, environment, water resources development, income generation and private sector promotion specialists.
- The relation between the health impact of W&S interventions and the level of socio-economic development introduced by the threshold-saturation theory is a strong argument for thinking much more of multi-level, multi-faceted and multi-sectoral interventions.

6.5 Conclusions

There are a series of individual health, economic and social benefits related to improved household level W&S, which, when effectively addressed, can enhance the impact of W&S interventions. But many of them can fully unfold only if they are addressed in an integral way taking into account cross-sectoral aspects. The workshop was successful in documenting a large range of possible benefits that can be expected from improved W&S interventions through a CSA and in assessing them by adopting both the users' (households') and providers' point of view. Looking at the dynamics of the demand side and supply side cycles, as well as at their interface (marketing) was functional in understanding the driving and restraining forces reigning. It became obvious, that W&S is not merely important for health reasons: if investments are properly done, they can bring enormous economic and other essential social benefits that are key in building sustainable livelihoods for the poor and that are positively perceived by them.

Professionals, policy makers and researchers in the W&S field have probably failed in the past to properly articulate the wider benefits that accrue from adequate levels of W&S services. Often health benefits have been over-emphasized at the expense of economic and other social benefits. This has led to investments in the W&S sector to be perceived by policy makers at higher levels as divorced from economic growth and development (but as related to social expenditure rather), so that the limited resources available were prioritised for other sectors that are perceived to be productive. Economic studies show that improving W&S is a very good investment for society, with substantially higher benefits than costs. Therefore governments should consider W&S rather as economic investments, prioritise them in their investment plans and get international finance institutions to support suitable programmes.

The workshop findings indicate that water supply and sanitation interventions implemented through a cross-sector approach are such suitable programmes. The CSA has the potential to increase the benefits for households from W&S and is a new opportunity to benefit the poorest, as it "aggregates" the various values of interventions. The workshop has achieved learning and raised awareness regarding the potentials and the significance of the CSA among the participants by looking at a series of cases having realized increased effects of W&S interventions on peoples' livelihoods from interactions with the health and income generation sectors and by developing practical ideas for some of the participants' personal working situation. The result of the various reflections and discussions is, among others, a set of strategic principles to integrate in the endeavour of launching activities based on a CSA.

The approach developed starts from setting the entry point at the people's level and goes in a participatory bottom-up process through scaling up, facilitated by local consultation forums and meso level multi-stakeholder platforms, right up to lobbying for the approach at policy and decision making level. The basic pre-condition defined for successfully introducing a CSA is the

existence of a need expressed by the people that can be addressed. Further the institutional framework has to be (or to be influenced to become) favourable for implementing cross-sectoral cooperation and adequate coordination capacity at local level has to be available or to be fostered. The attitudes and the livelihood systems of these important actors have to be addressed carefully in order to induce a change if needed.

W&S sector professionals are the initiators and catalysers for such a CSA, but they are advised to stay with their core business without attempting to become an expert in the related fields. Rather they seek to link their competencies, their own interventions, their specific concepts and approaches with the expertise, activities and resources in the other complementary sectors for a genuine multi-actor and multi-sector cooperation mutually beneficial for all parties involved, based on shared roles and responsibilities in a commonly agreed on plan of action and evolving in a climate of trust and confidence. Therefore, W&S sector professionals, do what you know best, but do it with an open mind and in an ever-integrative manner!

PART TWO: THE METHOD

7 Workshop methodology and assessment

AGUASAN workshops undergo an annual cycle of preparation, organisation, realisation and assessment conducted by the workshop steering committee. These different steps gone through, the various methods applied and the different structural elements in the workshop process are further described in the following sections.

7.1 Preparation of the workshop

Workshop steering committee

Representatives from SDC, Skat, Helvetas and Sandec - members of AGUASAN - form the workshop steering committee, which teams up with a moderator, resource persons and a rapporteur for the event. The committee prepared carefully the workshop in several meetings throughout the 12 months prior to the event. The most important preparatory tasks were the review of the previous workshop, the selection and discussion of the new workshop theme, the identification and briefing of the resource persons, the development of the workshop framework and programme, the selection and invitation of the participants as well as the organisation of the workshop facilities. The workshop administration was carried out by the Skat secretariat.

The preparatory meetings were facilitated by the workshop moderator, contributing to an excellent team building and an important synchronization of the thematic and methodological aspects of the workshop. To ensure a good coordination and understanding of the workshop theme, the resource persons and the rapporteur attended the preparatory meetings in the crucial stage of maturing the theme and developing the framework for the workshop. Experience from the series of earlier AGUASAN workshops shows that such a careful preparation of the event, without anticipating its outcomes, has always been the key to success.

Responsibility	Person
Steering committee: - Preparation - Coordination of content - Realisation, steering and assessment	Karl Wehrle (Lead) – Skat François Münger – SDC Kaspar Grossenbacher – Helvetas Silke Drescher – Eawag / Sandec
Secretariat – St. Gallen and at the venue	Gisela Giorgi and Roger Schmid – Skat
Resource Person	Brigit Obrist – Swiss Tropical Institute (STI) Daniel Mäusezahl – SDC Urs Heierli – msd consulting
Rapporteur	Roger Schmid – Skat
Moderator	Sylvia Brunold – Agridea

Funding

Like in the past years, the Swiss Agency for Development and Cooperation funded the workshop and contracted Skat for taking the lead in its preparation, organisation, realisation and overall coordination. AGUASAN workshops do not involve any registration fee, but the partici-

participants had to fund their travel and accommodation costs on their own or to find a sponsoring organisation.

Preparation of participants

Prior to the workshop the participants received various information so that they could prepare themselves accordingly. In the workshop announcement the theme and the scope of the workshop were communicated by spelling out the background, the goals and objectives, the expected results, the workshop procedures, and the approximate costs for accommodation. Persons interested to participate in the event had to submit a pre-registration form including a section for stating their interest and motivation. In order to optimise the working environment of the workshop, the number of participants is limited and all applications had to undergo a selection procedure handled by the workshop steering committee.

Well ahead of the event the participants retained received a background paper to the workshop theme for information and reflection, a tentative programme, the participants list as well as all necessary information regarding logistics and workshop venue. All participants received also a form where they could introduce themselves shortly and which they brought along for the workshop opening. These personal presentations were put up in “Gallery of AGUASAN VIPs” displayed during the entire workshop and are included on the appended CD.

7.2 Realisation of the workshop

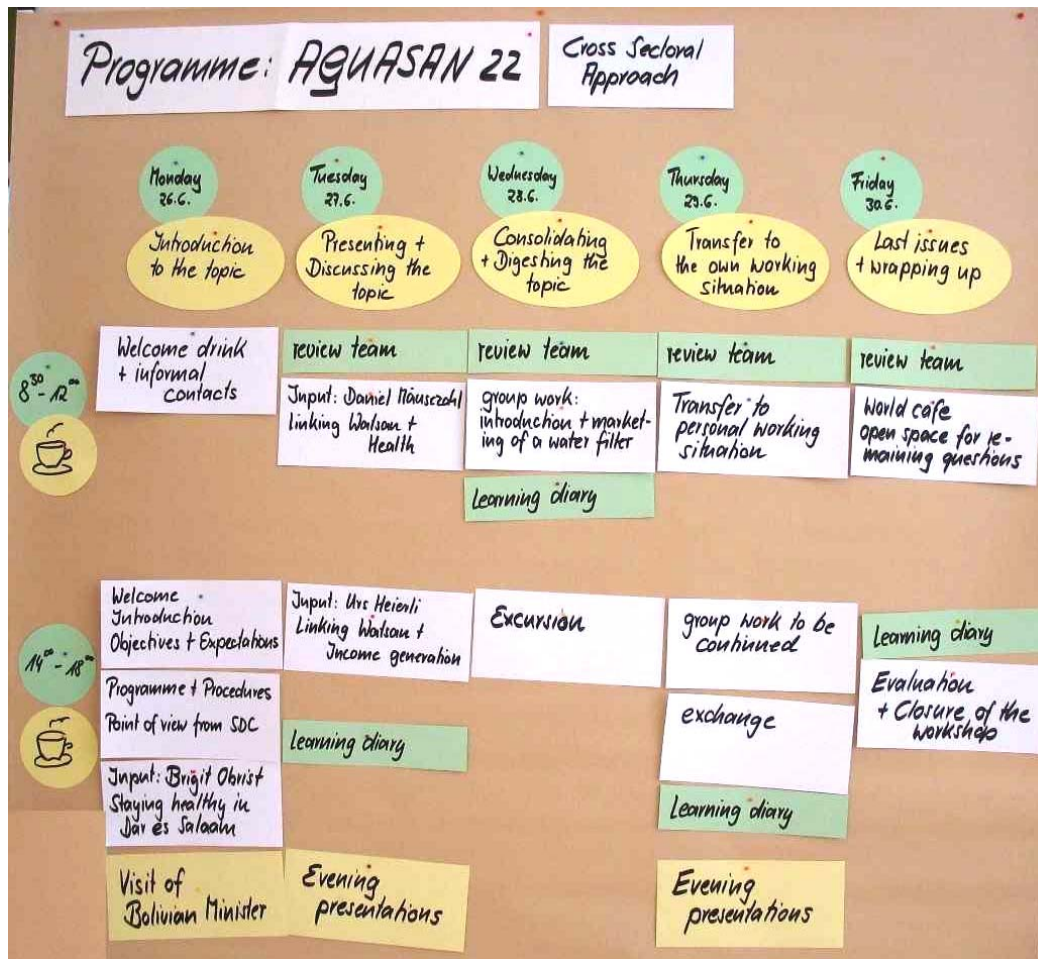
7.2.1 Venue

By breaking with a 21 year old tradition of holding the AGUASAN workshops in Gersau, this year's edition took place in the **Gwatt-Zentrum** (Gwatt, Switzerland) situated in the Bernese Oberland (25 km South-East of Bern) on the edge of the Lake of Thun. The venue is located in a fairly secluded spot on a vast terrain of land and forest, with direct access to the lake.



7.2.2 Workshop programme

The programme of the AGUASAN workshop has to be understood as a process. Prior to the workshop a tentative programme is prepared. During the workshop the schedule and the content are continually adjusted and improved (rolling planning) according to the ongoing workshop process and the existing dynamics. Process and dynamics are analysed daily in a night session of the steering committee, based on what the program of the next day is refined. Generally, the working blocks during the five days lasted from 8:30 to 12:00 in the morning and from 14:00 to 18:00 in the afternoon, followed on two days by optional evening sessions. The Wednesday afternoon was as usual reserved for an excursion providing concurrently a thematic and social event. The picture below gives a general overview on the workshop programme.



7.2.3 Structural elements

The workshop procedures comprised several structural elements like the topic cases presentations by the resource persons, the work on selected personal cases, the evening presentations, the daily reviews, an excursion and a visit of the Bolivian Minister of Water.

Resource person and topic cases

For this year's workshop, three thematic resource persons were invited to contribute. The resource persons had the task to present topic cases introducing and illustrating parts of the workshop, to stimulate feedback in plenary session, to create food for thought for the discussions in the working groups and to give specialist inputs throughout the various sessions. The resource persons were:

- **Brigit Obrist**, an anthropologist with a habilitation (2001) in anthropology of the philosophic-historical faculty of the University of Basel. Brigit Obrist is since 1999 senior scientist and project leader in Public Health and Epidemiology at the **Swiss Tropical Institute (STI)** in Basel. She provided the input on "**Staying healthy in Dar es Salaam**" having lead to the reflection on the people's expectations (perceived benefits) from W&S project or services.
- **Daniel Mäusezahl**, an epidemiologist with a habilitation (1996) in philosophy of the philosophic-historical faculty of the University of Basel. Daniel Mäusezahl works as senior health advisor within the Social Development Division at the **SDC** head office in Bern and

as a senior scientist in Public Health & Epidemiology at the **STI** in Basel. He presented the inputs dealing with “**Approaches to reduce the burden of environmental diseases**” having culminated in the talk show around the issues raised.

- **Urs Heierli** has a Ph.D. in Economics obtained at the University of St. Gallen. Urs Heierli, former co-founder of Skat and SDC country director during 12 years, is now independent consultant and director of his company **msd consulting** in Bern. He came forward with inputs on “**Boosting demand and supply for water and sanitation**” having lead to a groups work on boosters and other incentives as well as on marketing strategies for the CWP in Cambodia. He also linked up with **María Pardo** (Aguasan Honduras) for bringing the “**Micro Irrigation System case study**” from Nicaragua to the workshop.

Personal cases

In the working group session entitled “*Transfer to the personal working situation*” (cf. chapter 5), several real cases from the participants served as basis for the developments around selected issues related to linking W&S with health improvements and income generation. Prior to the workshop, each participant was asked to reflect individually the workshop theme in his/her own work and to come along with supporting documents like schemas, graphs, pictures, etc. Once having joined their preferred issue-specific working group, all participants got the opportunity to give a brief introduction (teaser) to their own cases. The groups then decided jointly on which case (or combination of similar cases) they wanted to work throughout the day. By this process emerged in each working group a case owner (or two co-owners) supported by the other group members acting as experienced and “friendly” advisors.

Daily reviews

From on day two of the workshop, an alternating group of participants was asked to give at the beginning of each workday a review of the previous day. Every group summarized in a short ironic role-play the most important official activities and unofficial incidents they retained and wished to highlight. This was not only a good opportunity to remember the day before, but also to facilitated a smooth start in the new day and created a good spirit right from the beginning.



Evening presentations

During optional evening sessions on Tuesday and Thursday, an opportunity was given to the participants to present their projects or to display media that were not necessarily directly re-

lated to the workshop topic but of common interest for the community gathered. The following presentations were accommodated in those evening sessions:

- **Hans Hartung** (FAKT) presented a case study from Uganda where “**Women groups harvest rainwater and influence national policy**”. The involvement of all stakeholders, also at political level, and the adoption of appropriate institutional arrangements and pricing policies led to sustainable rainwater harvesting triggering economic activities (gardening, tree nurseries, porridge making, beer production, livestock breeding), time-money-energy savings, health improvements as well as increased productivity of family members.
- **Michael Steiner** (Eawag / Sandec) came forward with two cases of urban sanitation systems based on **small-bore sewers in Bamako and in Dakar**. The cases show that small bore sewer systems are genuine alternatives to individual sanitation and traditional sewerage systems, and this with affordable costs for the (poor) users and with significant impact on their living conditions.
- **Demissie Bubamo Tuke** (Ministry of Health, Ethiopia) provided an insight into the “**Scaling-up efforts for sanitation and hygiene promotion**” undertaken in parts of Ethiopia and the influences they had on the W&S strategies on national level: *National Strategy for Improved Hygiene and Sanitation, National Protocol for Hygiene and “On-Site” Sanitation; MoU between the Ministries of Health, of Water Resources and of Education*. The case was further described in §4.5.2 of the topic cases section of this report.
- **Christoph Morger** (Intercooperation) displayed a movie on “**Understanding linkages: water and livelihoods in Andhra Pradesh, India**”. The film exposes the complexity of water supply and management issues, and considers the potentials and pitfalls of current efforts to solving these problems through watershed development that harvests rainwater and encourages the replenishment of aquifers.
- **François Münger** (SDC) brought along the movie “**The Stave-Weir in Lucerne**”, a Swiss film, which ranked second in the category “short films” during the “1st International Water and Film Event” held at the fringe of the 4th World Water Forum in Mexico 2006. The theme given to this film event was “For a new water culture”. François also introduced the “**Eco-San Curriculum**”, a CD-ROM based interactive curriculum on ecological sanitation and being to date one of the first comprehensive collection of material on the subject. Further he displayed the movie “**Awakening: The story of total sanitation in Bangladesh**”.

Excursion

Excursions (field visits) can be extremely valuable for a workshop and can influence participants for many years to come. They can lead to new understanding about local conditions and to new insights into the complexity of the problems and the potential solutions much easier than lengthy discussions or reports. Excursions are also most appreciated by the participants, as everybody likes to get out of the workshop venue and sense (see, hear, smell, taste, feel) something new, whilst being a social event for the entire group of people. A mid-week excursion (on Wednesday afternoon) has therefore always been an integral part of AGUASAN workshops aiming at learning from local stakeholders about their livelihood systems, gaining feedback from them on the workshop topic and learning lessons from local practices, initiatives and interventions. This year’s excursions led to the village (or town – the locals are not unanimous about that) of **Münsingen** located in the Aar valley between Bern and Thun.

The first part of the excursion saw a historical walk through the settlement along historic buildings and the first public fountain used for domestic purposes and cattle feeding. The place developed from a Celtic village first settled in around 400 BC. The excavated Roman bath witnesses the presence of the Roman sovereign around 200-300 AD, but the territory got later invaded by the Alamanni who gave the name Münsingen to their settlement. Around the year 1000 the village belonged to the royal court of Upper Burgundy. In the 13th century the village came under the lordship of the Senn knights. As an important gathering-place during the Peasants' War, and in the ensuing process of democratization, Münsingen played a major part in the history of the canton of Bern. Today Münsingen is, with its 11'000 inhabitants, the most important place in the Aar valley and is a vital economic centre for the region.



In the castle domain, the participants received then an introduction into the history of water in Münsingen. The presentation provided an insight into the hydro-geological situation of the region and the evolution of the W&S issues over time. Private initiatives (by the miller and a trader) led in the 19th century to the first water supply system based on spring catchments. But the increasing need for water (small industry, fire fighting, typhus epidemics) made the commune in 1900 to take over and expand the water supply system by capturing distant rock-water springs. In the following 50 years the population nearly tripled (from 1'300 to 3'800) and new industries (textile, metalworking, etc.) settled, leading to establishing two major groundwater pumping stations near the village.



Due to further population increase and the intensification of the local industry and agriculture, groundwater contamination became a major issue in the 80s. Since then, Münsingen provides their citizens mainly with water from infiltration wells (9'000 l/min) near the Aar river. Protection areas, regular water quality control and an intervention plan in case of accidental contamination have been established. These installations are now on their turn endangered from increasing flood events and leading to the important river flood protection measures currently undertaken along the river.

The water wells, pumping stations and reservoirs were one target of the subsequent part of the visit, together with the "solar sail", which is a scientific, artistic and engineering demonstration of mastering solar energy. Further technical performances in Münsingen are the utilisation of water supply mains for producing power, a solar power plant and the use of waste heat from the wastewater treatment plant for heating buildings. But time was too limited to discover all this, as time had come to go back to the castle's barn accommodating nowadays a community centre and a restaurant.

During the following aperitif and diner, the participants had the occasion to exchange with council members of the local government, the director and staff of the "Infra Werke" (the multi-utility managing the water, energy and environmental services in Münsingen) as well as with several citizens. The participants were greatly impressed by the commitment displayed by the responsible of the multi-utility for delivering high quality water and energy services through a caring and integrated management approach. The Southern participants appreciated further highly the open and transparent management of the communal affairs by the local government officials. Finally they embraced the solidarity the community of Münsingen demonstrates for Southern countries by supporting financially and with human resources development activities in the W&S sector in Madagascar.



Visit of Bolivia's Minister of Water

As Mr. Abel Mamani, the newly designated Minister of Water in Bolivia, and his first advisor happened to be on a visit to SDC in Bern and were keen to have an exchange with the participants of the workshop. The views exchanged during the session are summarized below.



Bolivia is the poorest country in South America, with 70% of the population of 8 million living below the poverty line. According to the Minister, 2-3 million people lack access to drinking water & sanitation services. Since the beginning of 2006, Mr. Mamani heads the newly created Ministry of Water and is fully aware of the huge challenges and the complex tasks he has taken on board. As a matter of fact, the two former Governments have collapsed mainly due to unsolved water-related issues.

Mr. Mamani considers that former authorities used to hide themselves in their offices without worrying what was happening on the ground. As a result there were huge levels of confrontation and permanent mobilization and disruption. The new authorities know about the problems from experience and are therefore able to assist and understand the people. The social & technical committee of his ministry strives for an inclusive approach through councils. He himself is a former social leader and played a primary role in the demonstrations in the city of El Alto against the privatisation of the country's water resources.

According to Mr. Mamani, water is a resource that is essential for life and will be a key resource for every country in the future. He wants to give a message and an example to the other countries in Latin America that they must take care of this vital element. He further explained that the Bolivian Government's policies on water will be based on the understanding that water is a hu-

man right and must be managed by the state and the community – a position he has already firmly stated at the 4th World Water Forum in Mexico earlier this year. This is not the end of private sector participation, but public enterprises should manage the natural resources and issue service contracts which can have all different forms: public assemblies to create a management of a public enterprise are needed; it has to be build it in such a way that no-one can take advantage of its funds; the profits must be reinvested in the improvement of the company; this requires transparency based on strong social control.

Water is for the 1st time a real issue at government planning level in Bolivia and having only one Ministry (instead of 3-4 earlier) dealing with the issue is in the eyes of the Minister a step in the right direction. The lack of expertise and qualified human resources is however the major drawback in this endeavour – e.g. there is just one single person in charge of solid waste management in urban areas. The three Vice-Ministers (water supply & sanitation, irrigation and water resources & watershed management) are currently developing plans for the long-term sector development. But the Ministry needs to respond right away to the needs of the populations of the large and medium cities and at the very least deliver drinking water and sewerage / sanitation services. The plan is further to extend irrigation to the Altiplano (the high planes), somehow forgotten in the past as the investments concentrated on the East and the valleys of Bolivia. Finally the problems of environmental contamination of the Lake Titicaca and the River Pilcomayo, which are serious due to mining waste, are to be resolved.

Up to 1'000 million US\$ are required to comply with the plan of the Ministry and financing is therefore a serious issue. Whilst the international aid community, development banks and others support the country with donations and loans, they continue to impose conditions that are not appropriate. Lenders' money has to be paid back with interests, so they should not condition its use. Mr. Mamani believes that donors have not acted well up to now and set unjustified limits on the use of money, for example by deciding who should carry out studies and consultancies.

7.2.4 Methodology

A good workshop methodology is key to a successful workshop. Based on the experience of the former AGUASAN workshops the following methodology was applied:

Facilitation and reporting

During the AGUASAN workshop a **facilitator** led the participants through the program and the process. The most important task of the facilitator were:

- Guiding through the various sessions by applying appropriate methods and following the thread according to the theme and the objectives of the workshop.
- Keeping the schedule.
- Preparing the daily program and presenting it every morning.
- Reviewing the progress during the day.
- Developing the assignments for individual work and the working groups.
- Clarifying ideas and misunderstandings.
- Grouping outcomes and summarising briefly the various contributions.

The **rapporteur** had the task to take notes for the workshop report, to collect the files of the presentations and related resource documents, and to keep track of the flipcharts and notes on pin boards. The result of this work is the present workshop report. Pictures of all pin boards and

flipcharts were taken as well as of the participants in the plenary, in the working groups, during breaks, on the excursion, etc. On the last day all elements collected during the workshop were burned on a CD and distributed to the participants before they left the venue.

Workshop principles

At the beginning of the workshop a few workshop principles were stated and jointly agreed on:

- It's your workshop – be your own chairperson.
- Give feedbacks to the steering group.
- Allow for certain flexibility from the side of the steering group and the participants.
- It's not problem solving but learning from each other.
- Listen to each other.
- Share leadership and responsibility in working groups.
- Use a careful handwriting on cards, flipcharts and pin boards so that everybody can read it.
- Keep regularly your own daily learning diary

Presentation and discussion modes

During the workshop several discussion and presentation modes were chosen:

- PowerPoint for longer presentations.
- Flipcharts and pin boards to illustrate topics or for group work.
- Posters to display permanently more detailed information about the topic cases.
- Brainstorming sessions in plenary
- Buzzing groups of 2-4 persons to quickly reflect and create ideas
- Working groups of 5-7 persons (see below).
- Carrousel technique for exchanging the outcomes of the group works
- Talk shows: to discuss a topic in the plenary the presenter took place at a table. People from the audience who were interested to ask a question had to queue up for the podium, take a seat and discuss the question with the presenter.

Working groups

Working groups are an excellent means to discuss specific topics in depth. As they achieve better results if they are well organised, therefore the workshop adopted the following process:

- Working groups received always written assignments summarising the objective, the tasks, the available time and the expected results.
- Every working group had to choose a facilitator who moderates the discussions and a rapporteur who reports back to the plenary.
- For some tasks the working groups were suggested to visit each other and to give feedback. These mutual visits contributed significantly to the learning process.

Learning methodology

The workshop participants had many opportunities to learn from each other: from the presentations, the formal and informal discussions, or the excursion. In addition, the participants were asked at the end of each day to sit down for half an hour to write down his/her most important

insights of the day in the personal learning diary. The proposed learning diary was structured according to the following questions:

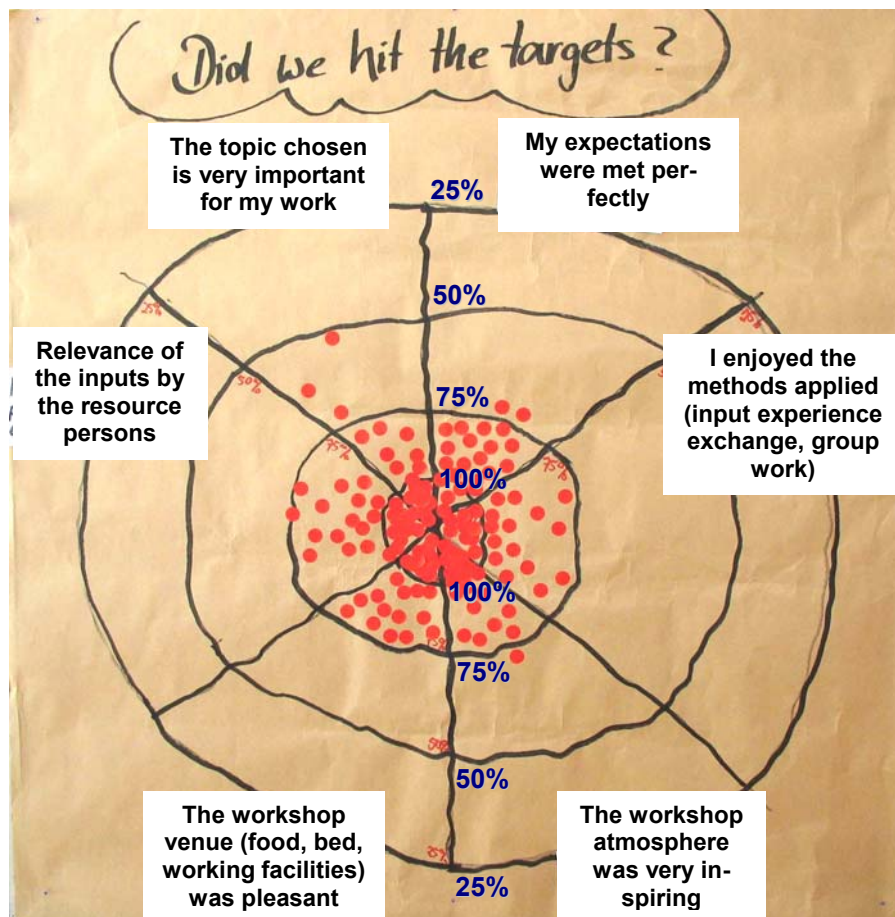
- What was astonishing and interesting for me?
- What seems to be very important for my further work?
- Which are my thoughts and ideas that could be transferred to my own work?

The participants were asked to list as many interesting thoughts, ideas and issues that came to their minds and were suggested to decide themselves at the end of the workshop if the issues and thoughts written down would be potential activities or rather wishes.

7.3 Workshop assessment

7.3.1 General assessment

On the last day, all participants carried out together an assessment of the workshop trying to answer the question of “Did we hit the targets?”. The fields assessed and the results of this rating exercise by dots are displayed in the picture below.






7.3.2 Survey

One week after the workshop, all the participants received an Internet-based questionnaire (online during one month) to evaluate the event more in depth. The questionnaire was structured around i) the expectations and preparation prior to the workshop; ii) the relevance and usefulness of the workshop for ones professional activities; iii) the workshop concept and procedures; as well as iv) what the participants have done with the learning and insights

immediately after the workshop. The results of this survey are summarised in the table below. It is foreseen that a follow-up survey will be conducted 6 months after this survey.

1	What were your expectations prior to the workshop?	Nos
■	Learn from experts and practitioners about their broader view, ideas and experiences with cross-sectoral approaches and getting knowledge and know-how about their way of bringing inter-sectoral synergy into W&S.	5
■	Get first hand information and learn from specific experiences / lessons and successful cases in other contexts and countries where cross-sector approaches work, i.e. W&S programmes have been able to achieve synergistic impact / benefit for households from coordinating and working together with the different sectors and actors.	4
■	See colleagues/practitioners of different backgrounds active in similar fields and have an in-depth exchange about sector news and about important topics for W&S projects.	3
■	Share and gather more knowledge about W&S projects with respect to income generation possibilities at household level.	2
■	Learn something to be practiced in work	1
■	Share the experiences / efforts of my own programme with the other participants	1
■	Learn how to link W&S to the real health affairs and to discuss and find ways of crossing health and W&S and other sectors to finally find a global understanding and agreed on approaches. Link livelihood for sustainability.	1
■	Learn more about multi use systems and synergies with other sectors	1
<i>Total Answers (multiple answers possible) = 18</i>		
Topics:		
■	Learning	12
■	Exchange of experience	6
■	Professional networking	4
2	How did you prepare yourself before the workshop?	Nos
I had discussions with:		
■	Colleagues of my office / organisation	7
■	Boss / Superiors	4
■	Nobody	3
■	Persons from my personal network (incl. former AGUASAN workshop participants)	2
■	Workshop preparatory team	1
■	Project / program partners	1
<i>Total Answers = 18</i>		
I did other preparations:		
■	Reflecting the theme in my personal work / in my country's context	5
■	Reading the background documents provided by the organizers	5
■	Reading / compiling related publications	4
■	Preparing a presentation	2
■	Working on a theme related case study	1
■	None	1
<i>Total Answers (multiple answers possible) = 18</i>		

3 Were your expectations for this workshop fulfilled? Please comment your answer.

	Response Percent	Response Total
Yes 	50%	9
Mostly 	38.9%	7
Partly 	11.1%	2
Marginally	0%	0
No	0%	0
Total Respondents		18

Comments:

- I'm still a bit unsure about how to tackle (practically) the cross-sector approach in my work.
 - It would have been much better, if a greater number of practical cases had been presented. Opportunities to know the views of the experts from the other sectors on how do they perceive the W&S sector and what type of role they want it to play towards achieving inter-sectoral synergy could have provided more effective inputs for achieving the objectives of the workshop.
 - There was only one day for discussion of projects, and much more learning type “Frontalunterricht” (ex-cathedra teaching).
 - I got to know many cases about inter-sectoral synergies, mainly those that linked W&S and Health.
 - My participation is already the first level of attack. I learned about the social marketing mastery and methods of control of a workshop and had exchanges between actors of the sector.
 - The incomes presented were always linked to an economical point of view. This presupposes a will to make benefit on behalf of the population, or this is not always true in the developing countries.
 - In my country NGOs implement W&S projects and normally hand them over to the government or the community without building of local capacity or linking it to livelihood (thus being unsustainable). I have learned how to link W&S projects to livelihood to achieve real sustainability.
 - Elaborations of the resource persons provided experiences of high interest. However, the participants / represented countries had limited experiences to share. The workshop set light to a new dimension to be taken up as a new vision in future W&S projects planning.
 - Totally fulfilled - the discussions and work on the examples in the small groups were rather good.
 - Work groups and side discussions were interesting, but never enough as time is always counted.
 - I had the impression to get a good picture of the issues and aspects related to the workshop topic, including some insights that are directly relevant and applicable for my professional work.
 - Potential and constraints of multi-use systems were only briefly touched, and the link with IWRM was not always clear. I had the impression that there is no common understanding what IWRM is.
- Total (optional) Comments = 13*

4 Which insights did you gain and how do you intend to use them in your future professional activities? Nos

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| ■ Importance / underestimation of social marketing for promoting W&S, by using the 5P's | 6 |
| ■ Referring to the burden of environmental diseases to justify the priority of W&S projects. | 2 |
| ■ Distinction between our core business as W&S sector professionals and cross-sector linkages, which go beyond this core business: i.e. I do not have to do everything by myself and I can use established channels from other sectors for my purposes. | 2 |
| ■ The security that inter-sectoral synergies are real. I'd like to apply this new knowledge to test my thesis about the impact that a better utilization of treated wastewater could have in the economy of the poorest around the cities. | 1 |

- Clear view about health impact reachable through W&S projects. Useful for more tailored proposals and maybe for the introduction of a village based health monitoring. 1
- Needs assessment is crucial for ownership 1
- I got an insight in SDC's policy and position in the sector and I'll use this in my work. 1
- Like any other commodity, W&S related services too need an effective marketing strategy. Multiple uses adds value to the product. 1
- I retain the following key messages: i) marketing approach to development; ii) integration of W&S, hygiene and health within a comprehensive approach (incl. the "burden of disease" concept); iii) integration of W&S and productive use of water. These issues / complexities are relevant for my work and I feel now in a better position to ask the right questions and consider the potential synergies, but also side effects and challenges. 1
- The W&S sector needs to coordinate and to collaborate with other sectors for ensuring more benefits to households and to contribute to sustainable development. W&S services can be carried out as a commercial venture, but it will take time to change the mindset of the actors concerned. Development programs should redefine their philosophy and working modality. This may need more software support than the hardware ones. The guiding principle of the development programme should be "sustainability" not "subsidy". 1
- Something reasonable and applicable for me is the W&S link to livelihood, which can contribute to political, and security situation improvement; health and environmental improvements and decentralization that can cover marginalized groups' needs. 1

Total Answers = 18



5 How do you evaluate the workshop concept?

	Very good	Good	Satisfactory	No so good	Unsatisfactory	Response Total
Choice of the main themes	71% (12)	24% (4)	6% (1)	0% (0)	0% (0)	17
Balance of theory / discussion / group work / individual work	35% (6)	41% (7)	24% (4)	0% (0)	0% (0)	17
Possibilities for exchange of experiences	47% (8)	35% (6)	18% (3)	0% (0)	0% (0)	17
Workshop documents	18% (3)	59% (10)	18% (3)	6% (1)	0% (0)	17
Total Respondents						17

6 How do you evaluate the overall lead of the workshop (moderator, resource persons, steering committee)

	Very good	Good	Satisfactory	Not so good	Unsatisfactory	Response Total
Thematic competencies	76% (13)	24% (4)	0% (0)	0% (0)	0% (0)	17
Comprehensive presentation of the theme / issue	65% (11)	29% (5)	6% (1)	0% (0)	0% (0)	17
Consideration of experience & inclusion of problem areas expressed by the participants	35% (6)	41% (7)	24% (4)	0% (0)	0% (0)	17
Total Respondents						17

7 What is your overall impression of the workshop (organisation, room facilities, etc.)? Please comment your answer:

	Response Percent	Response Total
Very good 	70.6%	12
Good 	29.4%	5
Satisfactory	0%	0
Not so good	0%	0
Unsatisfactory	0%	0
Total Respondents		17



Comments:

- Ideal venue and location for such a retreat, with convenient access and excellent setting. 7
- Good and comprehensive services, room facilities and food at the venue. 3
- Perfect organisation of the event. 3
- The general impression is very good. It was definitely worthwhile to attend and it was one of my best times I have passed. 2
- Good moderation. 1
- Important platform to learn, exchange and meet people and communicate with them. 1
- Good mix of plenary sessions and group works, although I would have preferred to work even more in small groups. 1
- The only disturbing factor was the sharing of rooms by some participants. 1
- A more detailed programme at the beginning of the event would be appreciated. 1

Total (optional) Comments = 20

8 Do you intend to have a debriefing back in your office, where you will discuss possibilities of applying what you have learned? Nos

Please comment the answer (if "yes", with whom, about what and with which intention; if "no", why?)

	Response Percent	Response Total
Yes 	94.1%	16
No 	5.9%	1
Total Respondents		17

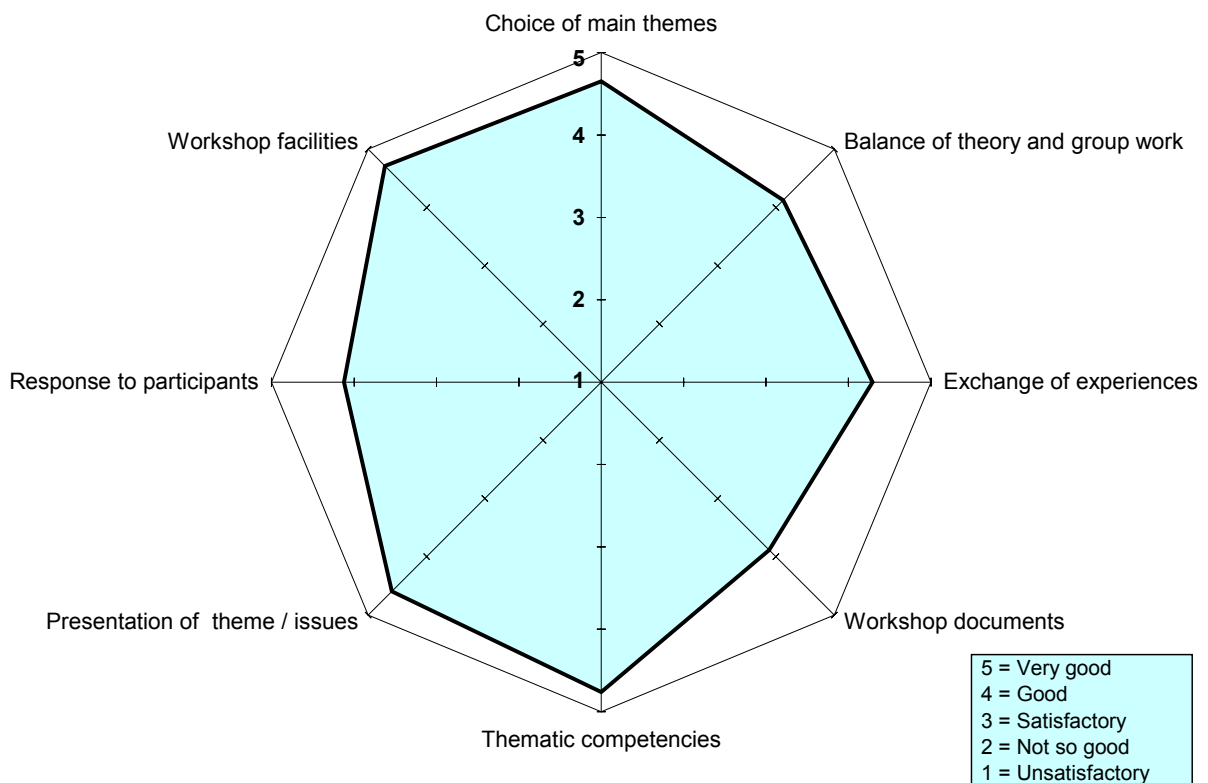
Comments:

- General feedback to my office colleagues on how to integrate the lessons learned from the workshop in our concrete work. 10
- With my superior(s) / head officer 4
- With thematic specialists in my office / organisation (water & sanitation, small enterprise development, social marketing, health) to design projects. 4
- To all local partners and stakeholders (NGOs, private companies, youth groups, religious groups, skilled and iterate jobless people) to incorporate it into project implementation. 4
- I do it only in an informal way to interested people during coffee, etc. 1

Total (optional) Comments = 23

11 Any additional comments you wanted to mention – personal suggestions?	Nos
■ The event was good, congratulation and thanks to the organiser – keep going.	3
■ Include even more group work on practical cases.	2
■ It would be much better to add on a half or one page information about the programme / project (the participant represents) to the personal presentation of the participant.	1
■ Communication between participants will have to be improved. Even when most people speak English, different accents, speed or way of speaking makes communication very difficult. In some cases, translation could be considered.	1
■ I have started to change the existing approaches for dealing with W&S at NGO, Gov., company and civil society level in my working and free time because of my special interest and commitment I have gained by this workshop.	1
■ AGUASAN is still seen as a male dominant event. More women resource persons / participants need to be encouraged / involved.	1
■ The carousel is seemingly a good communication tool in workshops. However, adequate time needs to be allocated for each turn / station in order to grasp the essence of the discussions that had taken place at each of them.	1
■ It would be interesting receiving information on long term project monitoring (5-10 years), to know how far a project built from outside can really be metabolised by a community.	1
■ If the core team would mingle more with the participants (e.g. during meals) it would be easier to have discussions with these very experienced persons.	1
■ It would be nice to have also private enterprises working in the business, as the topic was related to income generation, and to have not only Helvetas and SDC.	1
<i>Total (optional) Comments = 13</i>	

Diagram summarising the overall satisfaction of the workshop participants



8 Resources

8.1 Documents on the accompanying CD

The results of the AGUASAN Workshop 2006 are available on CD-ROM with following content:

- Workshop report (PDF)
- PowerPoint presentations held (PDF)
- Background and resource documents referred to (PDF)
- Pictures (JPG): photos, flipcharts, posters and inboard illustrations.

8.2 Workshop participants and addresses for contact⁵



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⁵ More information about the participants' profiles can be obtained from the "personal presentation" sheets on the CD

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8.3 Ideas for the next workshop

In an ultimate plenary session, the participants of the AGUASAN workshop 2006 suggested the following themes and organisational issues to be considered in a next workshop:

Workshop themes⁶Poverty alleviation and MDGs:

- W&S for poverty alleviation – a case study oriented assessment
- Strategies and packages in the W&S sector to achieve the MDGs

Water & Sanitation sector management at local level:

- Tools for the management of W&S by the local collectivities
- Municipal level policy and strategies for the management of W&S systems and services

Financing the sector:

- Policy influence, advocacy and fund mobilisation in W&S at macro / meso level
- Pricing and financing within the water sector
- Alternative funding and financing mechanisms
- Cost sharing models leading to self financing

Sanitation development:

- Boosting the image of sanitation
- Sanitation options in peri-urban areas
- Design and management of small pipe systems

Ensuring the continuum:

- Water & sanitation from emergencies and rehabilitation to development

Integrated water resources management (IWRM):

- Operationalising links between W&S activities and overall IWRM
- Preventing and managing (water) conflicts
- Small scale irrigation

Knowledge Management:

- Establishing and managing information systems on W&S
- Monitoring & Evaluation of water, sanitation and hygiene (WASH) activities
- Networking among W&S sector stakeholders
- Institutional learning in the W&S sector

Workshop organisation

For the organisation of the next AGUASAN workshop the organisers should think about:

- Translating crucial words into all languages represent in the workshop
- Adding a brief description about the project / program to the personal presentation form

⁶ Generic titles in italic were added by the rapporteur.

8.4 Topics of previous workshops

N°	Titles	Date
0	Appropriate technologies in water supply and sanitation	1984
1	Water decade: Drinking Water and Wastewater Problems in Developing Countries	1985
2	Participation and animation	1986
3	Sanitation and health	1987
4	Operation and maintenance Activities and goals relevant for maintaining of village supply systems and latrines	1988
5	Monitoring and evaluation in drinking water and sanitation projects	1989
6	Sustainability of drinking water supply and sanitation projects What is sustainability, in what fields can it be achieved, what are its guidelines, what has to be done to make a project sustainable	1990
7	Communication in development cooperation Communication and its various aspects in development work	1991
8	Water and sanitation knowledge system Development of water and sanitation knowledge systems for better preparation and implementation of WatSan projects	1992
9	Water is not a free resource (anymore) – who pays? About the problems of financing water supply and sanitation systems	1993
10	Sustainable water and sanitation projects through fair negotiations Importance of well conducted discussions during preparation and implementation of water and sanitation projects in order to ensure their sustainability	1994
11	Urban sanitation The challenge to communities, private sector actors, local governments and external support agencies	1995
12	Transfer of ownership in water supply and sanitation systems Community ownership of water supply systems, which is essential to user participation, and to the sustainability of these systems	1996
13	Less water for more people How to tackle and avoid conflicts around global water scarcity in the field of international development cooperation	1997
14	Technology and balanced development All involved organisations, professionals and users are bound to contribute to sustainable drinking water supply and sanitation systems	1998
15	Private sector – just a (new) hope? Whether and how the private sector can contribute effectively to cover the needs in the water sector and whether the market economy is suitable to work in programmes of poverty alleviation	1999
16	HCA – The household-centred approach A new way to increase the sustainability of water and sanitation projects?	2000
17	From sector reform to sector revolution A new (and revolutionary) approach is needed in order to ensure sustainable operation and maintenance of installed systems	2001
18	Profits for all – service for all Innovative approaches and management options for equitable and sustainable drinking water and sanitation services	2002
19	This shit drama – are there ways out? Innovative approaches for practical solutions to a dirty and deadly issue that has been taboo for too many decades	2003
20	Sustainable services without external support – still a challenge! What is needed so that sustainable services are guaranteed after the withdrawal of external resources?	2004
21	Caring and Integrated Management for Sustained Water and Sanitation Services Conserving existing services allows future investments in upgrading and scaling up	2005

The AGUASAN workshop reports of the last years are available for download at www.skat.ch.