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**DELIVERING WATER, SANITATION AND HYGIENE SERVICES
IN AN UNCERTAIN ENVIRONMENT**

**Participatory improvement of water supply, sanitation
and hygiene in resettlement areas (PIWASHRA), Sri Lanka**

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Sri Lanka faced a long civil war between the Tamil separatist movement and the Sri Lankan army ending in 2009. Thereafter, arche noVa implemented its project focusing on the rehabilitation of war-damaged infrastructure, especially the reconstruction of suitable adapted water supply systems in cooperation with the resettled communities in Eastern Sri Lanka. Through the direct involvement of the users in project planning and implementation (Cash for work) and the establishment of water committees, we ensured the participation of the target group and thereby initiated ownership and strengthening of their self-reliance. The inclusion of income-generating activities improved the operation and maintenance of water supply and contributed to the sustainability of the project.

Introduction

During the last chapter of the Sri Lankan Civil War (2007-2009), many civilians were forced to leave their homes and flee to the many IDP camps (Internally Displaced Persons) in the north and east of the island. After the war, once the government had regained access to the areas formerly held by the Liberation Tigers of Tamil Eelam (LTTE), it eventually started the controlled resettlement of the IDPs from the camps. The infrastructure there was severely damaged and the support of the government was very limited, adding to the already weak local self-help skills of the returning traumatized IDPs.

The project area is situated in the western part of Batticaloa District in the Eastern Province of Sri Lanka. The villages there are often isolated and face many constraints like limited availability of transport, lack of functioning infrastructure, a severe lack of water (particularly during the dry seasons), lack of electricity and limited livelihood opportunities (because of the absence of markets and a very limited range of available products, due to the strong agricultural focus on paddy cultivation). Moreover, the educational level of the area is well below the national standard due to the lack of secondary schools. Access to water, sanitation and hygiene facilities is inadequate because of the insufficient infrastructure. In addition, the water supply is affected by various factors; it was observed by the inhabitants of the villages of the area that the rainfall pattern of the monsoon has changed over the years. In recent years, there was major flooding in the east and north of Sri Lanka affecting thousands of people and creating a major run-off into the big water reservoirs, as they had to be opened to prevent over-flowing. This in turn led to massive amounts of storm-water drainage through the flat, low-lying paddy plains into the lagoon. The rivers and channels could not handle the amount of discharge due to their shallow banks and the flatness of the area. Thousands of drinking water wells got inundated, as dirty water overflowed into the well walls. It is hard to determine the percentage of the events that can be attributed to de-forestation across the now vast treeless paddy-plains and the percentage caused by climate change and its effects.

Despite the floods, the groundwater recharge proved to be insufficient in serving the growing population in the area during these past few years. Almost two thirds of the villages' wells now completely dry up between May and November, resulting in water supply shortages for the rural population. Currently, large parts of the population's needs in the re-settlement area are covered by water-trucking during the dry season.

The population in the project area rejects the direct use of rain water for drinking because of cultural reasons, whereas the indirect use of water from lakes, after its infiltration in the soil and removal from wells located down in the valley, is culturally not problematic.

In summary: The re-settlement situation after the armed conflict, as well as the land use (intensive paddy culture), the soil qualities (fine-grainy soil in top-soil and rock below), the topography (flat), the damaged infrastructure, the transportation options, and the conservative culture of the rural population create the need for a well planned approach, which we have named PIWASHRA.

Description of the approach

The PIWASHRA concept (Participatory Improvement of Water, Sanitation and Hygiene in Resettlement Areas) was developed by arche noVa in 2010 and was based on the experiences of arche noVa in previous projects in that area. The local population, as beneficiaries, is as much as possible directly involved in the process of the project preparation, the construction and the operation and maintenance of the facilities.

The first step is a campaign to mobilize the villagers and help them to decide on the type of water supply and sanitation systems they prefer, based on specific conditions. Using the PHAST (Participatory Hygiene and Sanitation Approach) methodology arche noVa developed the PIWASH (Participatory Improvement of Water, Sanitation and Hygiene) training.

"Cash for work" is a very important part of the construction work, as the knowledge about the toilets and the preferred water supply system will be transferred to the villagers, reinforcing thus their sense of ownership of the structures and improving their income – especially in the recovery phase.

All the technologies applied with, and partially designed for, PIWASHRA have several things in common: they can all be built with little or no construction knowledge by the farmers themselves or with the help of local masons, plumbers and carpenters (where necessary). All techniques use only locally available materials and can be realized with manual labour that is without heavy construction machinery. Finally, they are culturally accepted by the local population.

The establishment of WASH committee structures in the villages for managing and maintaining the water systems occurs simultaneously. They receive their own registration as a village organization (Community Based Organization) and attend capacity building activities to gain knowledge in empowerment, managing a funding system and income generating. As a result, the development of personal responsibilities makes them less dependent on governmental assistance.

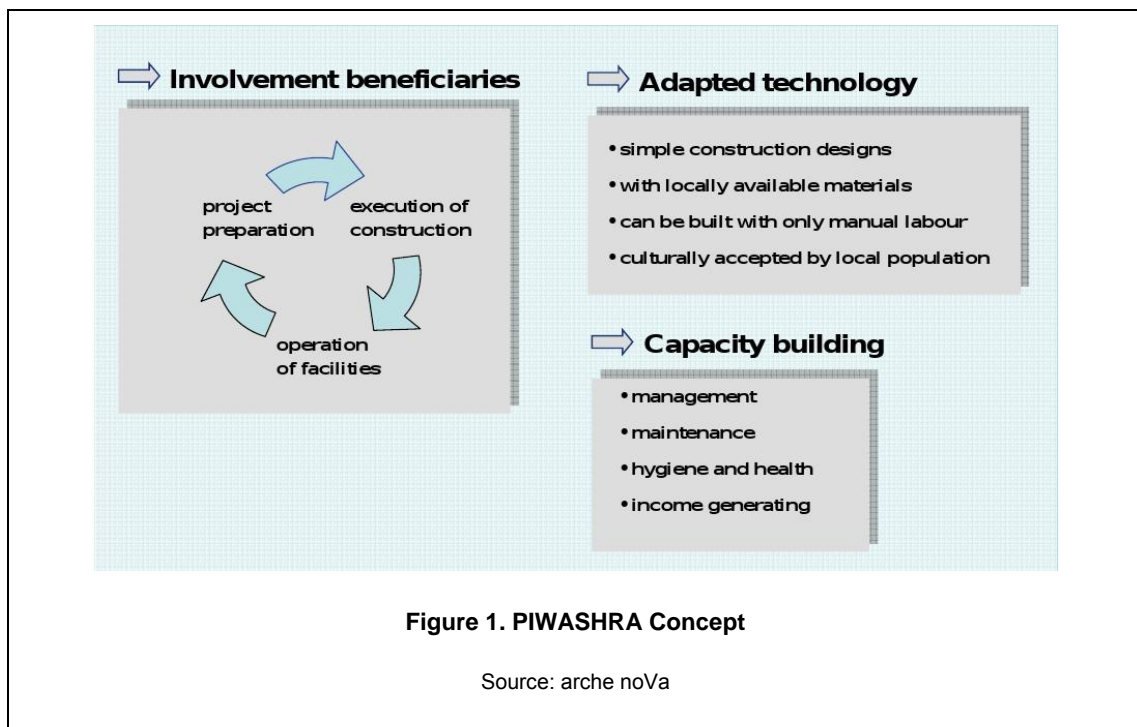


Figure 1. PIWASHRA Concept

Source: arche noVa

Main results

1. The Community Mobilization and the PIWASH Training resulted in the project preparation and initiation with the beneficiaries' contribution.

After the project advocacy by the community (community meeting, announcement through village leaders), arche noVa invited volunteers to join the PIWASH Training. A three-day workshop was conducted in the villages. On the first day, the community identified the water and sanitation related problems, followed by a problem analysis (causal relationships between contaminated water and diseases). The tools used were community stories, pictures which demonstrated typical situations of good and bad hygiene behaviours, intensive small-group discussions and the creation of a community map. The second day's goal was to look for ways to solve the identified problems; hence the local technical staff of arche noVa presented technical possibilities. The main objective of the day was that the solutions presented, as well as presentations and discussions, should be fully understood and followed by all participants. Another point of discussion was how the long-term operation and maintenance of technical equipment can be ensured. It resulted in the need to establish a WASH (Water, Sanitation and Hygiene) committee. Since every community has at least two committees - the Rural Development Society (RDS) and the Women's Rural Development Society (WRDS) which are responsible for local development projects - the notion of a committee was no novelty.

On the third and final day, the results of the previous days were summarized and technical components of the water and sanitation facilities were decided by the participants. After the definition of the necessary WASH committee members and their respective responsibilities, a group of suitable candidates was proposed and officially elected by those present at the meetings.

2. The construction of surface water reservoirs for artificial groundwater recharge and rehabilitation of a downstream located extraction well provides safe drinking water to the communities during the dry season (one example).

A percolation dam was constructed for artificial groundwater recharge and abstraction via a protected drinking water well for 800 inhabitants in and around the village of Ironoruvil in Manmunai West Division. The dam has a length of about 110 metres, an average width of 12 metres and a height of 3.5 metres. The achievable amount of water at full charge is according to the geodesic surface modelling around 1,500 m³. A ground-water protection zone between the dam and the drinking water well (60 metres) was established.

The cash for work-oriented implementation of the dam construction resulted in the average number of around 55 workers per day and it was coordinated with the help of the newly founded WASH committee.

Furthermore, a fenced organic vegetable garden was created in the water protection zone, in order to prevent contamination by animals or use of chemicals and to establish an income generating activity for the WASH committee. As the intensive cultivation of rice with the appropriate use of fertilizers causes agrochemical pollution of shallow groundwater, the protection of this groundwater for drinking water is very important.

3. The construction of model sanitation facilities at selected households encourages the community to copy and adopt the construction methods.

During the PIWASH workshops, the villagers themselves evaluated their sanitation levels and it turned out that the people were not satisfied with the dry-toilet design (Ventilated Improved Pit Latrine - VIP), because they did not want an "African Toilet Design". Therefore, it was decided to change it into a flushable toilet design with a squatting pan. They chose the locations for 3 model toilets and agreed that the WASH committee would be charged with the task to promote the adoption of the model toilet design by the communities.

4. The establishment of WASH committees as registered Community Based Organizations (CBO) in order to secure the future maintenance of the facilities and support the inhabitants' participation in the village development.

The WASH committee is a voluntary institution and its structure (President, Vice President, Secretary, and Treasurer) is in line with that of any CBO. Furthermore, there were 2 hygiene/health promoters and 2 technical support staff. It was made sure that the members of the committee represented all segments of the local community, including the well off and the poor, men and women, groups living in different areas and disadvantaged groups.

The involvement of women was particularly defined: In all 13 WASH committees, an average of about 90% of the members was female. That is because women are traditionally responsible for the water supply of the family and thus their assumption of the responsibility for the protection of water and sanitation is a common assumption within the village communities. In addition, men are usually employed on a full-time basis (e.g. wage labourers in the fields). For women, participating in a WASH committee also presents an opportunity to actively participate in the community development and thereby to gain new experiences and knowledge. It is a socially acceptable way to get involved with the commons and a sensible way to spend time with others. The learned can be seen as a benefit to the personal development of the members outside the committee, in particular to support the creative ability and opportunities of income measures.

The initial step in order to identify the training needs of the committees and to develop a comprehensive plan for capacity building on management, social mobilization, hygiene promotion and funding opportunities was the implementation of a baseline assessment of the WASH committees' members.

The WASH committees were trained on the following subjects:

Table 1. Training modules for WASH committees	
CBO management training	<ul style="list-style-type: none"> • Definition of CBO and its importance • Formation of CBO and organization of the development process • CBO constitution and registration of CBO • Responsibility of the CBO and the process of its sustainability • Participatory Approaches • Member roles and responsibilities
Book keeping and accounts management	<ul style="list-style-type: none"> • Cash book • Financial reporting • Budget and budgetary control • Audit preparation • Transparency and accountability
Leadership training	<ul style="list-style-type: none"> • Communication • Effective teamwork • Leadership styles/collaborative leadership • Conflict resolution • Human resources management
Social/community mobilization training	<ul style="list-style-type: none"> • Introduction to Social Mobilization and principles of participatory development • Communication skills • Participatory planning • Gender sensitization • Community organization and local support organizations
Conflict resolution training	<ul style="list-style-type: none"> • Providing the basic principles, skills and techniques used to analyze tensions and conflicts • Understanding the role of conflicts • Developing strategies to manage conflicts • Communication and negotiation skills • Provide skills and knowledge to tackle diverse issues, in particular related to WASH issues including: disputes over ownership and users rights, conflict over benefit sharing, lack of transparency.
Business development training	<ul style="list-style-type: none"> • Income generating projects • Formulation of a business plan incl. feasibility study and market research • Marketing • Costing and pricing • Fundraising • Proposal writing • Set up business related networks and links
Health and hygiene promotion	<ul style="list-style-type: none"> • PHAST • General hygiene • Personal hygiene (including menstrual hygiene) • Water borne diseases and how to prevent them • Solid waste management (household and community level) • Safe water and sanitation
Operation and maintenance of WASH technologies	<ul style="list-style-type: none"> • Hardware installation process • How to maintain the facilities • Repairing of the facilities • WASH committees or caretakers responsibilities • Life-cycle costs approach

Seed capital – There was an allocation of fifty thousand Sri Lankan Rupees (500 USD) as so called “Seed Fund” to each WASH committee after the implementation of the facilities construction. The “Seed Fund” was given in order to start income generating activities through livelihood measures for the committee to maintain all WASH-infrastructure in the village (the maintenance costs are very low in the beginning as the systems are new) and to manage the administrative costs of the WASH committee in the future. With this money, small first investments, such as buying chilli, sugar etc. for re-packing and selling, community gardening and any other small business agreed upon within the WASH committee, could be initiated to create a starting point.

In order to make sure that this money is not wasted or misused, the seed-funds were given in instalments after the financial and the business development training and were based on a small business plan that had to be presented at the WASH committee and had to prove that transparent bookkeeping as well as potential profit will be in place.

Exchange visits with members of other WASH committees were conducted to give the opportunity to see another community that deals with similar problems, to exchange experiences on management issues, to get new ideas, and to provide people with an opportunity to reflect on their problems while discussing them with outsiders.

5. The Hygiene Promotion Program in the village utilizing the PHAST approach for behavioural change of hygiene practices improved the health of the population and encouraged proper use and maintenance of the water and sanitation facilities.

The hygiene volunteers from the WASH committees received a separate training to perform individually with the beneficiaries and to address the different hygiene improvement needs of the beneficiaries. Their training is therefore designed to be an “on the ground training” - mostly on an individual basis. The training covered the following aspects: PHAST approach, health and hygiene practices and behaviours, water maintaining techniques and group dynamic methods like to promote the instrument of traditional village free labor work (Shramadana) for environmental cleaning.

Lessons learned

Past experience has shown that one of the most important aspects of such an endeavour is to ensure the future management of the constructed facilities. In order to achieve this, the capacity of the WASH committees must be developed in such a way that they independently can take charge of the long-term maintenance themselves. This, of course, directly depends on the successful generation of income in order to cover maintenance costs. In addition, it is very important for the committees and communities to develop a sense of ownership over the facilities. For that to be ensured, the WASH facilities must be wanted and needed by the community in the first place. There must be an obvious need for a sound management of the WASH systems and the communities must be motivated to try and achieve the set objectives. The communities must acknowledge the fact that the time, effort and money invested make a meaningful contribution to the development of their community. Finally, some committee members will experience their role as a chance to build up their own capacity and skills and take over responsibilities.

We must never forget though, that even the greatest initial motivation wears off as time goes by. And hence, there is a need for a disciplined follow up in order to keep the structures intact. In any case, the founding of a WASH committee is only the first step, whereas the process of improving the capacity of the WASH committee members is a guarantee for the long life of the water supply system. This process has to be monitored for at least 6 – 12 months, if one wishes it to be successful.

Another crucial aspect of such an approach is to link the WASH committees to the relevant local authorities (Pradeshia Sabah, Divisional Secretariat, Ministry of Health etc.) and other stakeholders of civil society (Rural Development Society, Women Rural Development Society, Temple Leader) so that the beneficiaries have access to the decision-makers through the WASH committee, in order to improve their lobby work.

With the WASH committee being a registered CBO and having its own funds, it could be a start of a wider development strategy within the villages. This would help the WASH committees to draw more attention towards their villages, ensuring more support to the community. The legal status of the committees is crucial as it is essential in order to open a bank account or enter into contractual agreements, to have access to loans from a bank, apply for funds from other donors or receive trainings from governmental

authorities. The CBO has to exist and prove its activities in accordance to a mandate as well as present an annual report in order to receive an official registration number from the authorities.

Conclusions and recommendations

Legal arrangements such as the registration as a community based organization emphasize the long-term character and importance of the Committee to its members and the community. The Committees require recognition and a legitimate authority to perform their tasks, which include setting up rules and regulations for using the WASH facilities, collecting financial contributions, solving any water facility disputes and liaising with local authorities.

The WASH committees should be able to work out ways in which the sustainable use of the facilities can be ensured. These will include self-funding options for maintenance after the project completion. Previous project experience in this field has shown that the opening of a „maintenance accounts“, water charges or income-generating activities by the committee is usually sufficient. The goal is that the Committees are motivated to generate funds for maintenance and save it in a transparent manner only on this designated “maintenance account”. This is an essential component of the project, which is time consuming and involves various stakeholders: local villagers, schools and other public institutions, local government and authorities, and local partner organizations.

The rehabilitated or newly constructed facilities, built with the strong participation of the target population, should not only bring short-term benefits (that is the cash-for-work approach) but also transfer the knowledge on construction, operation and design to the target group. This is seen as a key measure to restore the confidence of the former refugees into their own capacity, thus making them more optimistic and in charge of their future.



Photograph 1: Problem analysis via community mapping in the PIWASH training



Photograph 2: Construction of water reservoirs through Cash for Work by the village community

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