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Long Paper  

Participatory Improvement of Water Supply, Sanitation and Hygiene Situation (PIWASHRA) in Iroonooruvil, Resettlement Area of Batticaloa District on the East Coasts of Sri Lanka  

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Abstract/Summary  
The focus of the project is the reconstruction and the rebuilding of war-damaged infrastructure, especially the reconstruction of suitable adapted water supply system by the planning of the technical measures (wells, rain water storage) in cooperation with the communities. Through the direct involvement of the users in project planning and implementation and the establishment of water committees to ensure the participation of target group and thereby initiates the strengthening of their self-reliance through Participatory Hygiene and Sanitation Transformation. Also, Cash for work (CFW) activities and the inclusion of income-generating activities improve the medium-term self-reliance of the target group and contribute to the sustainability of the project. All project components are geared to the needs and potentials of the participants and involve all ethnic or religious groups and local authorities in the region against the backdrop of civil war and the need of strengthening the civil rights of the target groups.  

Introduction  
Sri Lanka faced a nearly three-decade-long civil war between the Tamil separatist movement and the Sri Lankan army. During the fighting, many of the citizens were forced to leave their homes and flee to one of the many Internally Displaced Persons (IDP) Camps. The fighting was only interrupted by the Tsunami at the end of 2004 and the re-construction thereafter. In this period arche noVa started its work in the east of Sri Lanka. Now after the war, the government has access to former Tamil-controlled areas but their support is very low. The infrastructure was severely damaged and the local self-help skills are severely weakened and by the returning traumatized IDPs. Access to water and sanitation, hygiene facilities are inadequate and the government also doesn't show much action to improve health and hygiene related services except providing basic health facilities through existing systems (e.g. hospitals). Villages are often isolated and face many constraints. These constraints include limited availability of transport, lack of functioning infrastructure, a severe lack of water (particularly during dry season), lack of electricity supply and limited livelihood opportunities (through lack of markets and a very limited range of products due to strong agricultural focus on paddy cultivation).  
The project area is situated in the western part of Batticaloa District in the Eastern Province of Sri Lanka. Apart from paddy-cultivation and fishing it generally provides low natural resources and few opportunities to generate income. The main industry is agriculture, especially rice cultivation for the local market and limited export. Because of the acute water shortage in the months of May to November in most inland areas one harvest only can be made per year. People can often not afford to own land. Therefore people work as daily manual labour in the fields or in the surrounding cities outside of the rice growing season. Another problem is the lack of secondary schools in the area. This leads to an average education level in the East of Sri Lanka that is below standard for the rest of the country.  

It was observed by the inhabitants of the villages that the rainfall pattern of the monsoon has changed over the years. It's not clear yet if these changes are due climate change or only temporary or regional reasons. At the beginning of 2010 there was major flooding in the East and North of Sri Lanka and one million people were affected. This created a major run-off into the big water reservoirs – which ran full and had to be opened to prevent over-topping. This in turn led to massive amounts of storm-water draining 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 over-topped
the well walls.

It is hard to say, which percentage of the events can be attributed to de-forestation across the now vast treeless paddy-plains here. Equally it is hard to determine the share of climate change with its effect on changed rainfall patterns during monsoon season. There are a number of studies from India about the subject. These are amongst others: Samarajalingam, Shanmuganandan (2003), Sathaye, Shukla and Ravindranath (2006); and Das (2010).

Despite the floods the groundwater recharge proved to be insufficient in 2010 and 2011 to serve the growing population in the area. Almost two thirds of the village wells completely dried up between May and November, resulting in water supply shortages for the rural population. Currently, about half of the population in the re-settlement area is supplied by water-bowsering during the dry season.

The population in the project area rejects the direct use of rain water for drinking because of cultural reasons. The indirect use of water from lakes after its infiltration in the soil and removal from wells located down the valley is culturally not problematic. According to an internal study the rural population in the project area only accepts rain water for toilet-flushing purposes.

In a summary: The re-settlement situation after the armed conflict along with the land use (intensive paddy culture), soil-properties: (fine-grainy soils in top-soil and rock below) the topography (flat), damaged infrastructure and transport ways and the conservative culture of the rural population create the need for a well planned approach for each project area, which we have given the name PIWASHRA.

**Description of Approach**

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

The first step is a campaign to mobilise the village and helping them to make decisions about the type of system of water supply by the people themselves, according to the conditions. The important tool for construction work is "Cash for work". The knowledge about the preferred water supply system will be transferred to the villagers, reinforce the sense of ownership and improve the income of the users. 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 receive capacity building in empowerment, managing a funding system and income generating activities. As a result the duty of personal responsibility made them also less dependent on government power. In order to present the chronological order of project measures per village/school in a more easy going way, there is detailed information available in Annex I.

All the technologies applied in and partially designed for PIWASHRA have several things in common. These are as follows:

- They can all be built with little or no construction knowledge by farmers or with the help of local masons, plumbers and carpenters (where necessary).
- All techniques use only locally available materials
- They can be built with only manual labour and without heavy construction machinery
- They are culturally accepted by the local population

**Main results and lessons learnt**

**Summary**

1. Construction of surface water reservoirs for artificial groundwater recharge and rehabilitation of a downstream located extraction well to provide safe drinking water to the communities during the dry season
2. Construction of model sanitation facilities at by the community selected private houses, which can be used during dry season - in order to encourage copying of the toilets to other houses

3. PHAST-(Participatory Hygiene and Sanitation Transformation) oriented preparation and accompaniment of the beneficiaries through hygiene volunteers from the village

4. Community Mobilisation and establishment of WASH Committees as registered Community Based Organizations (CBO) to secure future maintenance true ownership and behavioural change of hygiene practices to reach sustainability through beneficiary-based construction (cash for work) to encourage proper use and maintenance of the facilities

5. Hygiene Promotion Program in the village utilising the PHAST approach for behavioural change of hygiene practices for a improvement of health in the village

Report

Result 1. – 2. For the 800 inhabitants in/around the village of Ironoruvil in Manmunai West Division a percolation dam was constructed for artificial groundwater recharge and abstraction is via a protected drinking water well. The dam has a length of about 110 metres, average width 12 metres and a height of 3.5 metres. The achievable amount of water at full charge is according to geodesic surface modelling around 1,500 m$^3$. A ground-water protection zone between the dam and the drinking water well (60 metres) was established.

The first and second phases of the project were village mobilization, participative project planning and cash for work-oriented implementation of the dam construction (the average number of workers was at around 55 people per day).

After the dam construction phase three of the project included follow-up and capacity building. This was carried out in the form of different training such as:

- dam-maintenance training (here also tools such as hoes, shovels, wheelbarrows, sand bags were given to the WASH Committee)
- CBO-Management Training
- Leadership Training
- Business Development Training
- Financial Training
- Hygiene Promotion Training to Hygiene Volunteers

Furthermore an organic vegetable garden was created in water protection zone to protect the groundwater in the extraction well and as an income generating activity for the WASH Committee. The background for this is that 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 therefore more important.

During the PHAST workshops the villagers themselves evaluated their sanitation situation. As a result they chose the locations for 3 model toilets to build by the project in the village. Later it turned out that the people didn’t like the dry-toilet design (Ventilated Improved Pit Latrine - VIP), because they didn’t want an “African Toilet Design” Therefore it was decided to change to a flushable toilet design with squatting pan. For the future the WASH Committee has the task to push the villagers for adopting the model toilet design for their houses.

Result 3. – 4. A baseline assessment of the WASH Committee is the primary step to identify the present situation of the formed committee and the key members of the committee, based on this assessment the training needs of the committee will be identified and to develop a comprehensive plan for capacity development. This was performed through group discussions or structured interviews. The mobilization training for board members of the WASH Committee was facilitated to enhance the mobilization process. This will enable the board members to organize the villagers to maintain the constructed WASH structures, to initiate livelihood measures for the WASH facilities and to organize the people to improve hygiene behaviour in the village. Apart from that the mobilization training it shall encourage the board members to actively approach other structures such as other donors and the government to further improve the Water and Sanitation Situation in
In a way, the mobilization training assists the WASH Committee to enhance work ability at the field level. Therefore this training was planned as Training for Trainers for the board members of WASH Committees, (altogether 10 members per village, 1 training programme per Division) There were the three following topics to be covered in the mobilization training: small group formation and function of the group, CBO-formation and function of CBO, documentations of small groups and CBOs.

Furthermore the following training was conducted with the WASH Committee:

- CBO management training: This training benefited to develop systems and regulations of the WASH Committees, such as vision, mission, values, strategies, action plan etc. The functionary members of each WASH Committee were the target group for this training. Develop the internal system of WASH Committee included leadership training to develop efficient practices and exposure visit – experience sharing lesions to providing space to find participatory solutions for major problems.

- Economic strengthening of WASH Committee: The following training activities enhanced the economic status of the WASH Committee like Facilitate to commence livelihood projects. Since the majority of the target population is very poor and marginalized, income generation assistance in both family and WASH Committee should help for the effective implementation of the project. Previous experiences are evidence that there are several possibilities available to start businesses such as bricks production, vending business, animal husbandry etc, at the society and the household levels or like in the Ironoovil village organic gardening.

- Business development orientation workshop. Mobilization is naturally interconnected with savings and other economic related aspects, and the income generation is the central key element to continue function of the WASH Committee. Arche noVa conducted brainstorming sessions with the board of the WASH Committee to make them aware about funding possibilities like Governmental funds, INGO support, fee models and livelihood measures such as small re-sales business, re-packing, committee-gardening in the drinking water protection zones etc. Then the separate business plans was developed under strict participation of the WASH Committee and community members.

Seed capital – There is an allocation of fifty thousand Sri Lanka Rupees called “Seed Fund” given to each WASH Committee after the implementation of the constructive measures. With this money, acting like a “seed” for the future functioning of the WASH Committee first small investments especially into livelihood measures can be initiated to create a starting point. This can be to buy chilli, sugar etc. for re-packing and selling and for any other small business agreed upon within the WASH Committee. The “Seed Fund” is given (when maintenance costs are still low, as systems are new) in order to create enough income through livelihood measures for the committee to maintain all WASH-infrastructure in the village and to manage the administrative costs of the WASH Committee in future.

In order to make sure that this money is not wasted or misused or lost the maturity of the WASH Committee is the striking criteria to decide, when they can start the livelihood and when the seed money can be given to them. Accordingly the seed-funds are given in the form of instalments after the financial training and the business development training, if there is a strong motivation visible to seriously start small businesses and proper initiative taken also by the villagers. This all is constantly monitored by our local partner-NGO CRDO, which also carries out the mentioned trainings.

Result 5: Mobilization Training for Hygiene Volunteers: The hygiene volunteers require a separate training to perform individually with the beneficiaries to address the different hygiene improvement needs in the beneficiaries' households and in the individual project sites (dam, toilets). Their training is therefore designed to be an “on the ground training” - mostly with individual beneficiaries. The training covers the following aspects: hygiene practices & behaviours, water maintaining techniques and group dynamics. In terms of participants there are male and a female hygiene volunteers in each locality of each village. The Volunteers are trained in hygiene practice and awareness on house hold level, use of the instrument of village free labour work (Shramadana) for environmental
cleaning, demonstrations related to sanitation and hygiene promotion etc.

Lesson learnt

Experience has shown that it is necessary to ensure the future management of the built facilities. In order to achieve this, the capacity of the WASH Committee must be developed in such a way that they can independently make the long-term maintenance themselves. This again depends on the successful generation of income to cover maintenance costs. With motivation often slowing down after some time (after the end of the project) there is a need for follow up to keep the structures intact. Another crucial aspect is to link the WASH Committee to relevant local authorities (Pradesha Sabah, Divisional Secretariat, Ministry of Health etc.) and other stakeholders of civil society (Rural Development Society, Womens Rural Development Society, Temple Leader) so that the beneficiaries get access through the WASH Committee to decision-makers or to improve their lobby work.

With the WASH Committee being a registered CBO and having its own fund this could be a start of a wider development within the village. This would help the WASH Committee to get more attention in the village and also support from the whole community.

In any case - the founding of a WASH Committee is only a first step, the process of improving the capacity of the WASH Committee including giving them different tools to insure the long life of the WASH Committee is a guaranty for the long life of the water supply system. This process has to be monitored and guided for at least 6 – 12 months if it will be successful.

Conclusions and Recommendations

The WASH Committee should be able to work out ways in which the sustainable use of the facilities can be ensured. This will be self-funding options for maintenance after project completion. Previous project experience in this field showed, that of opening a "maintenance account", water charges, income-generating activities by the committee, supported by water authority, etc. is sufficient.

The goal is that the committee may be embarrassed enough to generate funds for maintenance and save it only on this designated saving account. This is an essential component of the project, which is time consuming and involves mainly various stakeholders: local villagers, schools and other public institutions, local government and authorities, and local partner organizations.

The rehabilitated or newly constructed facilities to be built with the strong participation of the target population should not only bring short-term benefit with the cash-for-work approach but also transfer the knowledge about construction, function and design into the target group. This is seen as a key measure to restore the confidence of the former refugees into their own power and be performing parts of a village communities and the whole country.

References


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Annex

**PIWASHRA Procedure Setup in Village**

1. **Preparation Phase**

   - **Time**: 1 week
   - **Activity**: Rapid Assessment “Screening” (after project approval from Government Authorities)

   - **Time**: 1 – 3 days
   - **Activity**: Internal choice in team

   - **Time**: 1 day
   - **Activity**: First Village Meeting with authorities to “inform and prepare”
     - information on project
     - ask to identify candidates for WaSH-committee
     - get clearance for in-depth assessment (PHAST Step 1)

   - **Time**: 1 – 2 days
   - **Activity**: In-Depth Assessment (geo. survey, water testing, social information before works) to elaborate suggestions for decision about project in village (PHAST Step 2)

   - **Time**: 1 week
   - **Activity**: Focal Group Discussions with stakeholders to prepare decision making in 2nd meeting (PHAST Step 3)

   - **Time**: 1 day
   - **Activity**: Second Village Meeting “decide and create”
     - decision making on project
     - formation/extension of WaSH committee
     - elections wash committee and group leaders
     - identification of store, storekeeper (PHAST Steps 4.5)

   - **Time**: 1 - 2 weeks
   - **Activity**: final design, financial calculation, budget check, permission from government

   - **Activity**: Registration of families with group leaders

   - **Time**: 1 day
   - **Activity**: Third Village Meeting “documents and way forward”
     - signing of MOU with village and committee
     - signing of CBO - Constitution
     - Introduction to toilet promotion with decision about place for model toilet and hygiene program, livelihood measures

   - **Time**: 1 day
   - **Activity**: WaSH-Committee account opening
2. Implementation Phase

3 days
- Preparation of works

7 – 40 days
- Physical Implementation (with intermediate cash pay-out to workers after one week)
- also includes construction of model toilet

1 day
- Hand-Over

3. Follow-Up Phase

1 day
- Maintenance Training to WaSH Committee

2 days
- Hygiene Program and Private Toilet Promotion (also belongs PHAST Step 5)

1 week
- Other Trainings:
  - CBO-Management Training
  - Leadership Training
  - Business Development Training
  - Financial Training

min 6 months
- Monitoring of WaSH-Committee Work (PHAST Step 6) and Final Evaluation (PHAST Step 7)

after 3 months
- Hygiene Competition (optional)

after 6 months
- Maintenance Training (refresh) to WASH Committee (optional)