IWRM Action Hub

CASE STUDY

Sri Lanka: Disaster Risk Reduction through Climate Change Adaptation in Aranayake

Aranayake, a secluded agricultural area known mainly for tea and spice cultivation, came to the limelight for tragic reasons with the Samasara landslide of May 2015. Caused partly due to climate change and partly due to anthropogenic influences, the landslide was a result of 6 days of constant high intensity rains. The incident also caused the highest number of casualties ever recorded in a Sri Lankan landslide.

Background

Maha Oya is the third longest river of Sri Lanka which provides water for agriculture, industry, and domestic needs to approximately two million people from Aranayake. Aranayake, a significant part of Maha Oya upper catchment is severely, continuously, and increasingly water stressed. It is a secluded agricultural area are known mainly for tea and spice cultivation, came to the limelight for tragic reasons with the Samasara Landslide of May 2015. The landslide was result of incessant rainfall for six days straight which caused highest number of casualties ever recorded in Sri Lanka for landslide. The growing tendency for climate change related high intensity rains to be blamed for landslides, which are becoming a more frequent occurrence in catchment areas.
Of the 62 Grama Niladhari divisions in Aranayake – an administrative division used at a rural level in Sri Lanka - 60 were classified as disaster prone. Following that, Landslide sites and community groups in the ‘Medium Risk’ category reported intensive water shortages in the upper catchment. It suffered an extreme drought with very low base flows with increased logging and loss of tree cover, soil erosion increases, which increases the risk of landslides. Due to this, turbidity increases as a by-product and water purification for drinking purposes becomes more difficult and expensive, affecting the catchment’s water security.
The Soil Conservation Act of 2009 seems to be in abeyance in Maha Oya upper catchment. Available water in wells, springs and hand pumps was observed to be turbid in Galbokke; forcing poor families to spend ~ 200 LKR per day in dry spells to obtain water from external sources. A lucrative trade in hauling water in trishaws sprung up in Aranayake.

Actions taken

Sri Lanka Water Partnership (SLWP) collaborated with the University of Colombo to carry out a major activity in Aranayake titled "Water Quality Distribution and its Impact on Community Livelihood Development in Upper Catchment of the Maha Oya River Basin" supported by Janashakthi PLC in Aranayake. The activity included reforestation of significant catchments and riverbanks, support for women programmes as well as construction of Rainwater Harvesting (RWH) systems in Rahala West School and

Hemmatagama hospital. The Maha Oya Mithuro: Friends of the Maha Oya is the oldest Area Water Partnership (AWP) in Sri Lanka established in 2001. Through the AWP, GWP Sri Lanka (also called Lanka Jalani) has played a catalytic role in bringing stakeholders together to foster productive management of water resources in the area and have been involved in tackling the issues of illegal sand mining and other community development activities for nearly two decades. To implement the Disaster Risk Reduction (DRR) activity outlined in this case, Hatton National Bank (HNB) entered into an agreement with GWP Sri Lanka in January 2017 with the following objectives:

- Improving school sanitation, renovation of school sanitation facilities and supplying RWH tanks and associated activities for 10 selected schools across Aranayake to improve levels of hygiene and community well-being.
- Enhancing awareness and carrying out sanitation sensitization of school-related stakeholders in targeted communities.
- Improving access to education for improving health and leading to better living.

Outcomes

10 schools with 2,214 students and 168 staff members were provided with RWH tanks and trained on how to operate and maintain these structures to raise water security of the region. Al Jalal School was already collecting water off the roof in a barrel when the reconnaissance survey was carried out and the idea of a proper RWH tank was extremely well received. All schools responded well to the activity and maintained it post-completion. At every school students, teachers and parents expressed gratitude for provision of water as they had been faced the trauma of an extremely dry spell.

This activity and the ongoing drought raised awareness of the school community on valuing water as a resource. Due to recognition of the contribution by the Maha Oya AWP, Mr Chandra Ranatunga, Chair of the AWP was appointed as a member of the Cabinet Task Force on Kelani Ganga that reviewed pollution mitigation issues. Post the tree planting activity, it was noted that a large retaining wall was being constructed already, as the authorities had realized the need for further embankment protection.

Lessons Learned

This intervention addressed a real issue impacting the lives of communities in Sri Lanka’s Central Province. The complexity of this disaster has highlighted the need for operationalizing SDGs in future activities and moving from disaster relief to disaster risk reduction.

Consensus measures were taken to improve soil conservation in relation to tea smallholdings and reforestation which induced strong possibility of another landslide. Engaging community helps to identify the important form of Disaster Risk Reduction – a participatory model supported by local.

In a scenario where DRR is of critical importance, schoolchildren can be the most important conduit of DRR information. A non-supportive environment for ecosystem protection is caused by a school system, which does little to foster encounters with ground conditions.

Schools that received RWH tanks are expected to use this for maintenance of school attendance especially for girl children. Menstrual Hygiene Management (MHM) calls for properly maintained, preferably girl friendly toilets.

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Communities of Practice
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