

# RESTORATION OF THERIKKULAM POND, KALAMASSERY



## Annual Report

**2018-19**

*Submitted to:*

**Apollo Tyres Foundation**

*Implemented by:*

**TROPICAL INSTITUTE OF ECOLOGICAL SCIENCES (TIES)**

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## INTRODUCTION

Conservation of ponds is by now an acknowledged solution to the water scarcity and ground water depletion. In the past, ponds were a part of everyone's daily lives because uses of ponds are many. It conserves water, supports agriculture and other water needs, provides a viable condition for local wildlife such as birds, butterflies, dragonflies, damselflies, frogs, crabs *etc.*. Ponds are ideal habitat for lots of organisms. Ponds also support their breeding.

Water scarcity has emerged as one of the most prominent issues faced in the world. Though Kerala is known for its water bodies, there are many people struggling to meet their water needs and left agriculture due to water scarcity. On one hand, a large number of people are thriving for water; on the other hand a large number of water resources are ruined. Conserving the ponds can definitely help us with the rise in water demand.

Ponds are also able to provide sustainable solution to pollution and water management issues. Ponds are identified as good sources for denitrification, sedimentation, removal of phosphorous, nitrogen and sediments from surface water. Besides, ponds support the ground water table too, which may benefit the community and nature especially during summer seasons. It is found that a pond of 500 m<sup>2</sup> is able to sequester 1000 kg of carbon which is equal to the amount of carbon produced by a car at the same time (Cereghino et al. 2). Pollution is a major threat to most of the ponds, especially while they are in an abandoned condition. Many of the ponds are left unclean mainly due to management issues.

Santhigiri Mattakkad Therikulam is a public pond owned by Kalamassery Municipality and is located in the 13th ward. This perennial water body was previously surrounded by paddy fields, which now have been turned to human settlements. The pond is nearly a century old and was the major source of irrigation for the adjacent paddy fields. When the nearby paddy fields were leveled up and converted to human settlements, it affected the overall nature of the pond. The pond is about 53 cents of area. In addition to irrigation, the pond was also used as a bathing ghat and for doing laundry. A rivulet passing through the area has acted as the inlet-outlet channel for the pond. Later with the human settlements established in the area, the water in the rivulet was mixed with the grey water from the households. It resulted in the quality deterioration of the pond water. To mitigate this, the inlet-outlet was blocked by the community.

The pond was well maintained in the olden days. In 1974 -75, the then Panchayath laid the supporting walls around the pond. After that, the Kalamassery Municipality renovated the pond. The pond was cleaned, deepened and side walls were plastered. However, as the pond is not regularly cleaned, it gets filled with weeds disallowing people from using the pond. In addition, the number of women, who earlier used to use the pond for taking bath and washing clothes, was drastically reduced as people started to build houses nearby the pond which hampered their privacy. People's dependency on the pond was reduced and it

is now in an abandoned state because of the stagnant water and reduced water quality due to eutrophication.

## OBJECTIVE

- To propose a detailed project for rejuvenation and maintenance of the pond with management and governance plan
- To protect the Therikulam pond as a sustainable source of water
- To aware the community on the importance of conservation of surface water resources through experiencing ecosystem services of the Therikulam pond
- To sustain the quantity and quality of the water through proper maintenance and community management practices (participatory approach)

## DESCRIPTION

In order to explore the scope of restoring the pond and recur people's dependency on the pond, Apollo Tyres Ltd has conducted a pre-project study on Therikkulam, assessing the biodiversity components and human interaction of the pond. From the community survey, it was found that the pond used to have rich fish diversity in the past. With the inlet-outlet closed, the entry of fishes from paddy field has been stopped. Hence, the population and diversity has reduced over time. Currently, the presence of 3 species is reported. *Hydrilla verticillata* is the only aquatic plant present in the pond, but there are 50 floral species found in the periphery of the pond. The area supports 12 avian species, 9 butterfly species and 8 odonates.



**Figure 1:** Removal of Hydrilla from Therikkulam

From the study findings, it is very clear that the pond was an ecologically and socially significant entity of the community, over the last 100 years, it still possess some significance in this regard. In order to bring back the pond into its original state and make it a suitable and sustainable water source, a full-fledged rejuvenation plan has to be implemented.

In order to conserve the pond, it was cleaned and the existing retaining wall was renovated. A tiled boundary slope was constructed with steps for entering the pond. Also, hand rails were constructed around the pond. In order to enhance the green cover, native flowering plants were planted around. The crape jasmine plants were planted near the boundary of pond. The total construction was completed on February 30, 2018. The pond was handed over to the community for its sustainable maintenance.



**Figure 2:** The state of Therikkulam- after rejuvenation activities

## **CONCLUSION**

Therikkulam pond rejuvenation programme was highly significant because it offers a chance to demonstrate the sustainable conservation and use of a pond with community participation. This will be an inspiration to the entire state to utilize neglected community ponds as a source of water for their daily use.