Rain Army from Kannur

The life of the people in Kerala is very much connected to the rain fall. The cultivation and each and everything in Kerala is really connected with the Monsoon. Rain has got that much relevance in the life style of Keralites. Compared to other states in India, Kerala has more water resources, but still due to the changes in the climatic conditions and pollution, the scarcity of drinking water is increasing in the state. Only by saving the rain water, this problem could be solved to an extent. Several district missions had taken up this issue with great importance. Rain Water harvesting could be the only solution to overcome the issue. Not only as a socially responsible act, but also it is viewed as an initiative to find livelihood for women. In Kannur district, Rain Army project is being implemented and the Kudumbashree women in the district had started working on it. They believe that even a small gesture of wise act can bring in a lot of positive changes. Let's look into the activities implemented by Kannur District Mission for accomplishing the same!

Availability of Drinking Water in Kerala

Kerala is famous for its many lakes, backwaters and the 44 rivers that crisscross its terrain. But the senseless sand-mining, quarrying and a severe drought followed brought about partially by climate change have created a situation where drinking water has become a scarce commodity for millions of people.

Kerala is the state with large number of perennial strings, streams, rivers and other water bodies and with an average 3000 mm rain fall yearly, the unique water resource problem in the Kerala is that per capita availability of water is lower than national average. This is a result of accelerated surface water runoff to sea, which leaves little water for consumption and causes cycles of water abundance and water poverty. Kerala is experiencing the worst drought in the past few years.

Importance of Wells

Open wells form a critical part of the domestic water supply in the state. Almost all the households in Kerala depend on wells for drinking water. But the saddest fact is that many of these wells run dry in summer. In order to augment the depleting groundwater resources, it is essential that the surplus monsoon run off that flows into the sea is conserved and recharged to augment ground water resources.

In such a crisis situation, rainfall is the major source of ground water recharge. Rainwater harvesting and artificial well recharge have now been accepted as the cost effective methods for augmenting ground water resources and for reversing the declining trends of ground water levels.

Rainwater Harvesting

Rainwater Harvesting is nothing but the accumulation and storage of rainwater for reuse on-site, rather than letting it to run off. Rainwater can be collected from rivers or roofs, and in many places, the water collected is redirected to a deep pit

(well, shaft, or borehole), a reservoir with percolation, or collected from dew or fog with nets or other tools. It can be used to water the gardens, livestock, irrigation, domestic use with proper treatment, indoor heating for houses, etc. The harvested water can also be used as drinking water, longer-term storage, and for other purposes such as groundwater recharge.

Rainwater harvesting is one of the simplest and oldest methods of self-supply of water for households usually financed by the user.

Rainwater harvesting provides an independent water supply during regional water restrictions, and it is often used to supplement the main supply. It provides water when a drought occurs, can help mitigate flooding of low-lying areas, and reduces demand on wells which may enable groundwater levels to be sustained. Rain Water Harvesting also helps in the availability of potable water, as rain water is substantially free of salinity and other salts. Application of rainwater harvesting in urban water system provides a substantial benefit for both water supply and wastewater subsystems by reducing the need for clean water in water distribution system, less generated storm water in sewer system, and a reduction in storm water runoff polluting freshwater bodies.

A large body of work has focused on the development of lifecycle assessment and lifecycle costing methodologies to assess the level of environmental impacts and money that can be saved by implementing rainwater harvesting systems.

More development and knowledge is required to understand the benefits of rainwater harvesting that can provide to agriculture. Many countries, especially those with arid environments, use rainwater harvesting as a cheap and reliable source of clean water. To enhance irrigation in arid environments, ridges of soil

are constructed to trap and prevent rainwater from running down hills and slopes. Even in periods of low rainfall, enough water is collected for crops to grow. Water can be collected from roofs, and dams and ponds can be constructed to hold large quantities of rainwater so that even on days when little to no rainfall occurs, enough is available to irrigate crops.

Scope of Rain Water Harvesting in Kerala

As Kerala depends on Monsoon for meeting the water needs, the rain water harvesting has got an important role to play in the existing scenario of Kerala. The Rain water that we get during the monsoon should be saved and could be redirected to our wells to solve the issue to an extent. The scope of the rain water harvesting in Kerala is immense that the scarcity of drinking water is raising that high.

Kudumbashree initiatives in Rain water harvesting

Kudumbashree Mission identified the need of rain water harvesting in Kerala and thought how it can be used as an income generating profession for the women in Kerala. Kudumbashree Mission is implementing the same in every districts identifying the uses of rain water harvesting.

Rain Water Harvesting in Kannur district

For the open well recharge, rooftop rainwater harvesting is being used in the district. It is a system of catching rainwater where it falls. In rooftop harvesting,

the roof becomes the catchments, and the rainwater is collected from the roof of the house or building. It can either be stored in a tank or diverted to artificial recharge system. This method is less expensive and very effective and if implemented properly helps in augmenting the groundwater level of the area.

The surface that receives rainfall directly is the catchment of rainwater harvesting system. It may be terrace, courtyard, or paved or unpaved open ground. The terrace may be flat, stone roof or sloping roof. Therefore the catchment is the area, which actually contributes rainwater to the harvesting system. Rainwater from rooftop should be carried through down take water pipes or drains to storage, harvesting system. Water pipes should be UV resistant (ISI HDPE/PVC) pipes of required capacity. Water from sloping roofs could be caught through gutters and down take pipe. At terraces, mouth of the each drain should have wire mesh to restrict floating material. Then the water is lead to filtration process. And the water would be then sending to filtration process.

Implementation Phase

For implementing the rain water harvesting in the state, about 5 people were selected from each panchayath and were given training regarding the same. The training was given in the block level and the training for all the panchayath took place at Ward number 8. Around 300 people participated in the training. The training was organized as a two day programme at Cherukunnu Grama Panchayath, Kouvapuram. The training was given in such a way that they were given basic theory sessions as well as the practical sessions. The trainers made

ever members to recharge the well of their own by setting the filter apparatus. The Rain Army was set up during June 2017.

The second level orientation is being planned. A ferrocement tank is planned to be built other than using the plastic tanks. The filter unit would be built inside and gravel, charcoal and metals would be set up in layers of 80 cm each for filtration process. It is planned to give the training classes for the same during April-May 2018. The rain army of Anthoor Municipality had started doing well recharging. It is also planned to launch ME units of 5 members each of well recharging in all the 52 panchayaths coming under 8 blocks in the state.

The Rain Army is all set to start working to make the maximum out of the upcoming monsoon. Once they would start working on it, it would be a source of finding livelihood for many women. The District Mission is extending full support for the smooth implementation of the Rain Army programme in the district.