Rainwater harvesting: A successor to human well-being

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(a) Purpose of study or research hypothesis

1) A rainwater harvesting system will be an economically feasible option for communities in Sindh, Pakistan.

2) A rainwater harvesting system will make an environmental impact by using rainwater for household activities and irrigation purposes and thus engaging in water conservation efforts.

(b) Key issue(s) or problem(s) addressed

Climate change will affect rainfall and increase evaporation, which will put increasing pressures on our ground water table. At the same time, development by a growing population will affect our ecosystems as we increase our demands for water, including reliable and clean water. Rainwater harvesting will continue to be an adaptation strategy for people living in monsoon region, both for domestic supply and to enhance crop, livestock and other forms of agriculture.

(c) Methodology or approach used

The projected will be implemented through some sequential steps, which were necessary to abide by for obtaining scientific outcome. The methodology of this project will be confined to in-depth field observation, 10 years mean rainfall data analyses (2010-2020), calculation of water demand per capita of the studied household, collection, storage, and usage of harvested water of that household, and laboratory tests. The field observations will show that the targeted communities have a severe problem of shortage of pure drinking water, which is instigated for selecting the targeted areas. A rain water harvesting system will be constructed by using locally available components. The rain water harvesting system used in this project will be composed of four basic components: roof catchment, pond catchment, supporting collection system (gutter, screen/roof washer, and flushing system), and storage tank. Harvested water will be tested in laboratory.

(d) Results or conclusions derived from the project

The goal of our project is to present a viable model of a rainwater harvesting system at a vulnerable community in Sindh, Pakistan. Our project will set to prove that rain Harvesting System in targeted villages would be economically and environmentally beneficial to the community. Indeed, in Sindh, Pakistan is in a water crisis caused by drought and dropping ground water table. As a development organization, Pakmission Society has the opportunity to model water conservation methods to its targeted communities. In order to determine an optimal model for a rain harvesting system in targeted villages, measurements of roof sizes, water use, and rainfall will need to be considered. Pakmission Society will consult with rainwater harvesting experts to figure out the most economically feasible option for our targeted communities. we will present our findings to relevant members and respective donors. Overall, we hope this information will be beneficial as a point of reference for future sustainability projects in Pakistan.

(e) Implications of the project relevant to congress themes

Pakistan is situated in monsoon region and receives a lot of rainfall in the few months of the year. As rainwater harvesting is not being adopted in the southern region of the country and all the rainwater poured in the monsoon is wasted as it is not collected properly, thus increasing the pressure on ground water. This is new technique that will be applied in the southern region of Pakistan and will contribute in the better well-being of the targeted community.

Keywords : Rainwater harvesting, natural resource, renewable resource, climate change, well-being, sustainability.