Rainwater Harvesting as a Resilient Approach to Mitigate Water Crisis Problem

M. RAFIQUL ISLAM[*1]

[1]*University of Verona*

People and the natural environment rely on different sources of water. Water supply systems counter diverse difficulties to supply a more sustainable and resilient mode of water. The coastal area of Bangladesh has been periodically affected by moderate to extreme floods, cyclone, storm surge, salinity intrusion that are responsible factors for the water crisis. The central water supply system has been considering as the solution for mitigating the water crisis, but it has been absent in different coastal regions of Bangladesh for a long time. People identify a decentralized and informal water supply system that is rainwater harvesting. This study uses resistance, sustainability, and stability as resilient attributes to identify the resiliency of this water supply structure. The study found that it can resist water crisis 94% in monsoon and 65% in the dry season, their mean expenditure US$ 12.5 and US$ 3.5, need to wait 21 and 3.47 days, recovery level 56% and 75.7% after cyclone *Aila* and *Fani* respectively. Their mean monetary expenditure after a flood is US$2.42, wait 3.81 days, and recovery level 87%. They have been using this mode of water supply for 8.024 (mean) years, 97.6%, 55.8%, and 36% of households get cooperation from family, local community, and organization correspondingly. Overall, 26.54% and 52.88% of household's this water supply mode is highly resilient and moderately resilient sequentially. It suggests that this decentralized system developed resilience against water paucity problems in rural and coastal settings. The research could add some understanding to (Theme A: Sub-theme A3) the national and international debate on the resilient water crisis mitigation and bottom-up water governance approach.

Keywords : rainwater harvesting; decentralize and informal water supply system; bottom-up water governance approach; sustainability; resistance against water scarcity; stability; mean expenditure, wait, and recovery level; resilient attributes