Water, water everywhere, / Nor any drop to drink-An overview of drinking water crisis of western coastal villages of Bangladesh

Gulsan Ara Parvin¹, Rajib Shaw², Rajarshi DasGupta³, Hajime Nakagawa⁴

¹ Researcher, Disaster Prevention Research Institute, Kyoto University, Japan (corresponding authorniruurp@yahoo.com)

- ² Professor, Keio University, Japan
- ³ Senior Policy Researcher, Institute for Global Environmental Strategies, Japan

⁴ Professor, Disaster Prevention Research Institute, Kyoto University, Japan

Western coastal area of Bangladesh is located between $21^{0}30'$ and $23^{0}15'$ north and $89^{0}00'$ and $90^{0}00'$ east. This region is the part of the world's largest continuous mangrove forest, the Sundarbans, as well as estuarine marshlands and numerous rivers, canals, and their tributaries. Due to close proximity to the Bay of Bengal and crisscrossed by numerous rivers and canals western coastal areas of Bangladesh can be treated as an area of water. Storm surges, tidal flood and water logging often induce abundant water and consequent sufferings in this area.



Fig.1 People are living with water

Nonetheless, people of these areas are struggling with severe drinking water crisis in their everyday life. It is noticed that vulnerability to safe drinking water turning to severe because of both surface and ground water are becoming filthy with acute and high salinity intrusion from the Bay of Bengal along with arsenic contaminated groundwater and drought (Abedin, Habiba and Shaw, 2014). Climate change and natural disasters are aggravating this water crisis. Further, arrangement of a dependable water supply system in this area is quite hard due to unavailability of freshwater aquifers at suitable depths (Kamruzzaman and Ahmed 2006; Islam et al. 2010). Though United Nations (2003) claim that access to safe freshwater is a universal human right, people of wester coastal villages are deprived of this right. Due to severe water crisis people of this area are suffering from numerous socio-economic and health problems. Since fresh water crisis is at the center of a number of socio-economic problems, this study intends to overview this drinking water crisis of western coastal villages.



Fig. 2 Map of coastal areas of Bangladesh

Source: Quader, et al., 2017

Based on the field experience of 9 coastal villages of Shatkhira, Bagerhat, Barguna and Patuakhali districts this paper attempts to highlight the water crisis problems.

Since, last few decades different institutional approaches are going on to minimize the water crisis and give access to the fresh water in this area. Pond Sand Filter (PSF), Gazi Tank, Ama Mizu are example of some institutional approaches. However, since majority of the coastal people are poor, their affordability to the different water supply technologies is limited. In addition, there are limitations related to different institutional approaches. Therefore. availability of fresh water is still an acute challenge of western coastal villages of Bangladesh. Considering these water crisis and problems in institutional approaches, this study aims to review different approaches and sources to explores local people's and institutional attempts to provide access to fresh water and to minimize water crisis of wester coastal villages of Bangladesh.

Reference

- United Nations Committee on Economic Social and Cultural Rights. 2003. General Comment No. 15 (2002) The Right to Water. E/C.12/2002/11, United Nations Social and Economic Council, 18.
- Quader, Mohammad Abdul, Amanat Ullah Khan, and Matthieu Kervyn. "Assessing risks from cyclones for human lives and livelihoods in the coastal region of Bangladesh." *International journal of environmental research and public health* 14, no. 8 (2017): 831.
- Kamruzzaman, A.K.M., and F. Ahmed. 2006. Study of performance of existing pond sand filters in different parts of Bangladesh. In Sustainable development of water resources, water supply and

environmental sanitation, 32nd WEDC (Water, Engineering and Development Centre) conference, Colombo, Sri Lanka, 13–17 November 2006, 377–380. Colombo: WEDC Publications.

Abedin, Md Anwarul, Umma Habiba, and Rajib Shaw. "Community perception and adaptation to safe drinking water scarcity: salinity, arsenic, and drought risks in coastal Bangladesh." *International Journal of Disaster Risk Science* 5, no. 2 (2014): 110-124.