

Title: Determination of Location of Shared Stand Posts for Vulnerable People at Duptara Village Piped Water Supply System using GIS

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ABSTRACT

In Bangladesh, a large number of people are suffering from the lack of arsenic safe water. The government, NGOs, external agencies and many other institutions are undertaking different programs to provide arsenic safe water to the populations especially in rural areas. Among the various options available, piped water supply system for rural villages and growth centers is one of the feasible options to provide arsenic safe water in rural areas. Piped water supply is different from other alternative options (hand tube well, dug well, pond sand filter, chemical based treatment household units etc). Piped water supply schemes can provide solution to the arsenic problem and can also deliver water of the appropriate quality and in adequate quantity.

The Government and the World Bank have agreed to support the implementation of an initial group of pilot village piped water supply systems. Within these, Duptara village piped water supply system is one of the pilot water supply systems where the study is conducted to find the location of shared stand posts for vulnerable people using GIS. The study included analysis of vulnerable people of the community who are not able to pay even the lowest tariff for a shared stand post. A limited number of stand posts with free access to water limited to drinking and cooking purposes is to be provided for these vulnerable people.

The study has been conducted in three paras at Duptara village of Araihasar upazila in Narayanganj district through detailed household survey for vulnerability assessment. Twenty criteria have been used to assess vulnerability of a household. The criteria include age, sex, education, marital status, religion, no. of household members, income, housing type, physical disability, current water source, distance of water source, water source of drinking purpose, security issues of women and girls for water collection, quality of existing water, problem for water

collection, arsenic effected patients and suffering from water borne disease. Feasible locations of shared stand posts have been identified based on focused group discussion with vulnerables and consultation with local elites and knowledgable persons. GIS tools have been used to fix the location of shared stand post on the basis of average, maximum and minimum distances. Developed GIS methodology will be useful for generating such data for feasibility study of piped water supply system.