Background / The Need

Information about current water situation, the demand, the sources, the geography, the need. Also information on earlier work done at the current site, by any organization and its current situation and impact.

The primary objectives of Project Well-Aqua Welfare Society are to provide safe water through modern, modified design dugwells, bore-dugwells and borewells, and to establish and encourage community-based groups (CBGs) to manage these arsenic-free water sources, so that they are sustainable. Project Well also regularly educates the community on arsenic and other health issues.

Millions of people are exposed to arsenic in drinking water in West Bengal and other states in India, as well as in neighboring countries, especially Bangladesh. Arsenic is a tasteless metalloid that occurs naturally, in a dissolved state, in some groundwater aquifers in this region. Because arsenic is odorless and tasteless, the water can be heavily contaminated and yet taste fine, as is the case with the crystal-clear water from tubewells in West Bengal. Ingestion of arsenic causes cancers of the lung, bladder, kidney, liver and skin, as well as cardiovascular, respiratory, reproductive, neurological, and dermal effects. Children and those exposed to arsenic in the womb can later grow up to also experience morbid health conditions and cancers caused by exposure.

It has been estimated that in 9 out of 18 districts of West Bengal, more than six million are drinking contaminated water. Project Well developed a sustainable community-based mitigation program in 2001 to provide arsenic-safe drinking water. There are 22 blocks in the district of North 24 Parganas. PW has been operating in parts of the blocks—namely, Gaighata, Swarupnagar, Deganga and Habra 1. In 2007, dugwells were introduced to the Gaighata block, where deaths due to arsenic poisoning have been reported over the past decade.

Project Well has constructed 162 wells so far, and monitors the project, through monthly surveillance, to ensure efficient use of the wells. Special attention is given to the geology in the arsenic-contaminated area where construction of deep dugwells is manually difficult. Wells are sited at least 100 feet away from latrines. The well design is improved every year based on consumer reports.

As we know from the surveillance program, many dugwells get dry in summer, pushing us to rethink the design. In 2008, slight alterations were made to the design of the dugwell to allow for construction of deeper dugwells. One deep bore-dugwell was constructed; the depth and new design were aimed at avoiding drying of the well during dry seasons, which can occur with dugwells. It was a resounding success, as during the driest month of the year (May), there was an ample amount of clean water that was used by 75 people. Thus, in 2009, twenty bore-dugwells and five modern dugwells were constructed. The new CBGs were trained to maintain the dugwells. No reports of diarrheal disease were received from the consumers; on the contrary, there were reports on health improvements and the demand for dugwells in some areas increased.

Registers of the consumers of the 25 dugwells constructed in 2009 are now available. Out of 25 newly constructed dugwells in 2009, seven dugwells were not used at all for various reasons. Among the 18 remaining dugwells, the total number of consumers is 945 and total number of consumer families is 171. This number includes a school of 344 students and teachers.

As mentioned above, the 18 dugwells cater to a population of 945.

The demographic data of the 11 dugwells with detailed demographic data are as follows:

Total number of families: 91

Male: 205

Female: 169
Students: 96 (includes male and female)
children <5: only 5
By July 2010, 45 drinking water sources were constructed for the year. There were 40 bore-dugwells, similar in design to bore-dugwell PW74 from the previous year. The new design has a 20-foot PVC pipe inserted into the 10-foot dugwell. The PVC pipe is 8 inches in diameter and 8 millimeters in thickness. In addition, 10 borewells with 30-foot long pipes that are 10 inches in diameter and 8 millimeters in thickness were also constructed. The bottom 10 feet of this pipe are perforated for easy water filtering. Pictures and reports on each well are available on the PWX website. Arsenic and bacterial analysis of the new dugwells of 2009 were also conducted. Please refer to the March 2010 newsletter attached here.