

Rural Water Supply

Water Pumps: 'from dependence to independence'

"We would like hand pumps because they would give us safe, clean water. They also free us of the worry of power cuts and contamination that affect motorised pump sets and open wells."

.....so reports a member of the Panchayat, (a local Village governing body), of Sivangangai, one of the villages in the Indian state of Tamil Nadu.

Introduction

The statistics show an alarming trend for India; rapid population growth, urbanisation and industrialisation has lead to a greater demand for an increasingly smaller supply of water resource. Hence, water management has become one of the primary concerns in India today; in particular, providing clean drinking water by installation of hand pumps is seen as essential for survival across many rural areas.

Context

Located in southern India, the state of Tamil Nadu has a population of about 58 million, or just over 6 per cent of India's total. Although Tamil Nadu is one of India's most industrialised states, its economy depends largely on agriculture.

A recent study suggests that less than 50 per cent of the state's rural inhabitants have access to adequate safe drinking water throughout the year. Facing severe water scarcity problems and rising demands for water from agricultural, industrial, and domestic users, Tamil Nadu finds that supplying safe, protected drinking water is becoming ever more difficult.

Kamla Foundation is supporting a programme in rural water supply. The project is sourcing and delivering the provision of safe clean water to the poorest segments of rural society—the scheduled castes and tribes, which make up about 20 per cent of Tamil Nadu's population and represent the largest part of its agricultural work force. Concentrated in rural areas, Tamil Nadu's poor often have to rely on contaminated rivers or open wells for meagre water supplies. In cases of extreme scarcity, the state is currently supplying water by tank trucks to poorer villages at an extortionate cost.

The Role of Women

Women play a huge role in water management. Not only do they fetch the majority of water for household uses but they make the decisions on how this water should be utilised, however, they are rarely involved in the planning and management of water and sanitation systems.

The Need

The Foundation has embarked upon a programme of installing a number of bore wells (operated by hand pumps) located across 35 rural hamlets to a rural populace who are in desperate need of safe, clean drinking water. In the past, State policy was to install one hand pump per cluster of 500 persons in rural areas, but this policy often proved arbitrary and missed many of the poorest persons in need.

How the Rural Water Supply Component Works

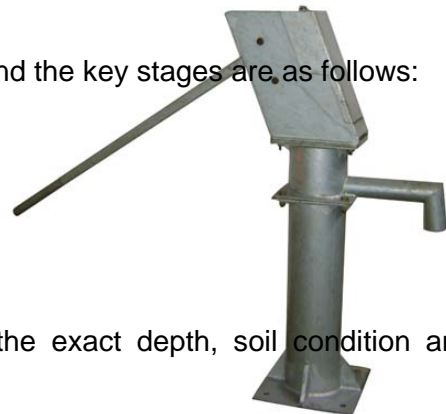
Kamla Foundation is working with the Ford Trust and local Panchayats (Village Councils) to identify areas that lack adequate year-round access to safe clean water. The Ford Trust will be working to a strict pro forma schedule to determine the priority areas and then will consolidate this information and identify the neediest communities. Once a location for the bore well has been agreed and sourced, a survey team will determine the likely soil depth at which water will be struck, the soil profile, and the likely water output. This team will survey common land around a household cluster to select the best location for the bore well and to ensure maximum access for all intended beneficiaries.

Each site will include the installation of the bore well pipe and hand pump and construction of a simple concrete platform and soak pit. Soak pits prevent stagnation of spilled water—an extra health safeguard. The bore well and hand pump represent the most simple, easily maintained, internationally recognised technology available in India. Units can take up to four weeks to install, depending on the soil profile and ensure year-round supply.

Key stages of development

The Bore Well will be drilled to a depth of 3 - 350 feet and the key stages are, as follows:

- Geo hydrological Survey
- Drilling (INR 120 x 300ft.)
- Inner Pipe PVC (average 50ft.)
- Hand Pump Raiser Pipe, etc.
- Platform Construction



*The cost of each bore well will be determined by the exact depth, soil condition and water availability.

Safe use of water

Upon installation the team will test the water for contaminants. Once certified, the hand pump will be turned over to the local Panchayat. The Villagers will appoint a committee of volunteers from their group to protect the pipe, clean the surrounding area, and do minor repairs and maintenance. For this, training will be provided. Furthermore, the committee members will organise public health campaigns for pump beneficiaries. Health care workers from the district will come to these meetings and provide information on the safe use of water, the need to avoid water stagnation around the pump, and the importance of hygiene in its vicinity.

Outcomes and Reasons for Success

So far some 4,500 people have benefitted from the installation of the bore wells, 90 per cent of whom are from scheduled castes and tribes. The project is helping beneficiaries to get safe, dependable water close to their doorsteps, thereby reducing the drudgery of hauling water from open wells and rivers. Village women report that it takes them half the time formerly needed to fetch daily water supplies for their households, providing more time for more productive activities such as day labour or childcare. Beneficiaries also tell of dramatic reduction in water-related diseases once the pumps go into operation. In addition, simple technology means that the pumps can be easily operated and maintained by the local villagers.

The rural water supply component represents an effective model of sustainable development, between the Foundation and its partners, identifying groups of villagers who need improved water supplies, and these groups then taking ownership of and maintaining the completed hand pumps. The partners will provide key technical expertise to locate the best sites, supervise construction, certify the water as satisfactory for drinking purposes, and provide on-going related support.