

PUBLIC HEALTH CONSIDERATIONS OF RURAL WATER SUPPLIES:
USE OF SANITARY SURVEYS

by
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Introduction

There have been many water supply projects implemented during the International Drinking Water Supply and Sanitation Decade. Some of these have been combined with sanitation and health programmes to achieve maximum health impact. Evidence on health impact is sketchy, but indicates that combined water, sanitation, and health education projects realize more health benefits. Since health benefits are difficult to quantify, some agencies no longer consider these benefits to justify rural water supply projects. Although many projects are not justified on a health basis, planners, designers, health officials, and engineers should still consider the public health effects of water supplies and sanitation.

Two basic ways to assess the (potential) health impact of a water supply are: a) laboratory analysis of water samples and b) analysis of health records to determine incidence of water related diseases. The former method is used considerably in the 'North' countries and can be expensive, requiring laboratory facilities, chemicals, and trained personnel. The latter method requires analysis of clinical records (if such exist at clinics close to the water supply) and indicate the problem after the fact.

Sanitary Surveys

One way to reduce the incidence of water-related diseases in rural villages is to establish a system of conducting sanitary surveys to identify sources of contamination and to take measures to reduce or prevent further contamination.

A definition shows how the sanitary survey might be used for this purpose:

A sanitary survey is an inspection by qualified personnel to identify ways in which water-related disease can develop and be transmitted. It is used primarily for identifying the potential for contamination in water supplies at the source, in storage, and in the distribution system. The survey leads to findings which require corrective action. ... (From: A Manual for Sanitary Surveys of Village Water Supply Including Water-Related Hygiene. Master's Thesis by Paul A. Colbert, Chapel Hill, NC, 1985.)

Reasons for use of Sanitary Surveys

With funding shortages by donor agencies and with the poverty experienced in many rural areas, use of sanitary surveys is a first step toward upgrading the water system. The existing village water system can be surveyed and protected more readily and cheaply than installing a new water system. In many villages, priority may be given to having a water supply, but once that need is met, a safe water supply may be low on the list of priorities. The reduced costs of using sanitary surveys and preventing contamination may allow the village to raise the priority of a safe water supply on its list of needs. It should be realized that most corrective action will only reduce contamination and not prevent all future contamination.

Method of conducting a Sanitary Survey

A surveyor is required to conduct the sanitary survey. This person should understand water-related disease transmission and be able to determine how water systems can be contaminated to transmit diseases. Training can be at a simple level; health workers who know about disease can be trained about water supplies and mechanical operations or the mechanics who work with water systems can be trained about disease transmission.

Steps which should be taken for the sanitary survey are:

- 1) Training of surveyors
- 2) Assessment of village:
 - a) leadership
 - b) technical abilities (artisans)
 - c) type of system
- 3) Sanitary Survey
- 4) Report to leaders and mechanics regarding corrective action.
Assist as required.

Possible ways of implementing programmes

Each country, region, or district will have its own unique situation and there is no one way in which this programme should be implemented. The health, water, or community development departments may establish a group of surveyors to conduct sanitary surveys. Ideally, there would be joint collaboration between the departments on the process and findings. The surveyors would be able to visit the villages, perhaps annually, and achieve basic improvements to the water supply (and, perhaps, sanitation and hygienic conditions). The assessment of the type of water supply and its condition can be used by government departments to decide where they can be involved in upgrading the system. Programming for health education and sanitation can also be made.

Another possible way of using sanitary surveys is through rural clinics. As medical workers notice an increase in the incidence of water-related disease from a village, someone from the clinic could visit the village and perform the survey, overseeing the corrective action.

Although teachers are notoriously overworked and underpaid, it may be possible to increase their workload by training them for this work. Since the surveys should only be needed periodically, it should not pose an undue burden on them.

Summary

Sanitary Surveys can identify potential sources of contamination to a village water supply. If the village takes corrective measures, the potential for contamination and, thus, the incidence of water-related disease can be reduced. The methods of conducting the survey can be varied. The corrective actions can be basic and inexpensive. This process can be used as a cheap alternative to more costly laboratory analysis of water or the more costly and time consuming upgrading of the water system, but should only be used as an interim, first step approach to improving public health.