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HEALTH
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POLICY AND COMMUNITY PARTICIPATION IN DRINKING
WATER SUPPLY TO RURAL AREAS

Assignment Report, 31 December 1981 - 14 April 1982

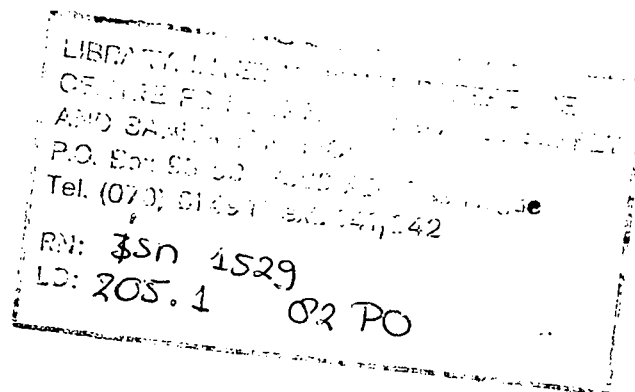
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1. INTRODUCTION

The terms of reference for the Consultant were:

- (1) To survey the extent to which the newly installed water systems are utilized or not utilized;
- (2) To explore probable social, cultural, psychological, economic and administrative reasons for acceptance or non-acceptance and use or non-use of the newly installed water system and to prepare a report thereon, and
- (3) Based on (2) above, to advise measures that should be taken to ensure community participation in the design, installation, maintenance and utilization of water supply.

Three countries were visited - India, Nepal and Burma. Data were collected in all these countries based on discussions at the national and local levels, documents of decade plans, surveys and research studies and field visits to villages. Because of a shortage of time, it was not possible to undertake intensive and in-depth studies. The approach was, therefore, to collect sensitizing data to define the problem more precisely. Information about the policies, the implementation system, coordination of various organizations which were involved in water supply, health programme and rural development was gathered by discussions with officials at various levels. Documents dealing with policies and plans supplemented the information. The data collected related to the existing situation with regard to the coverage of village and population, types of water supply systems, resources availability, criteria for priority, operation and maintenance, monitoring the quality of the water and community participation and response.

From the villages visited, information regarding their idea of good water, their experience of water supply, their contribution, factors that influenced their behaviour, their perception of the benefits of safe water supply, etc., was collected.

In India, besides meeting officials at the Central level, two states were visited and discussions held with the state level officials. As 70% of the villages in Rajasthan are defined as problem villages, and as the progress in Tamil Nadu is considered to be substantial, these states were selected.

2. EXISTING SITUATION

In India, according to the draft Sixth Plan, 93 000 villages have been supplied with safe drinking water by the end of September 1981. In 1961-62 the number of problem villages was said to be 153 000, it has now increased to 324 000. So, there is some difficulty in assessing the exact situation. The reasons for the increase in the problem villages are: (1) a change in the definition of problem villages, (2) continuous drought in some areas making the water table lower, (3) increase in the population. However, it is estimated that about 30% of the rural population has been covered.

In Rajasthan 7000 villages, out of 24 000 problem villages covering 40% of the population have been supplied with safe water. During the Sixth Plan, the remaining villages are expected to be covered. In Tamil Nadu, by the end of 1981, out of 18 000 problem "habitations" 10 000 were covered. The Sixth Plan envisaged covering the remaining 8000 problem habitations. However, it is possible that an additional 14 000 may have to be provided for as these have been defined "problem habitations" by the district panchayats.

In Nepal, a rural population of 900 000 comprising 7% of the total, has been covered as of 1980 by supply of safe water. However, the Department estimates that 80% of the water supply establishments are not functioning. According to the decade plan, 65% of the rural population is to be covered by 1990.

In Burma, about 6000 (approximately 10%) villages (hamlets) have been supplied with safe water covering about 20% of the population. About 2000 of the installed pumps were said to be not functioning. By 1990, 50% of the rural population is expected to be covered.

3. RESOURCES

The outlay in India for the Sixth Plan is Rs 20 070 million (about US\$ 2230 million) for rural water supply. Most of the resources are from the country itself. Only 6% of this requirement is envisaged as external aid. In Rajasthan, the allocation for the plan period is Rs.1080 million (about US\$120 million). There is an additional sum of US\$ 60 million provided by IDA. Some loans may become available from the Netherlands also. In Tamil Nadu, a sum of Rs.950 million (US\$ 105 million) has been provided from the state budget and Rs.250 million (US\$28 million) from the central budget. Apart from this, there is aid from UNICEF and DANIDA - mostly materials.

In Nepal, the total budget is Nep. Rs.1325 million for rural water supply (US\$ 100 million). Between 50 and 70 per cent of this is expected as external aid. Not much of this has been committed yet. Negotiations are in progress.

In Burma, the total amount budgeted is US\$88.3 million for the period 1982 to 1990. In this, the external aid is 65%, the government provision 15% and community contribution 20%. UNICEF's and Australian Government's commitments cover most of the anticipated external aid.

In all the countries, the implementing agencies were apprehensive with regard to the adequacy of resources to meet the targets. They felt that, the increasing cost of pipes, cement, oil, etc., may further add to the problem of achieving the set targets.

Materials required (rigs, pipes, cement, pumps, head of pumps) are adequate in India. They are not available in sufficient quantities in Nepal. There are plans for importing requirements from different countries. Burma plans to set up factories to provide these materials, except rigs. None of the factories has been established yet.

Technical manpower in India and Burma is not much of a problem. In Nepal, there is shortage of such personnel. It has planned to train a sufficient number of the personnel required before the plan period. Engineering institutions and colleges have been set up.

4. THE POLICY

The policies with regard to various aspects of water supply are being described as they have a bearing on the response of the community.

In India, the villages have been categorized according to specific problems (distance and depth at which water is available, water contents, perennial water supply, etc.) and the priority for safe water supply has been set on the basis of this categorization.

In Nepal and Burma priority is given on the basis of population. The village with the largest population is given the water supply on a priority basis.

By and large, in all the countries, the approach is to provide safe water supply through hand-pumps, pump and tank schemes, gravity flow system. While some reference has been made to providing protection for dug wells, ponds, etc., in the plans, there is little operationalization of these aspects.

The location of hand-pumps or the public stand posts is generally determined by the Department itself. The plan is to locate the pump at a place where it would be accessible to the largest number of houses. In Rajasthan, the criteria was "central place". In Tamil Nadu, it was 'neutral place' (so that no individual could claim the pump as his). In Nepal, it was the largest cluster of houses. In Burma, in the dry zone, as near to the village as possible where water was available.

There is a variation as regards the quantity of water made available to the people - from 8 gallons per person per day to 20 gallons. While water is tested when pumps are installed in all the countries, none of the countries has any programme of an occasional random check of the quality of water. The general feeling in Rajasthan and Tamil Nadu was that as the tube-wells were deep (100 to 300 ft.) the possibility of contamination was little. In Nepal, it was felt that stream water was pure as this was stored and distributed, there was no need to test the quality of water. In Burma also, the depth of the well was considered (300 to 900 ft.) sufficient protection from pollution. Provision for chlorination of reservoir tanks was not very dependable in any of the countries. Often, the supply was not adequate. Moreover, there is little supervision by the health authorities at the district or state level.

In all the three countries, where the water supply is through diesel pumps, a technician is employed for operation and maintenance. In India, he is paid by the Government. In Nepal, the village panchayat is expected to collect funds for the payment of the operator. This has

not proved to be satisfactory. Often, the operator himself has to go round to collect the money. In Burma in the dry zone, where people were charged for the water, the operator gets paid from the funds collected. Usually, this is a part-time job as the pumps are operated 4 to 6 hours per day. In case of hand-pumps in India, the plan is to get a local volunteer to be the caretaker, backed by a mechanic at the block level and a mobile maintenance team at the district level. In Tamil Nadu, the plan is in operation. In Rajasthan, a clear policy is yet to emerge. There is at times controversy between the technical department and the rural development programmes, which is usually responsible for the selection and training of caretakers. The technical departments are wary of the capacity of the other departments to manage the operation and maintenance. They would prefer to keep the responsibility within the department.

There is little provision for educating the community on the benefits of safe water particularly with regard to health. In fact, there is little contact with the villagers during the installation of the pump. At the policy level, all the countries give importance to community participation. However, there is no clear operationalization of this concept.

In India, before the pump is installed, there might be discussions with the villagers regarding the location of the hand-pump, but their suggestion is not necessarily accepted. There is little involvement of the people as even the caretaker is often selected by the Department.

In Nepal, the people are expected to provide free labour for transporting the materials from the road to the village side as well as to dig trenches. This has not always come through as it is not possible for the Department to have an exact time-table and to inform the people in advance. Further, problems have arisen as the policy of the Government is to emphasize employment and payment for any work that is done by the villagers. The Departments of Water Supply and Sewerage felt that it was not possible to mobilize a population of over 1500. In Burma, the situation in the dry zone was different as the people are required to contribute by building the reservoir tank, and also to arrange to pay for the petrol and the operator.

Sanitation, both in India and Nepal, was considered very incidental. It was felt that water was the basic need and priority. In fact there is no adequate arrangement for the disposal of waste water. In Tamil Nadu Rs.4 crores have been allotted for sanitation in the Sixth Plan but the contents of the programme of sanitation is yet to be determined. Moreover, it is not clear as to which department would handle these funds. In Burma, there is some effort in this direction but it was not considered adequate.

5. THE ADMINISTRATIVE SET-UP

In India, the Ministry of Works and Housing is responsible for both urban and rural water supply. There is little relation with the Ministry of Health. Although, water supply to the villages is one of the items in the minimum needs programme, the Ministry of Rural Reconstruction, which implements this programme, is not involved in the water supply programme.

In Tamil Nadu, the Tamil Nadu Water and Sewerage Board is an autonomous organization responsible for water supply for both urban and rural areas. There is an effort to have coordination by having a committee in which representatives of the various departments concerned with health and rural development are to be included.

In Rajasthan, the meeting of the secretaries of all departments is expected to provide an opportunity for coordinating the programmes of the various departments. The district advisory council, which consists of all the heads of the various departments including the Chief Engineer of the Public Health Department, is also expected to allow for coordination among the various implementing agencies at the field level.

In Nepal, two ministries are concerned with water supply - the Ministry of Water Resources and the Ministry of Panchayat and Local Development. The former is responsible for rural communities with a population of more than 1500 while the latter is responsible for rural communities with less than 1500 population. The Ministry of Panchayat and Local Development has been set up only about 18 months ago and is still in the process of defining its role and functions.

The Department of Water and Sewerage has a Committee composed of representatives from various departments, which is expected to help in co-ordination.

In Burma, the Rural Water Supply Division of the Agriculture Mechanization Department under the Ministry of Agriculture is responsible for supply of safe water to the rural communities. The Environmental Sanitation Division in the Ministry of Health is responsible for the provision of water supply to hospitals, primary schools and to rural health centres. The peoples' council at the village track (which consists of four or five villages/hamlets) is expected to coordinate the programme of health, education and water supply.

The townships development committees (except for Rangoon and Mandalay), which function under the General Department, Ministry of Home and Religious Affairs, are responsible for water supply to towns. The Urban Water Supply Division is in the Ministry of Construction.

6. COMMUNITY PARTICIPATION

In terms of utilization, where the people considered a newly installed water supply as convenient (distance and effort) and as an inexpensive source of constant water supply, it is good. However, these conditions do not always exist. In terms of contribution through labour, funds and materials by the community, the response in India and Nepal is poor. People do not see any direct economic benefits of the supply of water in India and Nepal (In one school in Rajasthan, seedlings were watered by waste water and sold to the Department of Forestry). In Burma, at least in the dry zone, the time saved resulted in more productive work. The women could spend more time in making jaggery. As the cattle time is saved in fetching water from a nearby place*, they could be used for

*Water is fetched by bullock carts in barrels.

cultivation purposes for a longer period. People were willing to contribute because of anticipated economic benefits. When there is no alternative source, there was a greater possibility of contribution by the people.

In India and Nepal, the time saved was used in spending more time with the children, keeping them clean, keeping the house clean and occasionally looking after the cattle.

The perception of the benefits of safe water supply is one of the factors that influence the behaviour of the people.

The idea of what is "good water" is varied: some mentioned taste and colour; others felt that any water that is in constant motion is pure (streams, rivers, etc.). Well water was considered good as water supply came to it from overflowing underground streams. Water in which food, particularly pulses got cooked quickly is considered good. Some villagers said that water that does not let the plants wither was good. In some villages where water was salty or brackish, the plants were affected adversely.

From the above, it would be clear that the peoples' idea of good water did not relate to the chemical, bacterial or biological contents of the water. There was little indication of the people considering water as a factor in diseases. The beliefs with regard to the causes of illness were somewhat similar in all the countries. In a study in Nepal, the following were mentioned by people as causes of illness.

- (1) Misalignment between oneself and planets spells misfortunate including ill health.
- (2) Influence of evil spirits. There are said to be varieties of evil spirits, causing different types of all illnesses.
- (3) Hot and cold foods or air - which are considered to cause certain illnesses - stomach-trouble, cold, swellings, etc..

In view of these beliefs, the sources approached when one falls sick are: (1) the astrologer and priest; (2) village "magician"; (3) the indigenous medical practitioner who may combine medicines with magic; (4) persons practising modern medicine - usually in that order.

Even these would be approached after the villagers have tried various herbs of which they have some knowledge and changing of food (diet) on their own.

From these practices, it is evident that, in the peoples' thinking, water was incidental to health.

The cost to the people also affects the behaviour of the people.

In Nepal, people were expected to contribute to the salary of the maintenance man. The response in the early stages of the installations of pumps seemed to be favourable, but over a period of time, the contributions declined. Consequently, a large number of water projects were not functioning.

In India, the efforts to levy a water tax in the villages has not been successful. The Panchayats who were to collect it were reluctant to do so.

In Burma, while the people were willing to pay for the water in summer, the moment rain water refurnished the water in streams and ponds, the people reverted to using it from these sources.

The social stratification and hierarchy of villages in India and Nepal have a bearing on the utilization of water. The Government of India, as a policy, now provides for at least one water pump in each scheduled-caste area as otherwise the people in that area would have no access to it. In Nepal, the policy is to give priority to scheduled-caste area if their number is large in a village. When the resources are inadequate and only limited supply of safe water can be given, whether the pump is installed in either the scheduled caste or other area, one of the groups will be deprived of access to safe water. The stratification also affects the maintenance. The "upper" caste people felt that maintenance or repair was not their calling. Scheduled caste people also could not be appointed for maintenance and repair as the pumps repaired by them were not acceptable to the "upper" castes. Only people from particular castes (blacksmith, carpenter or some farmer castes) were thus able to work as maintenance workers.

The terrain too can affect the policy and the attitude of the community. In Nepal, the population in the hilly areas tends to be dispersed. The policy is to locate the public stand post in the largest cluster of houses. This may often be in the lower level. The people living in the upper levels resent this and often damage the water supply by cutting the polythene pipes (which are generally used) or by directing the water to their locality. The pipes are supposed to be buried three feet deep, but this is not often done as the supervision is poor. Moreover, it takes more time and effort which the people are not willing to put in. Consequently, the pipes can be reached easily and cut. It is not easy to find a solution which could satisfy all the people when the population is dispersed unevenly over an undulated area.

The political factors also have the impact on the behaviour of the people.

In India, political leaders have tended to make the rural people more articulate in demanding services from the Government particularly by the deprived sections. With political support, it was evident both in Tamil Nadu and Rajasthan, there was substantial articulation for safe water supply for the scheduled caste areas.

In one village in Tamil Nadu, scheduled caste people were able to pressurize the Government to install a water project scheme in their locality although it was earlier planned for the area of other castes, as their population was larger.

In Nepal, district panchayats have to decide on the priority of the villages to be covered by water supply. The number of villages that can be covered is limited due to inadequate resources. Often, the politically powerful person in the panchayat arranges to get water supply to the village to which he belongs although it may not be as necessary as in some other villages. Such an approach has created problems of response from the villages not provided with water supply as well as in the villages which have been provided with water supply. In the case of the latter, the request for contribution was resented as the water supply was not necessarily a felt need. The political leader, to indicate his popularity, often promises to get contribution from the people - but the promise is not usually fulfilled.

In Burma, political influence through the peoples' councils and the party percolates to the village level. The decision with regard to the programmes for the villages are made at the village track or the township people's council. It is guided by the party organization at these levels. The political organization thus permeates to the village level, and is able to get the participation of the community.

7. SOME CONCLUSIONS

- (1) The coverage of the population by potable water supply is at present low, varying from 5 to 30 per cent in the different countries. The plans are to cover the total population by 2000-AD in Nepal and Burma, while in India the target date is 1985.
- (2) The resources are not quite adequate in all the countries to meet the set targets. The situation in India is far better compared to Burma and Nepal, where two-thirds of the required funds are expected to be provided for by external aid.
- (3) Ministries of works and housing, local development water resources and agriculture are responsible for the implementation of the rural water supply projects. Ministries of health, rural development and education are at best involved only at the peripheral level.
- (4) There is little operationalization of the manner of evoking community participation (except in Burma) although all the countries considered this aspect as an important element in their policy.
- (5) The personnel engaged in the programme are technical (mostly engineers) and indicate little interest in establishing rapport with the community. The medical personnel in the rural areas tended to be too much occupied with the curative services and did not build any relation with the community. They too did not evince much interest in approaching the community or developing a programme of health education.

(6) The response of the community left much to be desired. The causes of non-participation were:

- (a) their beliefs with regard to the causes of illness;
- (b) lack of information to the community regarding the purpose of water supply and their role (in maintenance, etc.);
- (c) the fact that their concept of good water is not related to health and illness;
- (d) the lack of manifest economic benefits of water supply;
- (e) the cost of utilization of water supply;
- (f) stratification in the society;
- (g) the terrain of the area of water supply;
- (h) political influence;
- (i) lack of sustained water supply due to poor maintenance and arrangements for speedy repairs, and
- (j) perception of the people with regard to the convenience and the effort required.

(7) In India and Nepal, the welfare approach and effort to provide all the services by the Government has tended to develop a dependency syndrome among the people. Their approach is to demand more services from the Government. (People were not even willing to dig soakpits to divert waste water). They said the Government has installed the pumps and it should provide the soakpits also. On the other hand, in Burma, community participation seemed to be evoked officially. It is compulsory for all villagers to be members of the cooperative society. The people also had to contribute to the construction of tanks, etc. The People's Council decided the amount of money to be collected from each household.

Both of these conditions bring forth the question of the possibility of getting a spontaneous and positive response from the people in development programmes.

8. RECOMMENDATIONS

It has already been indicated that the data collected are of a sensitive nature. They did, however, suggest areas of concern and areas for further study:

- (1) There is a need for operationalization of community participation in specific terms by the Ministries implementing rural water supply programmes. This could be in terms of (a) funds to be collected, (b) operation and maintenance, (c) specific activities in which communities could provide labour, and (d) arrangements for drainage.

The implementing agency should insist on community participation even if there is delay in reaching the targets.

(2) There is a need for effective coordination between the agencies concerned with rural water supply, health and rural development. There is some provision for coordination through committees at national level. At the implementation level, coordination is not very manifest. The health ministries need to take more interest and an active part in the water supply programme. The health education departments need to develop a more vigorous programme of health education in relation to water supply in rural areas.

(3) In view of the constraints that may not have been fully considered during the planning process or that may have developed later, it may be necessary for some governments to reconsider and fix more realistic targets in providing potable water to their populations by the end of the Decade.

(4) In view of the above, a study of the existing sources of water supply (wells, ponds, streams, rivers, etc.) should be made and an effort to provide some protection at the source where feasible and educating the people in simple forms of making the water more safe, e.g., filtering, exposing water to sun, storage patterns, medication and boiling of water. Such an approach would allow for greater involvement of the people.

(5) Workshops/seminars should be arranged for the personnel concerned with drinking water supply (administrators, engineers, doctors, etc.) to discuss the purposes and the manner of water supply and strategy to evoke community participation.

(6) The present study was of a short duration. The data were gathered by discussion at different levels and observation in the field. There is a need for a more systematic approach in collecting necessary information with regard to the socio-behavioural aspects of rural communities. Such studies could look into the following aspects:

- (a) concept of good water.
- (b) beliefs of people regarding illness and their practices to overcome them.
- (c) perception of the people with regard to:
 - (i) convenience and effort in respect of the installed water supply;
 - (ii) benefits of safe water (economic, health, leisure time, etc.);
 - (iii) difference between the water from the original source and the new source:
 - (iv) their role in maintenance;

- (v) role and functioning of the community health worker;
 - (vi) role and status of women.
- c (d) household survey to find out
- (i) the quantity of water used;
 - (ii) purposes for which water is used;
 - (iii) distance covered and time spent in fetching water;
 - (iv) contribution, if any, in getting water supply;
 - (v) activities if more time becomes available;
 - (vi) role of women in decisions with regard to water used.
- (e) attitude of people to government administration and development programmes.



Annex

OFFICIALS MET FOR THE STUDY

1. India

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See list attached.

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Water Supply and
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3. Burma

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UNICEF

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Mr Myint, Assistant Director, Environmental
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Mr Wing Aung)
Mr Tet Toe) Sanitary Engineers

Field visit

Township Medical Officers (3)
Township Council Presidents (3)
Project Director, Water Supply

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Dr Aung Tun Thet, Department of Economics
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