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**Community participation - water supply  
systems in Karnataka**

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Community Participation in Urban & Rural  
Water Supply Systems in Karnataka (India)

The ALMA - ATA declaration is a global strategy for "Health For All by the year 2000 AD", expressing the need for urgent action by all governments, all health and development workers and the world community to project and promote the health of the people of the world.

This declaration embodies a number of fundamental principles of primary health care. Primary health care has been defined as : "Essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination."

One of the ALMA - ATA declarations included in primary health care is - 'adequate supply of safe water and basic sanitation to the community.'

Achieving the above objectives requires individual and community self-reliance and participation, and should be sustained by integrated, functional and mutually supportive referral system.

In the early days, water supply and sanitation projects were usually designed without community participation, i.e., the beneficiaries are not directly consulted or involved in the design, implementation or operation of the facilities. In fact, public involvement is often considered of little value at best and a hindrance to progress.

In urban and rural areas of developing countries, water supply systems constructed without adequate consultations and lack of community participation in operation and maintenance have not been functioning satisfactorily.

For the success of water supply and sanitation projects, community participation should start from the initial stage of collection of basic data, selection of type of scheme, identification of users' preferences through the planning, design and construction stages, and should continue for proper operation and maintenance of the facilities. The form of community participation and the extent of involvement may vary from country to country, state to state, town to town and village to village.

In the urban areas of developing countries, the lack of community participation has resulted in water supply systems being constructed according to the models of those built in the developed countries. This adoption of advanced technology has provided reasonable water service to the middle and upper income populations and to those in very high income groups.

Increasing the present low levels of water supply service will require either a massive investment of funds and the creation of large service organisations or the use of technologies that are less expensive than conventional ones and which are easier to operate and maintain by users and smaller communities, with limited funds. The use of cheaper alternative technologies clearly offer a greater possibility for realisation of water supply needs, but it will also require greater involvement by the beneficiaries in smaller towns and rural areas to compensate for the absence of a strong centralised institution.

A urban community can probably count on the organisation providing municipal water supply facilities. Community participation will be concerned primarily with selection of service levels with relevance to community's needs, ability to pay etc.

Rural communities, on the other hand, need to develop a system which they can operate and maintain with minimum external inputs. Usually, this means operation and maintenance of the systems with the advise

from a regional technical supportive organisation.

Consequently, planners and designers who formerly concentrated only on the technical aspects of the systems design to ensure efficient provision of service, are now increasingly concerned with understanding users' expectations and preferences. The hope is that with designs that are socially as well as environmentally appropriate will be more acceptable.

The objectives of community participation in water supply are the selection of :  
 (i) technologies that are acceptable to the community and that offer benefits the community considers important at a cost it can afford; (ii) the most effective materials and methods of constructing the appropriate facilities; (iii) technologies that can be operated and maintained by the local population with minimum assistance from outside agencies.

The organisational programme to achieve the above objectives must include :

- i) Determination of the community's existing practices for water use and its attitudes towards them.
- ii) Identification of formal and informal channels for community leadership and communication.
- iii) Determination of the community's willingness to pay for desired improvements through cash contributions, labour or materials.
- iv) Organisation and execution of any self-help construction agreed upon.
- v) Operation and maintenance of community facilities, assistance to users in maintaining individual facilities, and collection of funds.

#### Institution Responsibility in Programme Planning

There are many methods and models for initiating the process of community participation that may be suitable for different communities. Obviously, the approach must suit the particular community, and what is suitable in one culture may not be appropriate in another. Regardless of the agency or organisation responsible for initiating water supply projects, a team consisting of behavioral scientists, community extension workers and engineers is probably most suitable for implementing a programme for community participation. At the least,

the team should consist of technicians familiar with low cost water technology and a person with expertise in public health education, personal hygiene and nutrition. Both should be employees of the agency responsible for providing the community with technical support and should have access to agency specialists such as hydrogeologists, well drillers, engineers, economists, behavioral scientists, health specialists and so forth. The involvement of the community leadership is important for the success of the programme regardless of the method used to implement the programme.

Identification of the several tasks for community participation programme to a successful project can be listed as below :

- 1) Unstructured interviews with community leadership and a limited number of users to identify users' attitudes and preferences.
- 2) Design and testing of a questionnaire for structured interviews.
- 3) Structured interviews conducted with a representative sample of households.
- 4) Presentation of feasible technologies and their costs to the community or its leaders to determine their willingness to fund the scheme.
- 5) Organisation of the construction and execution of the work.
- 6) Continued activities of operating, maintenance and monitoring, including the assessment and collection of fees.

The above first three tasks should be taken at the beginning of the project development. The fourth towards the end of the selection phase and the final two must be scheduled to meet technical requirements and community patterns.

Methodology structure for feasibility study for proposed planning will be through administering questionnaire or conducting household interviews.

#### Programme & Methodology of Community Participation in Karnataka

In Karnataka, there are 243 urban areas (cities/towns) and 26,500 revenue villages covering equal number of hamlets, thandas covering a population of 7.72 million and 26.33 million respectively.

There are 3 Sector Institutions dealing

on Water Supply and Sanitation in the State. They are :

#### URBAN WATER SUPPLY :

##### (i) Bangalore Water Supply & Sewerage Board

This Board is responsible for providing water supply to the city of Bangalore. It has its own planning, design and implementation wing and operation and maintenance wing separately. Each wing is headed by a Chief Engineer.

Coming to the operation and maintenance of the systems, this Board has a PR wing for attending to the needs of the community. The Chairman and Members and Officers of the Board visit every water supply service station in a periodical manner with prior intimation to the public of their visit through Press and T.V. The Community of the area is heard and consulted on every aspect of the water supply system maintained. Their views are noted and systems developed or revamped or improved. They are also motivated through audio-visual techniques, pamphlets etc. They are also motivated and educated on every concept of importance of water supply, its related aspects of public health care, so that the community is involved in every aspect. Even short duration films are also exhibited in important localities, theatres etc., to educate the public on how to conserve water, its usage and the amount of public participation required for maintenance of the systems in good order for the indirect benefit of the people.

The water rates fixed / revised are also circulated for wide publicity to know the opinion of the community before finalisation and levy on the consumers. This is to ascertain their ability to pay and to educate them that every drop of water has costed money and can only be reimbursed in terms of water rates for maintenance of the system on a self-supporting basis.

##### (ii) Karnataka Urban Water Supply & Drainage Board

All the 242 urban areas (excluding Bangalore City) come under the jurisdiction of this Board for providing water supply.

Before planning any system, first the local bodies (community/beneficiaries) are consulted regarding the existing service levels, choice of the source, preferences, financial aspects to invest and maintain the

the scheme etc. The municipal bodies send such community resolutions to the Board for planning the schemes.

The Board collects baseline data in association with the community and according to the required service levels, prepare the schemes. As the community, from the stage of investigation, construction and commissioning of the schemes, is associated, the schemes will be successful both in implementation and maintenance stage. After the schemes are completed and commissioned, they will be handed over to the concerned municipal bodies for maintenance.

The systems maintained by the municipalities are found to be not satisfactory due to inadequate trained staff, lack of funds, inability to impose and collect water rates. The Board has decided to take the water works of several municipalities for maintenance.

The Board is also organising 'Drinking Water Supply Week' every year to educate the community on every aspect of water supply.

#### RURAL WATER SUPPLY :

There are about 60,000 Borewells with hand pumps (to the end of 1983) existing in the rural areas. During the last five years only Indian Mark II H.P. are used.

Three tier system of maintenance of hand pumps has been proposed by the conference of Chief Engineers in consultation with UNICEF. Some attempts have been made to introduce this system to a limited success. One of the most important constituent of this 3-tier system is a "Borewell and hand pumps caretaker".

The Borewell caretaker is the key person in the whole organisation of proper maintenance of the system. The Borewell caretaker is a local person with knowledge of the community in whom the community has some faith and confidence. He is also one who has ability to read and write in local language. The Borewell caretaker is not paid any remuneration or honorarium. However, he is trained at the cost of the Government or UNICEF for 3 days in the proper handling and repair of several types of hand pumps. He is also provided with a small tool kit to enable him to attend to minor repairs. It is purely a voluntary work. Therefore, it is also necessary that the Borewell caretaker should be carefully

selected, taking into consideration the dedication of the individual for the voluntary work. So far the Borewell caretaker programme has been functioning very well in one District, namely Bidar District. These Borewell caretakers are periodically got together for a refresher training to imbibe a spirit of voluntary service in them. The Government officials are required to meet them during their inspection tours and encourage them for such voluntary service. The community is motivated by the officers to protect the water supply installation and to cooperate with the authorities for proper upkeep.

Various media, such as documentary film, cinema slides, posters, periodical talks particularly to the students of Secondary Schools etc., are employed to get the community involvement in the implementation of the Water Supply Programme and its continued proper maintenance.

Whenever there is a major breakdown, the technical staff of the Department will go to the spot to set-right the pump.

## CONCLUSION

The community participation is very crucial for effective implementation of any developmental project, moreso Water Supply and Sanitation Projects. Without the active participation and involvement of the community, the water supply and sanitation schemes will be disused and deteriorate soon. This will defeat the very object of providing safe or potable drinking water and sanitary facilities to the community. Governmental efforts alone will be totally inadequate to implement such a massive programme of providing water supply and sanitation to all the people, even if Government undertakes such programmes. Ultimately, the community has to pay whatever the Government spends.

Therefore, it is imperative that the community participation will result in considerable economy in construction and maintenance. Also, it will instil in the community a sense of belonging which is very crucial for the continued maintenance of the system. Whatever is thrust upon, does not carry much conviction, however useful it may be and hence community participation

plays a key-role. Any effort towards obtaining greater participation and involvement by community is worthwhile and pays back in manifold.

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