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"MANAGEMENT OF DRINKING WATER IN ARID REGION: COMMUNITY ACTION IN RURAL RAJASTHAN"

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In a welfare state,supply of drinking water has been regarded as an essential function of the Government.Some type of preferential treatment of urban areas as against rural settlements can be seen. This is bacause public funds are limited, urban areas must be served by piped supply of treated water and in rural areas, household can manage their own water supply. With rapid increase in population pressure and limited availabity of water supply,rural population in the developing countries face health problems, productivity decline and quality of life deterorates, Efforts have been made to cover entire rural population by ensuring safe drinking water within a radius of 1.6 K.M. In India, still ar ound 25.4 per cent rural population has not been provided with safe water for domestic consumption.

It is pertinent to note at this juncture that rural people have traditionally managed their own water supply. Thus water can be considered as a case of common property resource being managed by the community. This community management worked efficiently as long as population density was low and water supply was abundant. However over the generations, population pressure increased, water supply depleted and Hardins (1968) 'tragedy of the commons' followed as the inevitable eventuality. This necessitaled Government intervention so that mass exodus could be prevented. Else this would have aggravated problems in other areas and endangered stability. Even the international community attempted to improve water supplies by declaring 1980s as the U.N. International Drinking Water Supply and Sanitation decade, the comitment was reaffirmed at the 1990 New Delhi Global Conference on safe water and sanitation.

There is need to ensure adequate supply of safe water and also to create demand for safe water. In case water supply is extremely limited, households will compromise

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with the quality of water and use what so ever type of water is available. If this sort compromise is not reached, the only option available is to permanently migrate elsewhere this type of displacement is appreciated neither by the families concerned nor by the Government.

Desert Region and Water Constraint

The Government of India defined for purposes of drinking water supply ' problem villages' as (i) villages which do not have a source of drinking water within a radius of 1.6 K.M. (ii) villages of which the sources of drinking water have excessive chemicals like chlorides, iron, fluorides etc. or are infested with guinea worm and (iii) cholera endemic villages.

Such strict norms, particularly the first one of 1.6 km. distance cannot be adhered to in desert region of Rajasthan. The State of Rajasthan has an area of 0.34 million sq.km. and accounts for 10 percent of country's land mass and 5 percent of total population. The Great Indian Desert covers 55 percent area and 33 percent population of the State. The area to the west and north of Aravalli is dry with low annual rainfall varying from 5 mm to 200 mm. The fluctuation in water table is very high because of recurring droughts in the State. There are no perennial surface source of water in the arid or semi arid region. Ground water availability ranges, in quality and quantity from satisfactory to very poor. The latter prevails, in particular in the desert areas where ground water in generally brackish, contains high fluorides and water table is extremely deep, in some cases as low as more than 150 metres.

In consonance with welfare objectives of state, water supply has been ensured by the Government. In the country, as a whole, compared to 56.3 percent rural population covered by water supply schemes in 1985, it was possible to supply domestic water to 79.2 percent of the rural population in 1993 (Economic Survey, 1994-95). Rajasthan is relatively backward State with thinely scattered population in majras, dhanies, hemlets etc. Thus, it is difficult to provide drinking water in the rural areas within the national norm of 1.6 km. The current Eighth Five Year Plan (1992-93) has targetted to cover all the villages by water supply schemes.

In view of the above mentioned objective and the resource crunch faced by the State in the wake of liberalisation and privatisation, it becomes imperative to properly understand present arrangements for procurement of domestic water in rural area. This will certainly help in optimal distribution of scarce resources and fulfill the declaration of The New Delhi Conference i.e. 'Some for all rather than more for some".

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In the difficult terrain of arid region, villagers have managed supply of drinking water without any intervention by the Government. However, this community management has become difficult because of pressure on demand and depletion of ground water. By striking a proper balance in community initiative and Government efforts, adequate water supply for domestic use can be ensured.

COMMUNITY MANAGEMENT OF DRINKING WATER

Case Study. of village Gagadi is being presented in the following paragraphs. Such cases are replete in desert districts like Barmer, Jaisalmer, Jodhpur where single family may not survive but the community as a whole has survived for generations.

Gagadi is a typical village is desert region. There are 95 households in the main village, in addition, some 'dhanies' surround the village where in all 65 households live in groups of 10-15 families. The village has not been linked by any water supply scheme., Some handpumps have been installed which give salty water not suitable for human consumption. A tubewell is also being dug but preliminary results are not very encouraging. The village has not been electrified so far. The village is located on a slightly raised plateau. Average annual rainfall in the village is 275 m.m.

Rainfed agriculture coupled with livestock rearing provide sustenance to the families. There have been instances of migration from the village , though only male members go out for service or business and still maintain family ties by sending money back home and by frequent visits to the village. Some of the villagers have joined military also.

As for the supply of water for domestic consumption, villagers resent that no effective relief has been provided by the Government. As a consequence,. villagers have to manage their own water. During the pre-monsoon days, villagers volunteer to clear the water channels and the ground level water reservoir. Each household contributes in this work by sending one of its member to work. If this is not possible money is paid to employ a labourer to replace the family member. Thus, the reservoir is desilted, minor repairs are carried out and water channels are cleaned.

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This voluntary work ensures that each drop of rain water is collected in the reservoir. All the families take water for domestic consumption from the water tank. This rain water is sufficient for the village for about two to three months in the post monsoon season. No npayment is made for water.

There is also another source of drinking water in the village in the form of a deep well. It is very old and had caved-in some years back. For the purpose of repairs and renovation, a business family from the village contributed money while other families provided labour. Since then, the well has remained in working order. However, the water table has gone deeper to such an extent that water can be drawn out manually with much effort. As women fetch water in the village, it is just not possible for them to draw out water from the well.

Once the above referred rainfed water reservoir is exhausted, the village elders decide to give contract to a diesel pump owner to draw out water from the well. The contracted money is proportionately contributed by each of the family using the water.

The pump is operated once or twice depending on the requirements and water level in the well. Women folk collect water and the animals are also taken to a separate point of water.

This system provides drinking water to the villagers for about nine to ten months of the year. No defaults are made in payment to the contractor who collects money direct from the family. The payment per family per month worked out to be Rs.20.00 while cows were charged at Rs. 2/- per cattle head, buffallow at Rs. 5.00 each and camel at Rs.10.00 Sheep and goat were charged at Re 1.00 each. This worked out to be around 7 to 10 percent of household income. Compared to 'second standard' paradigm proffered by World Bank and other donor organizations that people can and will pay at least 3 to 5 percent of their income for improved water services, this proportion of income paid by Gagadi households is quite high. (World Bank, 1993).

The villagers were asked a hypothetical question as to how much they could pay to the Government if drinking water was made available through a Government

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runwater supply scheme. In quite an unambiguous answer, the villagers said that no money will be paid to the Government as it was its moral obligation.

Emerging Issues:

On closer scrutiny of this case study, some important issues emerge.

(i) Villagers in remote areas have traditionally managed their own water supply, without in any way depending on outside help.

(ii) These traditional methods have become impracticable as a result of demand pressure and dwindling supply.

(iii) At times, it is not possible for an individidual family to survive, but the whole community can manage to survive.

(iv) Families pay for obtaining water for domestic use if managed by the community. This amount may at times be quite substantial.

(v) Some services have been considered as essential duty of the Government. Provision of water for domestic use is one such service. No payment need be made for such essential government service.

(vi) There is need to strike a proper balance between community and Government, between traditional management and modern system.

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