


MANAGEMENT OF PROTECTED WATER SUPPLY SCHEMES
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Best of all things is water. Water supply is a basic need of the day and the Government is giving much importance for its implementation. Not only urban towns, rural areas also require potable water in plenty.

It is no doubt that water is an essential commodity, next to air, given by Nature. The natural resources of water, either surface or sub surface, have to be tapped suitably, treated scientifically and distributed judiciously according to the usage either for human consumption, or for animal or plant life or for industrial purposes.

Major determinants of prosperity of any Nation are its natural resources and the extent to which they have been exploited. One such resource is water which is essentially vital for sustenance of life but no less important is its utility in other developmental activities. This resource tends to be scarce with the increase in demand in all sectors.

We know that of the total quantity of available water on our Planet, about 3% only is fresh water, the rest 97% being saline. This fresh water is available in various forms such as Polar ice caps, ice-burys, glaciers, ground water, lake water, river flows, soil moisture and atmospheric vapour. Of this 3% of water, ice constitutes about three-fourths i.e. 74%. Ground water which occurs at a depth of less than 1 kilometre constitutes 11% and that which occurs at a depth greater than 1 kilometre constitutes 14%. Lakes and rivers constitute 0.3% and 0.03% respectively. The balance is present in the form of soil moisture and atmospheric vapour.

The fresh water supplies and the exchanges in the hydrological cycle are important for mankind. With the progressive exploitation of our utilisable water resources, we are rapidly confronted with problems which might have serious repercussions on our environment and grow acute as we approach the developmental limits.

Present environmental concerns have generated greater awareness about the importance of this precious resource. Water resources development has now come to be regarded as a powerful tool for raising the living standards and for stimulating the social and economic changes.

Broadly speaking, water is never lost. With a few exceptions, water finds its way back into the natural cycle. Our water supply system draws water, say from river and the waste water disposal system discharges back into it. If those wastes are treated, there will be practically no net change. Within a given region, water may not be available where it is needed. Such problems can be solved by moving water from where it is to where it is required. Thus wise management starts with a knowledge of the world of water.

The next step is a better understanding of surface water which is our important source of supply. We cannot ignore ground water either. We must understand how the ground stores this rich resource and nature's way of recharge. Locating and drilling of wells must be guided by facts resulting from a professional survey as is being done now by the Government of Tamilnadu through the TWAD Board (Tamilnadu Water Supply and Drainage Board) on a massive

scale for supplying water to the thirsty millions in rural areas.

The value of any source depends on Water Management. For top economy, water use is to be integrated with effective control of pollution. Carefully planned waste treatment system curbs stream pollution and also recovers water for reuse.

It is absolutely necessary that Water Supply Systems should be run on a self supporting basis and should be operated on commercial lines. Otherwise, the local bodies will not be able to repay the loans obtained from Financial Institutions like the Life Insurance Corporation of India as well as the State Government for executing the schemes by way of annuity and maintenance charges. There should be an efficient system of collecting water tax and water tariff so as to accumulate necessary funds for future expansion and modification of the existing systems. Citizens should realise that the water supply has been provided at an enormous cost and so water too has a price tag on it just like any other commercial commodity.

Water distribution should be carried out in a rational way such that wastage of treated water is avoided. It is also important to see that there is equitable distribution of water in all areas. Public taps should be provided in localities inhabited by the poor and economically weaker sections of the society. The Engineer concerned should take corrective measures whenever called for in order to keep the entire system run properly, efficiently and profitably.

The Tamilnadu Government is very much interested in providing protected water supply to every citizen whether living in urban area or in rural area and substantial funds have been ear-marked for this purpose. Hence it is the duty of those incharge of protected water supply schemes to manage them in such a way that wholesome water is

delivered in sufficient quantities to the satisfaction of all concerned. Moreover, it should be so managed that the systems are run on a commercial basis to raise sufficient funds both for capital improvements and for proper maintenance.

An adequate and well maintained water supply system can result only from far sighted planning, sound engineering and constant vigilance. Any undertaking, as a matter of fact, despite its being economical and efficient, will end up in failure if it is badly managed. Wise management starts with a thorough knowledge of the system. An effective water management not only provides an improved and equitable supply to the public but also helps to reduce the running cost of the schemes.

Proper Financial Management is necessary to ensure an efficient water supply. A water utility should receive a gross revenue sufficient to enable it to provide adequate service to maintain the system, to pay the taxes required to earn a reasonable return and to secure financial status necessary to obtain money at reasonable interest rates for expansion of the system.

Equipment Maintenance is one of the keys to an efficient operation of a water utility wherein continuity of service is of prime importance. Good maintenance is good management. Effective Maintenance ensures long life of the plant, low maintenance cost and better quality control. Preventive maintenance designed to eliminate breakdown repairs should be aimed at.

Water Management could be effected successfully with public co-operation. The public should be educated about the necessity of conserving water and making proper use of the potable water.

A meaningful Management Programme involves a proper co-ordination between Planning and Implementation. The Planning covers the aspects of water survey, water use, standards setting, corrective action, manpower training, financing and legislation. The implementation includes monitoring and surveillance programme, inspection, licensing and enforcement of law. The support programmes needed for implementation will cover the development of consultancy services, research and development activities, data collection and health education.

While concluding, it is to be mentioned that in India it is an usual feature to witness floods in one place and famine in another place at the same time. It is indeed a paradox that while some parts of the country are reeling under heavy floods, other parts are experiencing drought. The country is spending several crores of rupees on flood relief and drought relief alternatively. Since water is a problem of National concern and pressing importance, the only permanent solution to the problem is the formation of an All India Water Grid. Rivers should be declared as National assets. Judicious utilisation of river waters should be ensured through an All India Grid. Only through co-ordinated action guided by those who understand all the complex aspects of Water Management, we could make the fullest and wisest use of the water sources which Nature has blessed the Indian soil with.