

## VIII. RAINWATER HARVESTING, TUBE WELL LICENSING, NO FREE ELECTRICITY, WHAT NEXT?

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Groundwater, wherever available, presents an easy way to obtain water without any man-made control. The 1882 Indian Easement Act and similar acts elsewhere, allow a person to extract as much water as he can from the land owned by him. Advances in pump technology during last few decades have enabled people to extract water from deep underground aquifers. Coupled with an ever increasing demand, this has resulted in falling ground water levels in many parts of India and other countries. This is a matter of serious concern for water managers who are hard pressed to find ways to combat this problem and to install a sustainable regime of groundwater utilization. The tools available to the water managers to bring about any significant change in the groundwater scenario are limited. Many governments have enacted or have tried to enact legislation to restrict the extraction and use of groundwater. There are two problems in making such legislation effective.

First, the sheer numbers! The number of agricultural pumps runs into millions. Therefore, even with the help of modern technology like databases, it is next to impossible to keep track of every groundwater extraction structure and control the quantum of water extracted by it. Second, when the limit on extraction of groundwater is tied to some undefined “damage to environment”, it is very difficult to decide at what stage the damage to environment becomes unacceptable to warrant legal action; how does the state fix the responsibility on a particular well or group of wells for damage to environment?; and finally the task of proving this in a court of law. It is the author's hypothesis that if and when the state actually tries to implement the law and a few cases end up in courts, a whole range of new issues will come to the fore.

The practice of providing free or near free electricity to tube wells has come under considerable criticism. While it is true that access to cheap or free electricity has made

extraction of groundwater affordable, it does not automatically follow that increasing the electricity rates will arrest fall of water table. The users of free electricity have formed strong pressure groups; when the rates are increased, the problem of electricity theft may further increase; farmers might even pay for the electricity at higher rates and simply pass on the costs to the consumer; and finally there is always the diesel engine.

In recent past, a lobby has emerged which advocates that rain water harvesting (RWH) and artificial recharge of groundwater (ARGW) are adequate answers to not only groundwater related problems but all water related problems. Buzz words like “Traditional Technologies”, “Wisdom of Centuries”; and slogans like “Catch the water where it falls” are being touted as substitutes for a sound understanding of hydrology and groundwater dynamics. Unfortunately, water management is far more complex than just coining catchy phrases and slogans.

While there is no doubt that RWH and ARGW will have a beneficial effect, the magnitude of this is yet to be assessed. In a city like Delhi, RWH will take place during the months of June to September. The shortage of water is most critical during the beginning of next summer, April and May. It is not yet clear whether the water harvested and put underground in August and September will remain available during next May or will it only flow away in the river as increased base flow during the intervening months.<sup>3</sup>

Hundred years ago the forest cover, the state of watershed, and land use, all were in a state of pristine glory. There were no tube wells, no diesel engines, no electricity - neither free nor subsidized. There was no widespread farming of “water hungry” crops, no high yielding seeds etc. And the population to be supported was one fifth of what it is today. And yet, drought was

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<sup>2</sup>The views expressed in this presentation are those of the author and not to be taken as official views of the Government of India

<sup>3</sup>To say this is not to deny the usefulness of RWH and ARGW. But there is no escape from making a quantitative estimate of the potential of RWH.

synonymous with famine and deaths. At the time of independence, the nation was unable to produce enough food grains for the population one third of what it is today. So, the “wisdom of centuries” that is said to be now “dying”, was in fact never alive.

To summarize: legislation that seeks to restrict the extraction of ground water if it damages the environment; indirect restriction through higher rates for electricity; and rain water harvesting; are not going to take us far. So, what next?

There is no easy solution. In fact the atmosphere has been considerably vitiated by those who think they have all the answers. It is doubtful if there are any solutions and it is certain that there are no easy solutions. However, following may be considered.

1. Take up R&D for quantitative estimation of the potential of RWH and ARGW. A rough estimate may be made quickly, to be refined in a second round. Without such a quantitative estimate, any discussion on “traditional technologies” is as pointless as discussing the backside of the moon.
2. Exploit surface water schemes to their fullest potential. It is ironical that those who are most concerned about the ground water scenario are often the most vocal opponents of the structural measures for surface

water development. It seems reasonable to argue that if adequate water was available through surface water schemes then ground water exploitation would reduce. Therefore, supply surface water to the fullest extent possible. This includes inter-basin transfer of water.

3. Initiate debate on deciding ownership of water. This is an extremely tricky issue. But eventually, it may become necessary to take a view on questions like how much water a person has right to? Does a person have a right to grow paddy or sugarcane in a drought prone area by sinking a deep tube well? These issues can not be settled overnight. Therefore, at least the debate may be initiated now.

None of these ideas are going to be easy to pursue. There will be stiff opposition from vested interest groups. For example there exists a lobby whose very existence is based on opposing any surface water scheme. For them it is *necessary* to insist that RWH alone is sufficient. They will indulge in their usual ploy of not making any computations themselves and rejecting any one else's computations.

Opposition to surface water scheme stems from ignorance about the scheme; due to a “fear of unknown”; due to a sincere belief that protecting the habitat of a snail is more important than providing food/ water to billions and last but not least, opposition as a vocation, posturing intended