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The National Water Scene

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With the Cauvery Water Disputes Tribunal announcing its final award, water, in general, and inter-State river water issues, in particular, are once again in the national focus. There are varying concerns about the socio-political fallout of the Tribunal award in the riparian States, with Karnataka and Kerala expressing unhappiness to differing degrees, and Tamil Nadu and Puducherry, respectively, expressing 'relief' and 'satisfaction'.

Yet, 'water issues' in India, as elsewhere, are not limited to inter-State disputes. Water-management and water-pricing, along with larger issues like 'fundamental right' to water-availability, have also become contentious matters in recent times. To address these and related issues, the Chennai Chapter of the Observer Research Foundation organised an Interaction on the 'National Water Scene' on December 23, 2006, with Mr Ramaswamy R. Iyer, former Secretary, Union Water Resources Ministry, initiating the discussion.

There is a widespread view that a water crisis is looming large over India. The National Commission on Integrated Water Resources Development Plan in 1999 projected a difficult situation and suggested urgent action. In a 2005 report on India's Water Economy, the World Bank referred to a "turbulent future". The mainstream view is that the demand for fresh water is likely to increase sharply and rapidly because of population-growth, urbanisation and the processes

of economic development. Ismail Serageldin has been famously quoted as saying, "Future wars will be fought over water"; this may sound a bit extreme today but, no doubt, the situation is full of potential for conflict, some of which is being experienced already.

The crisis is one of availability, and the answer would lie in making a greater share of that 'finite' quantum of water that is available in nature 'usable', through supply-side solutions in the form of large projects. In February 2001, the Ministry of Water Resources, while rejecting the report of the World Commission on Dams, declared its intention to build an additional 200-billion cubic meters of storage by 2025. In August 2002, the Government of India announced the massive project for the interlinking of rivers. Despite attendant issues, another supply-side answer favoured by the World Bank, the Asian Development Bank and some Indian economists relates to 'water markets', which would involve defining 'water rights' and allowing trading in the same. The idea is for the State to step back, and allow the play of 'market forces', with the expectation that the supply-side response to the growing demand would encourage investments.

Against this mainstream view focussing on availability, there is the problem of gross mismanagement. On the positive side, we have the limited success story of the crucial role played by irrigation in the four-fold increase

in foodgrains production, to 200 million tonnes, over a short period under the 'Green Revolution'. Unfortunately, there is not much more to be said on the positive side, as the following observations would show:

- Limited, unreliable, unsafe water-supply and a burgeoning and thoroughly unnecessary bottled water trade.
- Failure to ensure the Fundamental Right to safe drinking water to all – in particular, the inadequate coverage of the poor by the public system, forcing them to buy water at high rates from private sources. The poor pay much more than the rich.
- The number of uncovered or no-source villages is growing despite repeated achievement of targets. Either the villages are stepping back into the uncovered category, or new ones are getting added to the list. The continuing burden on women and girl children of having to bring water from distant sources, therefore, continues.
- Most major and the minor irrigation systems are in a state of disarray, rendering poor and unreliable service—as characterised by inequities such as denial of water to tail-end farmers.
- There is a vicious cycle of low irrigation charges, inadequate allocations for operation and maintenance, poor service, and consequent resistance to any increase in charges of irrigation water.
- The very limited success of reforms such as the Participatory Irrigation Management (PIM), and Irrigation Management Transfer (IMT).
- The low-efficiency of water-use in irrigation and agriculture which the National Commission puts at 30 to 40 per cent, contributing to low yields, which the Commission projects at an extremely modest quantum of four tonnes a hectare from irrigated agriculture by the year 2050.
- Emergence of water-logging and salinity over the years.
- The persistence and intractability of inter-State river-water disputes.
- Unplanned, and non-regulated exploitation of ground water from the Eighties through a high of 20-million plus tube-wells, particularly for private self-supply, generating dramatic, short-term results but leading to depletion and contamination of aquifers.
- Rivers being reduced to sewers, as in the case of the Yamuna in Delhi and the Palar in Tamil Nadu, and problems of fluoride and arsenic contamination in groundwater, as in West Bengal and Bihar, apart from wide-spread contamination through industrial effluents and residues.
- Mounting flood-related damage and the consequent

expenditure on relief, with hardly any plan for disaster-preparedness.

Crisis of Availability

The list may seem to paint a negative picture but the failures are manifest and undeniable. While there may be a measure of agreement with the thesis of mismanagement, this does not invalidate the 'crisis of availability' theory, which assumes that water scarcity is a natural phenomenon and that we must somehow enhance the availability. But then demand is a crucial factor, and should be looked at very carefully before thinking about supply-side answers.

Demand projections are made on the basis of current patterns of use and done with some fairly modest adjustments for future improvements. For instance, we can go beyond the 20 per cent economy in industrial use of water by 2050. In agriculture, the benefits of irrigation are evident but as the largest water-user (80 per cent), it has much to answer for in terms of efficiency. According to the National Commission, the water-use efficiency under the major and minor irrigation projects is low, at around 30 to 40 per cent. Though the lost water may be available as ground-water, it is no justification. Secondly, the yields from irrigated agriculture are quite low. Substantial improvements in the efficiency in water-use in agriculture, in conveyance systems, crop-water requirements, irrigation techniques, and yields are all needed. If achieved, this could sharply cut down the agricultural demand for water.

Supply creates demand, and necessitates more supply. So, if irrigation leads to water-intensive cropping patterns, paddy in Punjab, where it was earlier unknown, will cause greater demand for irrigation. Multiple crops of paddy in the Thanjavur delta of Tamil Nadu, sugarcane in Maharashtra and Mandya in Karnataka are other examples. Growth in agriculture thus creates a demand for still more water, until the demand becomes unsustainable. It is thus that Karnataka and Tamil Nadu have ended up fighting over the Cauvery waters, Tamil Nadu and Kerala over Mullaiperiyar, and Punjab terminating all accords on water-sharing with neighbouring States. We have to get away from this competitive unsustainable demand for water.

In rural and urban water supply, the tendency is to project the future needs on the basis of per capita norms that are fairly high. It is 140 litres per capita a day (lpcd) in urban areas and 70 lpcd in rural areas. The National Commission wants these figures raised to 200 and 150 lpcd, respectively. Peter Gleick puts the basic water requirement for human needs, namely, drinking

and sanitation, bathing, cooking and kitchen needs, at 50 lpcd. It may need further examination but it certainly seems unnecessary to enhance the norms. In some European cities, in Copenhagen for instance, the norm is being lowered from 130 to 110 lpcd.

Against this, the Delhi Jal Board, for instance, supplies a substantial 200 lpcd, but uneven distribution has led to some areas getting only 30 lpcd while some others get 400-500 lpcd. We need to enforce economies on those who are using too much water, and improve availability to groups or areas that receive too little. If that is done, it may not be necessary to raise the average. Instead, we often end up increasing the average, and multiply it by the projected population, to arrive at an astronomical figure, and then create the pools of demand and draw it from all available sources. While it is justifiable to have subsidised supplies to the very poor, there is no reason why the full economic price should not be recovered from the rich and the affluent. There should also be penal pricing and denial of supplies for higher levels of consumption.

For industrial use of water, multiple recycling and reuse must be insisted upon, allowing for minimal making up for the losses. We should move towards a situation in which 90 per cent of the requirement of water for industry is met through recycling. It is difficult but achievable. Strenuous efforts should be made to maximise what we get out of each drop of water in every kind of water use. The wastage of water in use of every kind should be reduced, and part of it recovered for certain uses. According to the Centre of Science and Environment (CSE), New Delhi, the urban population uses up a lot of fresh water for flushing the toilets, and pays practically nothing for waste-disposal. The CSE refers to this as the political economy of defecation. If we do attend to such matters, the projected water-demand will not remain the same.

Available Water & Usable Water

The precipitation over the Indian land mass is 4000 billion cubic metres. The available water is measured at the terminal points of the river systems, and is estimated by the National Commission as 1953 bcm. The available ground water is estimated at 432 bcm. But availability of the kind does not mean it is available for use. There is another category called 'usable water', which the National Commission puts at 1086 bcm -- 690 bcm of surface water and 396 bcm of ground water. Against this, they have projected a low demand and a high demand of 970-1150 bcm by the year 2050. The demand is thus very close to the availability, or exceeds the availability, which is why there is a feeling of panic. But if the demand-side

problems are addressed, then the figure could come down from 970 to 800 bcm. The situation might not be very comfortable but would be better than before.

There are different aspects to the water-crisis in the country, and certainly each of the unfortunate developments can be described as a crisis in itself. These are:

- Grossly inequitable distribution of the available water,
- The distress state of our rivers and ground water aquifers,
- The decline of traditional water management and conservation systems,
- The disappearance of the once-numerous water bodies,
- The damage to the ecological systems through the intervention of water resource development projects,
- The infliction of hardship, inequity and injustice on the poor, disadvantaged communities, particularly the tribal population and on women,
- The uncontrollable and unmanageable generation of waste of all kinds, and the consequent reduction in the availability of water.

These are man-made crises and are inter-related, to what Gandhiji would have called 'greed'. We seem to be simultaneously enlarging the demand and destroying the supplies.

Along with multiple aspects, there are also multiple perceptions of the crises. To the water establishment, the Centre for Water Management, the Central Water Commission, the Ministry of Water Resources and the World Bank, among others, this is a crisis of availability. To the neo-liberal economist, the crisis is one of failure to recognise water as an economic good, and the absence of clear delineation of property rights over water. To Ms Vandana Shiva and other activists, the crisis ranges from the State and the civil society losing control over natural resources to corporate interests. The crisis thus also involves the conversion of a common pool resource and the basic need and right to a commodity, governed by market forces and profit-motive in an area where it has no legitimacy. To Sunita Narain and other activists, it is a criminal waste of a precious resource and an indefensible subsidisation for the rich.

There is also the crisis of dying wisdom that identifies the problem with a decline of the traditional ways of managing natural resources. To Medha Patkar, given her anguish over the human tragedy that is being enacted in the Narmada Valley, the crisis is essentially one of injustice and inhumanity, where the poor and the marginalised are sacrificed at the altar of what goes by the name of development. In the eyes of B. D. Sharma,

the infringement of tribal rights and the violation of the Panchayats (Extension to Scheduled Areas) Act, (PESA), 1996, are grave enough to warrant the term, 'crisis'. To some others, including Rajendra Singh, the crisis may seem to be one involving the relationship between the State and civil society – of the State asserting its control and ownership over natural resources, and questioning the legality of civil society initiatives. Rajendra Singh was once arrested and was about to be thrown into jail for having mobilised villagers for constructing check-dams in water-starved Rajasthan. To some, the water crisis is a part of a larger crisis of wrong ideas of development and the pathological relationship to nature.

All this amounts to a crisis of understanding. The entire thrust of planning and policy-making so far has been to make more water available for use -- a largely supply-side response to projected or imagined demand. The thinking has been primarily in engineering terms, or 'water resource development' (WRD), with water-use and management receiving little attention. A good part of the water provided for any use keeps returning to plague us as waste water of one kind or the other, and this is an additional reason for adopting extreme economy in water-use, and re-thinking on supply-side solutions. The 'Ganga-Cauvery Link, the 'Garland Canal' and the recent thinking on the inter-linking of rivers (ILR) are such supply-side solutions, which have been examined and found to be impractical.

Impact and Consequences

All this does not mean that there is no need for augmenting available water. There are only three ways in which water available for use can be augmented – rainwater-harvesting, groundwater-drilling, and large projects for storage such as dams and reservoirs and long-distance transfers such as inter-linking of rivers. Each of these would have its impact and consequences. None of the supply-side solutions can be over-looked altogether -- and a wise and prudent combination of all three would be needed, instead. Without going into the details, it may be advisable to treat local community-led augmentation as the first choice for a prudent measure in this regard, and big dams and long-distance transfers of water as those of the last resort, to be adopted only when they form a unique or the best option.

While there is need for augmenting the supply, primacy for supply-side thinking should be changed to restraining the demand, maximising the benefit from each unit of water, minimising waste, and remedying injustice and inequity. This must be accompanied by a transformation of our ways of thinking about water. It is with this in

mind that I have titled my forthcoming book, *Towards Water Wisdom: Limits, Justice and Harmony*, which are the three elements studied. This transformation would include an awareness and understanding of water as an integral part of nature, a scarce and precious resource to be conserved, protected and used with extreme economy, and shared with everyone within the State or country, and outside, a sacred, common pool resource to be managed by the community or held as a public trust by the State, primarily a life-support substance. It is much easier to build a dam or drill deep into the ground for water than create such awareness. But the easier and seemingly more realistic course is not necessarily the wise one. It has brought us to the brink of disaster. Persistence in it will merely hasten our passage across the brink—and not lead us out of the disaster.

DISCUSSION

Sam Rajappa Journalist

Will it be advisable to bring Water under the Union List of the Constitution in the light of the 'Mullaiperiyarr row' between Tamil Nadu and Kerala? Though Kerala has expressed concern over the health of the 111-year-old dam, the Supreme Court has clarified that even if the dam were to burst, the entire water would be contained in the Idukki reservoir, which has a capacity to store 71 tmcft of water against the 15-tmcft capacity of the Mullaiperiyarr dam at the original storage level of 152 ft. In Tamil Nadu, we also have the 101-year-old Pechchippaaraai Dam in Kanyakumari district, and Andhra Pradesh has one in Dowleswaram, built by Sir Arthur Cotton 150 years ago, storing 3000 tmcft of water. We have the Grand Anaicut, or Kallanai, across the Cauvery that is more than 1000 years old – but there is no such scare pertaining to any one of them.

Commodore R. S. Vasan (Retd) Additional Director, ORF-Chennai

Inter-linking of rivers could be the answer, given the increasing demand for water, caused by burgeoning population, and the fact that the north Indian rivers, which are in spate during the monsoons, are wasted into the oceans. In the case of Chennai City, but for the Veeranam Lake and the Krishna river projects, the drinking water situation would not have eased. We need to look at functional options, in the absence of which, China, for instance, could begin eyeing the waters of Brahmaputra even more.

N. G. Anuthaman
Faculty, Centre for Water Resources, Anna University, Chennai

Have we really understood the hydrology of peninsular India, the Himalayas and the Indo-Gangetic plain? Is there any link or de-link between them? As far as peninsular India is concerned, research has shown that the sandy layer comes hardly up to 30 km inward of the coast and most of it is hard rock. Have we understood the overflow, the overland flow as well as the groundwater of the eastern peninsula?

Indukanth Rogade
Social Activist

Earlier, the usage of water in urban centres used to be cyclic in nature, with whatever being drawn going back to the ground. Now, whatever the source, the water drawn for usage flows into the sea as waste water. The treatment of waste water in Chennai for re-use will cost only half that of desalination, yet the decision is to favour desalination. Macro-level decisions are made on different considerations where micro-level management would have helped.

Dr. M. Karmegam
Principal, VRS College of Engineering, Arasur (ex-Director, Centre for Water Resources, Anna University)

Going beyond the traditional thinking on the inter-linking of rivers involving the higher reaches of the donor-river, parallel linkages could be considered, say 20 km from the Bay of Bengal. The 'Buckingham Canal plan' in Tamil Nadu has not faced any problem so why not link the Ganga to the Cauvery parallel to the coastline by cutting canals closer to the existing tail-end? For instance, on the river Krishna, east of Vijayawada, a lot of water goes waste into the sea, this could be with diverted without affecting supplies to anyone. The steep increase in the population of countries such as India and China has put tremendous pressure on available resources, unlike in Europe, where the population growth-rate has been comparatively low. There is also the issue of educating the people on the need to look at water-related issues objectively.

Water in the 'Concurrent List'
Ramaswamy R. Iyer

The case that 'Water' should be put in the Concurrent List can be argued when the Constitution is reviewed but our Constituent Assembly did not do so -- and that was probably a mistake. The understanding of water

displayed in the Constitution too has been very limited. It talks about embankments, canals, irrigation, but does not really talk about water as a natural resource or as a part of the ecological system. This is criticism by hindsight but that was also the kind of view that got enshrined in the Constitution.

We have Entry 17 in the State List which is the main entry on water. However, that entry is a limited entry and there is a proviso. Water disposal, distribution, control, etc, is subject to the entry in the Union List. Entry 56 in the Union List is about inter-State rivers. It allows Parliament to legislate on inter-State rivers and river valleys if it considers it expedient to do so in the public interest. If it legislates on the subject, the Central Government acquires legitimate authority. Unfortunately it has not legislated on the subject. The only legislation passed by Parliament under Entry 56 was the River Boards Act, 1956, which is now a dead-letter. The State Governments do not want anything done because of political difficulties, and if it is non-operable now, putting 'Water' in the Concurrent List by itself would not help the Centre to get meaningful laws passed by Parliament.

It is another matter that in an increasingly federal structure that India is at present, it would be difficult to have 'Water' or any other subject brought under the Concurrent List. When the National Water Policy was being drafted in 1985-86 and the Centre proposed a basin-scale approach to dealing with rivers, the States stoutly opposed the move, with Chief Ministers M. G. Ramachandran (Tamil Nadu), Ramakrishna Hegde (Karnataka), S. S. Barnala (Punjab) and N T Rama Rao (Andhra Pradesh), among others, seeing it as a monstrosity. At the first meeting of the National Water Resources Council, Rama Rao said, "You already have a couple of monstrosities in the statute book, namely, the Industries Development and Regulation Act, and the Mines and Minerals Development and Regulation Act. Please do not produce a Water Development and Regulation Act." The move was dropped.

'Mullaiperiyarr Row'

People in Kerala are anxious and indignant about the State not gaining much, not only from the Mullaiperiyarr reservoir but also from the Parambikulam-Aaliyar project. There is a feeling that the erstwhile Madras Presidency forced the princely State of Travancore into signing the agreement -- and Kerala is politicising the issue, which has to be addressed. It is the kind of feeling that Nepalis have for India while referring to the Kosi and Gandak projects, which they feel were designed for India's exclusive and overwhelming benefit. Engineers may certify the structure as sound and safe, but the people's sense of danger about the Mullaiperiyarr dam is for real. Despite all the arguments,

a 111-year-old dam is a 111-year-old dam. The report on India's dams is highly unflattering, and let us not be complacent about it.

There is a need to delineate Tamil Nadu's rights over the Periyar waters, as the river, unlike the Cauvery, does not flow through the State. Kerala's grievance also seems to be that it has nothing to gain from the project, which is located on its soil. We need to look at the options that were overlooked in favour of the dam, when built. It was an engineers' decision, which has also been the entire basis for our water-planning. People say that if there was no Bhakra Nangal, Punjab would have been doomed to poverty forever. At Ralegan Siddhi in Maharashtra, the initiative of Anna Hazare, to make water as the entry-point to wean away people of his destitute village from illicit distillation and engage in some economic activity, led to the construction of check-dams across the Kukri canal. Now it is a prosperous village, which has survived four successive drought years. They have problems of prosperity not poverty, with the younger generation wanting to lead an urbanised life without having to tend to agriculture.

In Rajasthan, Rajinder Singh mobilised some 500 villages, built a number of check-dams, for which he was even arrested, but the villages were able to withstand four successive droughts. In the fourth year of the drought, the land was still green, with well water supporting agriculture though the water-level had gone down. This is not the only answer, but there is a need to look at local answers first before bringing water from elsewhere. Compared to Rajasthan's 100 mm of rainfall, Tamil Nadu gets an average of 600-1000 mm, and a water-harvesting scheme coupled with micro-management of available water would help without the State having to look elsewhere for supplies.

The facts mentioned in the 'Plachimada case', of excessive ground-water extraction have been disputed. Though a Single Judge of the Kerala High Court ruled that ground water, like other natural resources, was held in public trust and could not be construed to be anybody's private property, a Division Bench of the High Court has since over-turned this and the matter is now before the Supreme Court. One hopes that the Apex Court will address the larger issues on 'public trust', even while addressing the facts and circumstances of the case. It is imperative that the Centre impleaded itself in the case as the High Court decision, which favours contractual obligation between the parties concerned in the 'Plachimada case' against the 'Fundamental Rights' of the citizen to clean and sustainable water, could create more problems than solving any. Some people argue that under the British Common Law, and therefore under the Indian law, natural resources are in fact public trusts, but judgments vary. In

some of the American States, California in particular, the law has declared that the State holds water only in 'public trust', and does not own it.

Inter-linking of Rivers

The inter-linking of rivers (ILR) needs to be studied in its entirety, and local options explored, too. The Government announced a mega-project before studying each of the 30 proposed links in detail. The Supreme Court too may have only added to the confusion, by taking up the issue through an *amicus curie* while hearing the 'Yamuna Link Canal case'. The Centre was cautious in its affidavit, which was supported only by Tamil Nadu among the States. The present Government at the Centre is not as enthusiastic as the predecessor, and that is another aspect. The next thing that they are talking about is the barrage, Parvati Kalisen, across the Chambal, but there is no political agreement as yet.

President Abdul Kalam is among those favouring inter-linking of rivers, as it helps transfer excess water in one area to those deficient in supply, and thus avoid flood-control. However, floods in water-surplus regions/rivers of the country are so huge that the proposed canals cannot hold even one per cent of the availability. Dr Bharath Singh, former Vice-Chancellor, University of Roorkee, has hinted that no water resources engineer would support inter-linking of rivers as a flood-control measure. We need to look also at transmission losses, and the invisible, non-stream use of water like containment of salinity, which in turn affects the estuary and also human population and aquatic life.

The original ILR project was to link the Ganga to the Suvarnarekha, to the Mahanadi, to the Godavari, to the Krishna, and to the Cauvery. It would have only conveyed waters to more areas that are already served by rivers. Even combined with another plan to convey the waters from the Himalayas through the Yamuna and a canal in Rajasthan, to deliver it to the Sabarmati, the ILR project will not serve the water-deprived central regions of the country. It would only mean that all the waters from the Himalayas would drain into the Bay of Bengal through the Cauvery, instead of the Ganga.

The Brahmaputra is totally out of the picture, and it cannot be included in the ILR project as it is way out in the North-East and joins the Ganga in the Bangladesh sector. Linking it to the Ganga would involve a canal across Bangladesh, which in turn would bisect the country, with serious political, economic, environmental and security implications – and Bangladesh would not agree to it. The alternative would be to cut it across the 'Siliguri Chicken Neck', which would not be viable, either. Instead, the

available waters of the Brahmaputra could be harnessed locally, for large-scale industrialisation of the North-East. Even without this, when we touch the waters of the Ganga and the Brahmaputra, other riparian nations like Nepal and Bangladesh have to be involved, as well.

Though the engineering community in India is enamoured of the Three Gorges Project in China, the Chinese living outside China has written extensively against the same. Claude Arpi, the French scholar settled in Puducherry, has been writing about China's plan to divert waters from the Brahmaputra, northwards. The proposal was contained in a paper presented by a Chinese scholar some years ago, but it has been officially denied since, and we have to take it at face-value. Against this, India's project of the inter-linking of rivers has sent alarm bells ringing in Bangladesh, similar to the days of the 'Farakka issue'. In Dhaka, you scratch the surface, and the anti-India feeling comes out. The Manmohan Singh Government has decided to take up only the peninsular linkages now, and to consult Nepal and Bangladesh as and when Himalayan linkages are considered.

The former Union Minister and ex-Planning Commission Member, Dr Y K Alagh, who by no means is an opponent of big dams and projects, and Dr. Kanchan Chopra of the Institute of Economic Growth, have suggested that the ILR should go back to the drawing-board. They are now working on a Detailed Project Report (DPR), based on the feasibility report, which should have been prima facie acceptable, for taking up the DPR work in the first place. Now, 15 or 16 feasibility reports which were earlier not available in the public domain should be studied with great care and caution.

'Desalination, a Mad Idea'

Desalination is a mad idea like the folly of river-linkage. It is not about the cost, but about the end-use of the brine, an environmental problem. One glass of drinking water through the reverse-osmosis process comes with nine glasses of brine, which is corrosive and non-usable. The warm brine that is discharged into the sea could kill aquatic life. Though some people say that some processes do not generate brine, it lacks conviction.

Instead, efforts should be made to maximise the use of available rainwater. Tamil Nadu, for instance, has an average of 1000 mm of rain. The usable availability of water across the country is put at 1086 bcm. The precipitation was 4000 bcm, as measured in 1953, and damming even a fraction of the same without affecting the lower-catchment flows would solve the problem. Dr Kanchan Chopra and Vishwanath Golkar in Delhi have estimated the additional run-off capture at 140 bcm. Further work

needs to be done in this regard.

P N G Subramanian, IFS (retd)

Fishermen as a constituency is an important factor, and the effect of river-linkage on coastal life needs to be looked at from that point, as well. This is particularly so in the case of Tamil Nadu, Andhra Pradesh and Orissa, among other States. The change of food-habits in various parts of the country – from larger consumption of wheat than millet in Maharashtra, for instance – and cropping-pattern, as with Punjab, which now is a major rice-producer, need to be factored in, as well. The energy costs involved in the inter-linking of rivers should also be studied.

P Elumalai Social activist

A former Director of the Geological Survey of India has said that the Government should take the responsibility for collecting rain-water rather than asking the citizens to do it if only to ensure better percolation. On the 'Mullaiperiyar issue', how can Government's address the anxieties of people when the Supreme Court's direction was based on the report of an experts' team?

D Srinivasan, Retd. Engineer, Gol

Is the Rajinder Singh kind of initiative workable in all villages, considering that the selected villages in his case bordered water-rich States, and were not in interior Rajasthan, which is water-starved. While localised solutions are feasible in 70 per cent of the area, the problem is with the remaining 30 per cent, which require engineering genius to address the issue.

Dr Paul Appaswamy Director, Madras School of Economics

There is a huge difference in the estimates between the available and utilisable water – and does the National Water Commission have any views on taking serious note only of the latter? While local community efforts can work on a case by case basis, questions remain about the impact on the hydrology, if it were to be an exhaustive effect along the river-course. There is also the institutional failure in terms of irrigation needs being taken care of by one agency, drinking water supply being divided with rural water supply clubbed with rural development, urban water supply with the Ministry of Urban Poverty Alleviation, water pollution issue being dealt with by the Pollution Control Boards, etc, with no uniform system

on the ground. As Jayanta Bandhopadhyaya said, there is little coordination among the various agencies dealing with water in this country. Of what use will it be if the Water Services Commission meets once in five years?

K Venkatesh Journalist

The civil society and communities have lost control over water resources, and neither is the State clear in its priorities in terms of management and distribution of these resources. In urban areas especially, fly-by-night operators have entered the scene in a big way. Though we may, on the face of it, be in the post-privatisation phase of growth, water supply has been privatised, de facto. Do we shut our eyes to such privatisation, or do we look for viable, sustainable, models?

Ramaswamy R Iyer

Rajinder Singh's effort cannot be replicated in other parts of Rajasthan, but as books such as the 'Dying Wisdom' published by the Centre of Science and Environment, and the 'Making Water Everybody's Business' show, diverse traditions in water management have existed in different parts of the country, all along. You have the Jhohads in Rajasthan, the Aharts in Bihar, the Jheels of Bengal, Talabs in Uttar Pradesh and Madhya Pradesh, the Pukhuris of Assam, the step-wells in Gujarat, the Eries or lakes in Tamil Nadu, and the tanks that go by various names in other southern States, which are all local systems of water management. We do not replicate Rajinder Singh in Tamil Nadu, but do only what has been done here all along. Some of them may not be revivable, but there are others – which is what the Dhan Foundation is trying to do. The idea is to revive local answers without excessively depending on large dams. People are becoming less dismissive about such efforts.

When we worked on the National Water Policy in 1985-86, we only had a vague idea about shifting attention from big projects to a unified, focussed water policy. Having converted the Department of Irrigation into the Ministry of Water Resources, we discovered that the National Water Resources Committee, set up in 1980, had not met even once. We had a meeting, and that's where the National Water Policy originated. We were still over-shadowed by old traditions, which believed, for instance, that the Bhakra Nangal was one of the temples of modern India. Even that policy, which was a step forward from the earlier position, never became operational. While the National Water Resources Council approved the National Water Policy in September 1987, there was no accompanying blueprint

for making it operational, as originally envisaged. It was so when the policy was revised and amended in 2002.

We did try to address the question of institutionalisation through periodic meetings at different levels, but over a period of time that initiative petered out, unfortunately. Yet, one monolithic ministry cannot be expected to deal with urban water supply, with rural water supply, irrigation, agriculture, navigation, flood-control, etc. It is bound to get split, but they should function in an integrated, coordinated fashion, which unfortunately is not happening.

Issues of Privatisation

Privatisation involves two issues – of services and of the resource. The World Bank, IMF and ADB want water to be treated as a commodity, with property rights over the same for people to trade in it. In some US States, farmers have sold their water-rights to urban areas. In Chennai too, the State-run Metro Water is purchasing ground water from farmers in the outlying areas, for distribution in the city. These farmers have ceased to be one, and have become water-harvesters instead, sinking new bore-wells every passing day, and this is a dangerous trend. Privatisation per se enjoins upon the State no responsibility to ensure the availability of goods or their price – which should be decided by market forces, instead. This cannot be true of the State's responsibility to ensure that its citizens get basic drinking water, which in turn is a Fundamental Right. Even if it is entrusted to the private enterprise, if the system does not work, then the responsibility should go back to the State.

Unlike industrial products, there is no substitute for water, whose availability too has to be constant and continual, without being linked to seasons and supply-chains. Privatisation of water is different from privatisation of supply-management, but the dividing line again is thin. In Chattisgarh, the State Government leased out 20 km of river to a private company for putting up the Maheswar Dam. The possession and the enjoyment of the river and the ground below it through the 20-km length should be with the private company for the lease-period, and there could be problems when the Government has to re-take possession under the agreement.

The World Bank often quotes their experience with the privatisation of water and sanitation services all over the world, but the book, 'The Water Barons', published by the Centre for Public Integrity in Washington and compiled by the International Consortium of Investigative Journalists, has 30 case-studies of privatisation the world over, and the commonalities included the presence of an ideological driving-force, as different from economic

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arguments. In a few cases, highly successful public utilities were unnecessarily privatised. There were charges of insider-knowledge and other suspicious practices in the bidding process, with the Government or municipal negotiator landing lucrative jobs in the selected firm after privatisation.

There was also a wide gap between promises and delivery – in renewing and increasing assets, and freezing tariffs, etc. In some cases, the tariffs were pushed up by 300-400 per cent, which the poor could not afford, with the result, their services were disconnected. At the Third World Water Forum at Kyoto, a woman protestor claiming to be the former Director of Water Supply in Illinois, US, said that despite not being a poor State, it had 40,000 cases of disconnection of supply for non-payment, caused by non-affordability. The cholera outbreak in South Africa was similarly linked to disconnection of protected water

supply by the private operator. The success story of Manila is now being disputed. The situation in India could well be imagined.

The privatisation efforts of the Delhi Jal Board too may have some lessons. The first pertains to the choice of Price Waterhouse Cooper as the Consultant, following successive interventions by the World Bank, though no motive could be attributed to the latter throwing out additional criteria and a dissenting evaluator, successively. Though the Bank had indicated preference for Indian consultants, Price Waterhouse Cooper, with an office in New Delhi, insisted on payments in pound-sterling. Another controversy related to the high salaries that the private suppliers had to pay their executives in each of the 22 Zones, all adding to the tariff. Eventually, the Delhi Government found it too embarrassing, and withdrew the whole project, at least for the time being.
