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# Can every farm get water? The present crisis and the roadmap towards the solution

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## ABSTRACT

Recently an announcement has been made in India – "Water to Every Farm" which sounds beautiful but can it come true easily in the given situation? Does India have really geared up for the same? How can the gap between the attractive slogan and the present scenario be bridged up is of great concern. Many examples of mismanagement in various parts of the word are eye-opener. In India, out of 20 major basins 14 are water stressed at present and the situation is worsening fast. Water stress is increasing day by day and inequitus in distribution of water amongst various user groups is also increasing which has started taking serious stance in the form of social unrest in many parts of India. On the other hand water related legislations and administrative setups are based on fragmented controls in India. Executive machinery being helpless in want of legislative and administrative edge has to witness the sparrow's fall especially in the water sector. Water conflicts as a product of water stress have now gone to the extent of becoming a challenge against the solidarity of the nation which is of prime importance and also a prerequisite for a prosperous nation, especially when the global systems before they could prove their worth have started crumbling. The paper gives an analysis of the present scenario including the factors working in the background and focusses on the roadmap towards a better organized water sector to

ensure ensuing corrections in other sectors like agriculture, industries, infrastructure, social services, etc. The paper is in the context that proper distribution of resources – especially the water – is the key to sustainable development of India, perhaps with no alternative model.

**Key Words:** Water Stress, Constitution, Social inequitus, National Solidarity

## 1. WORLD AND WATER: BALANCING RIGHT, MIGHT AND FIGHT

On this planet earth (also termed as planet water because of its 3/4$^{th}$ surface coverage) it is ironical that even after centuries of civilization 'Right to Water' is not universally accepted as a fundamental human right. Water management has been increasingly viewed as 'conflict management'. Since humans settled down to cultivate food, rivalries over water have been the source of disputes (By the way "rivalry" comes from the Latin *rivalis*, or "one using the same river as another.") With increasingly felt nexus of water scarcity and sustainable development, water wars and water riots are not distant possibility according to a group of experts that includes Boutros Boutros-Ghali (UN Secretary General, 1991), Ismail Serageldin (World Bank Vice President, 1995) and Kofi Annan (UN Secretary General, 2000).

History is littered with examples of violent water conflicts; just as Californian farmers bombed pipelines moving water from Owens Valley to Los Angeles in the early 1900s, Chinese farmers in Shandong clashed with police in 2000 to protest government plans to divert irrigation water to cities and industries. Most societies have institutions that deal with conflicts - legal systems, democratic or participative procedures, etc. It is when these systems either not are in place or do not work that conflicts can become detrimental for large groups in the affected societies. However, some international treaties have been worked out in course of time and have proven themselves effective in conflict resolution [6]. "Despite the potential problem, history has demonstrated that cooperation, rather than conflict, is likely in shared basins," UNESCO concludes [1]. Outcomes of specific conflicts have inter-generational, international, and global impacts and at times they are capable of making or breaking future of the society.

## 2. GLOBAL SIGNS OF MISMANAGEMENT IN WATER SECTOR

So many people, Non-Governmental Organizations and governments of different countries are found trying hard to manage the water sector properly but in spite of so many efforts, the present is not as happy for all as has been aimed. Divisions in the societies earmarking haves and have-nots have become conspicuously worrisome to those who have been striving for inclusive growth and all encompassing development to ensure sustainable civilizations for the mankind. Following are a few facts that provide some glimpses of the present global situation.

- "About 2.5 billion people still do not have access to safe sanitation. This is because water is not accessible to them. This has a profound negative impact on numerous human rights" [2]
- At any one time, half of the world's hospital beds are occupied by patients suffering from waterborne diseases.
- "The water and sanitation crisis claims more lives through disease than any war claims through guns" [3]
- "About 90 percent of sewage and 70 percent of industrial waste in developing countries are discharged into watercourses without treatment, often polluting the usable water supply". [2,8,9]
- Our main problems in rural communities are the following: walking long distances about 2 to 3 kilometers daily to a public tap; carrying heavy containers on our heads 20 to 25 liters per trip; long queues at the point of taps; should there be contamination at this common point the whole village is at risk.
- "There is more than enough water in the world for domestic purposes, for agriculture and for industry. The problem is that some people - notably the poor - are systematically excluded from access by their poverty, by their limited legal rights or by public policies that limit access to the infrastructures that provide water for life and for livelihoods". [3, 5]
- "Humans are over-consuming natural resources at an unsustainable rate. Around 3.5 planets Earth would be needed to sustain a global population achieving the current lifestyle of the average European or North American". [4]
- "In many countries, while the poorest get less water of a lower quality, they are also often charged the most. People living in the slums of Jakarta, Manila and Nairobi pay 5 to 10 times more for water than those living in high-income areas in those same cities

and more than consumers in London or New York. In Accra, many of the 800,000 people living at or below the poverty line pay 10 times more for their water than residents in high-income areas". [3]

- The majority of those who do not have access to safe drinking water and sanitation are the poor, in both urban and rural areas. Not only are the poor less likely to have safe drinking water and sanitation, they are also less able to manage the impact of this deprivation.
- "Nearly 20 percent of the respondents to a household survey in Port-de-Paix, Haiti reported that having to collect water prevented or inhibited their children from attending school. Nearly three quarters also stated that safe drinking water was not available in schools and that many children had to carry water to school or purchase it there". [2]

## 3. INDIAN SCENARIO – DARKER THAN THE DARKNESS

### 3.1. Stressed Resources – Water and Land

- Against estimated annual precipitation of about 4,000 Billion Cubic Meters (BCM) including snow fall, India's total annual renewable fresh water resources are estimated at 1953 BCM.
- In 1901 India's per capita water availability was 4555 cubic meters per year - decreasing from 3008 cu.m. in 1951 to 1981 cu.m. in 1971 to 1283 cu.m. by the year 1991 - with India's projected population of 1146 million, 1333 million and 1581 million by the year 2010, 2025 and 2050, the per capital water availability (AWR) will be 943 cu.m., 814 cu.m. and 686 cu.m. respectively.
- Although, India's population is about 17% of global population, its rivers possess just 4% of the total average annual run-off in the rivers of the world. China has 22% of the global population but has 8% of world's water resource.

**Table 1** Land Resources (Million Hectares)

| | |
|---|---|
| Geographical Area | 328.73 |
| Forest | 67.8 |
| Not available for cultivation | 41.56 |
| Other uncultivated land | 28.36 |
| Fallow Land | 24.10 |
| Net area sown | 142.02 |

- Land resources and their utilization potential is viewed, the scenario could be better understood. Table – 1 gives a broad view of the land use potential. Irrigation potential created is only 100 Mha and actually utilized is 85 Mha approximately.
- It is estimated that about 174 million hectares of land (53%) suffers from different types and varying degrees of degradation. About 800 hectare of arable land are lost annually due to ingress of ravines.

### 3.2. Interstate Basins and Water Conflicts

An overview of six decades of India's post-independence period reflects spectacular profile in its water resources sector. During this planned development period, commensurate with the four fold increase in the global annual water withdrawal, India, too, has increased its water storage capacity from a meager 15 BCM to more than 200 BCM, by constructing over 4000 dams. Consequently irrigation potential has increased five folds and food grain production by almost four and half times. Many of them are in interstate basins. However, all these projects have not been able to create a sense of belongingness in the people and therefore many disputes in the nation. The disputes cannot be attributed only to lawlessness but are a product of exercise of grabbing political power in democratic set up which involves people's collective perception which is always subjected to some conditioning process. This process is sometime in the context of sensitive issues and may figure out some point as the question of existence for a region which eventually become an interstate conflict. Especially when development myth has captured a special place in public life, fight for resources at individual and political levels is obvious. Water being the most basic resource for life, it becomes a valid point for conflict on the political stage, and, therefore, in many interstate basins conflicts have erupted. The Cauvery Issue, The Ravi-Beas-Satluj Dispute, etc. are a few examples to be referenced to make the said points clear.

### 3.3. Hazy Perception for Water in Legal and Policy Framework

Article 262 of the Constitution not only empowers the Parliament to make laws for the adjudication of any dispute relating to waters of Inter-state River or river valley but also dismembers the Supreme Court.

Groundwater is considered an easement connected to land under land tenure laws and the 'dominant heritage' principle implicit in the Transfer of Property Act IV, 1882 and the Land Acquisition Act, 1894. Thus, groundwater is attached to land property and cannot be transferred separately from the land to which it is attached.

Water has not been considered as a single undivided subject in the Indian Legal System and hence while dealing with the fragments of the same subject, element of coherence to address larger interests of the community is really lacking. This shortcoming perhaps makes it extremely difficult for the State Governments and the Central Government to sort out water conflicts. Even the Supreme Court feels maimed while taking any stance in such disputes in want of appropriate legislation.

Some states have devised regulations on groundwater extraction in the form of restricting depth of tube wells or limiting numbers of tube wells in specified regions. These provisions are of limited purpose and have not proven so effective because by restricting number of tube wells water market comes in to existence but exploitation of groundwater does not end. Moreover, aquifers do not follow the political boundaries based on which the restrictions are devised and therefore exploitation of groundwater cannot be effectively controlled. Adjudication of easement rights is done by collectorate and therefore the administrative control being fragmented, effectiveness in restriction is always under question. Allocation of surface water within state is not metered, nor even monitored by any administrative authority. The same way the irrigation sector is left precariously and there is inaction against water theft and indiscipline in want of legislative powers with the authority which operates it.

India formed its first National Water Policy in 1987 and revised in 2002. National perspective is given overriding priority for water resources planning and development. For Water Sharing / Distribution amongst the States, this Policy states :

*"21.1 The water sharing / distribution amongst the states should be guided by a national perspective with due regard to water resources availability and needs within the river basin. Necessary guidelines, including for water short states even outside the basin, need to be evolved for facilitating future agreements amongst the basin states.*

*21.2 The Inter-State Water Disputes Act of 1956 may be suitably reviewed and amended for timely adjudication of water disputes referred to the Tribunal."*

In the majority of situations in India the enabling framework for implementing sound water allocation, planning and management is largely absent. The policy has been criticized for lacking the thrust to take urgent specific actions for meeting the increasing water crisis. However, the policy has certainly underlined the importance of basin level planning and distribution of the water resources which in case meticulously done would help identify many problems at basic level which would be solvable by the respective states themselves and would also prevent cascading issues at the national level.

Participatory Irrigation Management Acts are enacted by some states like Gujarat, Maharashtra, Andhra Pradesh, etc. to empower Water Users' Associations so that size of the administration required can be slashed and feeling of belongingness is instilled amongst the farmers [7], but capacity building of them is a prerequisite for success of such legislations. Moreover, these acts have not addressed the issue of limitations of co-operative sector that have come to the surface and, therefore, wheresoever the Participatory Management Act is implemented, desired results are far off. Efficiency of water distribution depends on monitoring and control of physical components of the system and water accounts which are complex enough to bewilder the farmers and in addition to them the social constraints hamper their functioning which are difficult to overcome for localites. The said legislations do not provide for a proper administrative mechanism to resolve these issues as the underlying philosophy is that the social process should be uninterruptedly allowed to take its own course and society would take care of many complex issues at the local level.

Some states have devised legislations to prevent pollution of water on an environmental ground. Treatment of effluent by industries to a threshold quality level has been made mandatory but implementation is not so effective and state level pollution control boards have reduced to an administrative nicety rather than acting as a policing agency to oversee the polluters.

In all, efforts of legislature and administration inevitably lack four important features – practicality, effectiveness, accountability and objectivity. Legislative and administrative framework without them cannot yield desired results. Stray developments without interconnections amongst different stakeholders and amongst controlling agencies involved in the water sector have made the scenario very complex. When the stress on water has reached a critical level and development badly needs water, such fragmented controls are likely to create a chaos. This aspect has been a matter of concern for many experts and different authors have tried to point it out time to time. Other related issues like environment, water supply, public health, industrial waste disposal, etc. are also

associated with the water sector and are dealt with in isolation which has also added to the present complexity.

### 3.4. Traditional Institutional Mechanisms Dismembered Without Cogent Replacement

Thus, at present water sector is disorganized in India – almost no measurements or accounting is there in any segment and there is not much regulation on use of water and hence anarchy prevails. Without properly understanding the role and significance of community based water resource management, efforts were made to replace them by government machineries and now a state has come wherein neither social institutions have remained functional, nor could the government machineries be made effective. Water policy, some stray legislations, executive machinery of the government, etc. are also there but are not in a position to deliver much. In the present labyrinth, Indian water sector has been badly trapped and the people are helpless.

In India, natural water sources traditionally used by indigenous peoples, such as lakes or rivers, may no longer be accessible because of land expropriation or encroachment. Access might also be threatened by unlawful pollution or over-extraction. Furthermore, indigenous peoples' water sources have been diverted to provide safe drinking water to urban areas. Indigenous peoples' right to water and their rights to their ancestral lands, customary arrangements for managing water, as well as the protection of their natural resources are jeopardized.

## 4. ESSENTIALS FOR CORRECTIONS

"Water" is required to be viewed in wholistic manner and the fact that precipitation, surface water, groundwater, etc. need to be dealt with as a single subject so far as legislations and administrative mechanisms are concerned. Because sporadic efforts have been made to address different issues related to water at different points of time, inconsistent legislations and fragmented controls have come in to existence which is the main cause of the crisis in the present situation. Patchwork kind of solutions may not be of much help but regalvanization is the need of the hour which would not only sort out the long pending issues of the water sector but also lay down the foundation for a healthy and sustainable progress the nation needs to attain in future.

Considering the fact that ours is a quasi-federal Constitution with balanced sharing of power between the Center and the States, yet having a provision of interaction between the two and if need arises, of intervention of the Center; a conscientious consideration of taking "water" in the Union List to ensure that no state is allowed to play with justice is an earthshaking proposal the nation should debate up on. A word of caution - *prima facie* this might look as an offense on the spirit of the Constitution and a step to imbalance the equilibrium between the Center and the States; and the States may not be willing since the political scenario has been increasingly coming under the control of regional parties whose existence is based on parochial matters. Even the National Water Policy that has national interests in its center is being criticized as an effort to nationalize and centralize water resources which is tantamount to be dis-empowerment of the user groups and the states. But India being a democratic country, such skepticism or open debate or criticism can not and should not be brought to end without logically convincing the irked ones. Therefore, some points that clear the air are – such legislative reforms are aimed at making room for timely intervention of the Center on critical issues replacing inaction and silence and are not an effort to swallow the liberty of the states which can be testified from the facts that - "Water Rights" are explicitly to be announced for each citizen; such reforms would provide a proper mix of powers and duties at the Center and the State levels having sufficient space for user groups to play their role at local level so far as distribution is concerned; empowerment of user groups is possible only when the atmosphere is conducive to let them exercise their powers; legal remedies in case of infringement of rights of individuals and user groups are available and above all, the faith of the people which is the key to success is possible to be won only through efficacy and effectiveness of the governing bodies at different levels; and, peoples' empowerment does not mean thrusting up on them the powers or rights but enabling them to perform. Therefore, there is no issue like nationalization or centralization of water resources. Contrarily, if nothing is done, the market would capture the water resources sidelining all the idealistic concepts like common good, social responsibility, people's empowerment, etc. Beyond all debates and dialogues and skepticism, the most important aspect here is that the "balance in federal structure" should not be allowed to undo what Late Sardar Patel did in 1947 and 1948. In India, the current scenario reflects 'hydro solidarity' at least at the state levels; in future, with the increasing water scarcity, intra-state conflicts (e.g. upstream versus downstream conflicts) may also increase necessitating able laws to deal with the situation. Considering the crisis and future risks on large perspective, the aforesaid paradigm shift is a *sine qua none*. Moreover, water does not follow the boundaries made on the earth to form villages, districts and states and therefore there is no conscionable reason to design the sharing of powers to govern water only as per territorial limits. Albeit, in the hierarchical fashion when the governance model is designed, the territorial units should not be made bereft of their legitimate privileges of due share in the governance as a policy. Upholding the spirit of the Constitution and yet making necessary amendments to provide the aforesaid change is if made somehow, so many bones of contentions would be possible to be buried in

course of time without bullying the people; and with the help of judiciary and executive machinery, many developmental activities would be possible to be taken back to their ways.

The aforesaid amendment should be followed by a series of amendments in all obsolete laws like those related to revenue, land and transfer of property, etc. Article 262 would also be required to be radically amended. These would enable the governance to be effective with the concept of water as a single unified subject and would also enable the courts to deliver sensible and meaningful judgments.

Regulatory authorities working in the electricity sector are tried to be mimicked in some states in the water sector with some good aspects and some limitations. Institutional mechanisms in whatever form should provide for inclusive growth as the objective and should also be equipped with executive power to prevent the water theft and indiscipline in the water sector. This is the way to allow the law to work in an objective fashion which is the very basis of right use of resources. Some resistance is likely in the initial stage as the society is not prepared to act with discipline but it can be attained through imposition and in the later stage the social conditioning could be expected. Resource data acquisition, monitoring and control should be the three essential functions of the administrative setup. Pricing mechanism should address the anti-polar issues like affordability and cost recovery and work out the balance.

Administrative and institutional mechanisms appropriately designed to implement the law in letter and spirit should be of top-bottom nature, sharing of privileges should be devised properly and delegation and control should be made judiciously. They should also have sufficient provisions for the traditional water sharing institutions which are still in vogue so that the basic of democracy – "by the people" is not vanished in the name of rule of law. The concepts of governance and allocation must be well stated so as to avoid confusions, conflicts and shuttle-cocking and the roadmap must be prepared to attain the stage where "Right to Water" is attained by the citizens in the right spirit. Then only a stage would come wherein every farm would get water.

## 5. CONCLUSION

Attainment of right kind of legislations and administrative mechanism for proper implementation of them are enough to ensure the way to sustainable development as against a sprint model of development the northern hemisphere has fallen prey to. Consistency amongst the efforts of legislature, administration and judiciary can enable the nation to wade through all sorts of troubles. During economic reforms, India has gone through so many difficulties with determination and with the same kind of determination that reforms in the water sector are possible and required to be ushered in. Right to Water is when endorsed by the courts as a part of Right to Life in India; its express provision has become essential to begin with so far as reforming the water sector is concerned. Water resource management impacts almost all aspects of the economy, in particular, health, food production and security, domestic water supply and sanitation, energy, industry and environmental sustainability. Without paying proper heed at the water sector, world cannot expect all-round development. India and other developing countries need an urgent move to correct their water sectors. "Water to Every Farm" must have all these points in the context to make it come true.

## DISCLAIMER

Views expressed in this paper are the individual views of the author and not necessarily of the organization he works for.

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