

2015 Annual Conference Of The Indian National Association For The Club Of Rome
“SECURING WATER FOR ALL – The critical need for coherence in policies and actions”

November 18-19, 2015 – Gulmohar Room, Indian Habitat Centre, New Delhi, INDIA

BACKGROUND PAPER : THE KEY ISSUES OF POLICY COHERENCE FOR WATER SECURITY

THE FUNDAMENTAL ISSUES

Water is a fundamental human need and a critical national asset. India’s huge and growing population is putting a severe strain on its water resources. Water along with food and energy forms a critical part of the ‘new security agenda’. The drivers of future water challenge are tied to development and economic growth, with agriculture as the largest spender of water, at more than 90%. Moreover, the World Bank estimates that 21% of communicable diseases in India are related to unsafe water; diarrhoea alone causes more than 1,600 deaths daily—as if eight 200-person jumbo-jets crashed to the ground each day.



Water insecurity can arise from (a) physical scarcity, resulting either from climatic or geographical factors, (b) unsustainable consumption or overexploitation; (c) economic inadequacies, with poor infrastructure or capacity preventing access to the water resources available, or (d) pollution or natural contamination, which renders water resources unusable. An emerging threat to water security comes from climate change, which has already had significant negative impact on water resources across the world. It has increased the global mean sea level by 1.75 mm each year in the second half of the twentieth century, caused the widespread retreat of non-polar glaciers, reducing dry-season water flows, and increased extreme events that can cause both drought and floods.

Overall Situation - The issue of water security has gained attention from governments at the highest level, in particular for its links to *climate change*, *peace* and *national security*, but also for its implications for *development issues*. Nearly a third of the world’s 37 largest aquifers are being drained faster than they are being replenished, according to a recent study led by scientists at the University of California, Irvine. If India cannot expand water-fed agricultural productivity, economic growth will be restricted. As a nation, India has not many goals that have higher priority than enabling secure access to water by every one of its citizens.

Climate Change influences the Earth’s ecosystem and water-based industries, such as agriculture – and thus the livelihood and well-being of societies – through the medium of water. Higher temperatures and changes in extreme weather conditions shall affect the availability and distribution of rainfall, snowmelt, river flows and groundwater, and further deteriorate water quality. The poor in the developing world, who are the most vulnerable, shall be adversely affected, as their low incomes and poor institutional capacity limit their ability to cope. *The links to water discussed in this conference on adaptation to climate change and its role in sustainable development will be presented by our knowledge partner, Development Alternatives, at COP21 Paris, later this year.*

Water Issues – India’s impending water scarcity issues continue to rise as its population and economy grow. While the various aspects of the nation’s water future have been the subjects of many recent conferences, the Club of Rome’s concern with systemic causes and solutions based on trans-sectoral interventions make this conference particularly timely and relevant. It aims to act as a forum to help design policies that can meet the aggregate demand for water among increasing competition from households, industry, and agriculture.

The Need – In 2010, the World Health Organization estimated that 97 million Indians lack access to safe water, second only to China, although other researchers suggest that the figure could approach 350 million people—upto a third of the Indian population! The purpose of this conference is to focus on how to raise the supply of water and limit the demand for it in such a manner as to balance the two at a level that fulfils all the requirements of society.

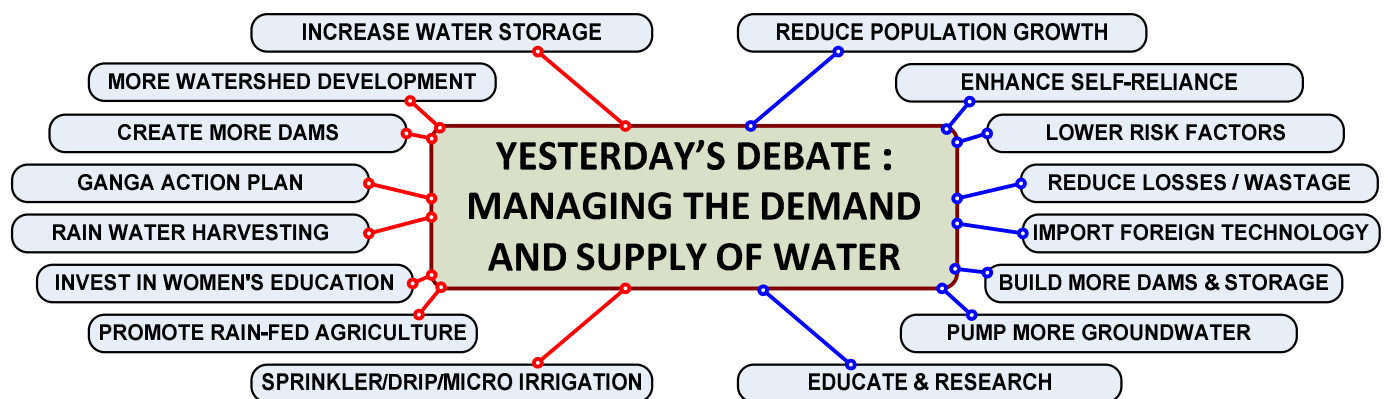
Growth of Population and the Economy - As our population continues to grow each year by more than 15 million and the economy grows by 6 to 10% ... and the availability of water of adequate quality continues to decline – we need to change our practices and indeed our assumptions, to do those things differently, which threaten the sustainability of this critical resource.

Poor water quality – Water in most rivers in India and, increasingly, in our aquifers, is not fit for drinking, cooking or even washing in. Higher and more timely investment in water-treatment facilities could well help alleviate this problem but new, more innovative ideas involving technologies to improve water quality that are more organic, efficient and cost-effective, and less complicated.

Dwindling groundwater supplies – Millions of farmers with highly fragmented land – often less than two hectares – over-extract water from under their own land, as groundwater is an open-access resource. India’s rate of extraction has been steadily growing from a base of 90 BCM in 1980 to 251 BCM in 2010, whereas the United States has remained at more or less only 112 BCM since 1980. Again, we need to find ways to satisfy current needs and yet accelerate recharge of our groundwater tables for the future.

YESTERDAY’S DEBATE : MANAGING THE DEMAND AND SUPPLY FOR WATER

Measures to ensure our nation’s water security clearly need people-friendly and participatory approaches. Many of these are not well understood. Every seminar, roundtable and conference on water-related topics trots out the regular technologies, both on the supply and on the demand side, as shown below:



This approach has only resulted in countless proposals, initiatives and goals that are loosely connected at best, and that are often plagued by internal inconsistencies. The frequent succession of governments—each with different

ideologies—has left the state of the Indian Republic's water agenda in tatters.

This means that a new, simple and sustainability-oriented approach is needed, which must now become the central subject of debate in our country. Considering that water security is one of the most important goals for the future health of the nation, we believe our national debate will require several key changes in our general approach and order of business, in order to develop a water security policy framework, which will carry us forward into a truly sustainable future.

THE DEBATE NEEDED TODAY : AND ITS UNDERLYING PREMISES FOR SUSTAINABILITY

For advocates of particular solutions for water security—whether on the supply or the demand side—the different viewpoints are generally the result of fundamental differences in the premises or perceptions on which they are based. Three of the most important ones relate to the issues of sustainability:

Issue of a Viable Economy- The first commitment is to the balance needed for a viable economy. If policies and investments in water security favouring the agricultural sector or the industrial sector—or indeed the services sector or the natural resource sector—get out of balance, the performance of the economy can only suffer by becoming sub-optimal and less efficient. A balanced and **viable economy** clearly is a necessary condition for sustainability.



Issue of Social Equity - The second is the commitment to social justice in spatial or class terms – in the here and now. It assumes that water, like food and energy, is the right of all, whether urban or rural, rich or poor, powerful or marginalized. This relates to the *Equity pillar* of the widely accepted concept of Sustainable Development. Recent political upheavals caused by lack of access to water supplies, or unaffordability, demonstrate that **equity** is a central component of sustainability.

Issue of a Healthy Environment - The third is the commitment to inter-generational equity or responsibility for our legacy to the future – embodied in the *Environment pillar* of "sustainable development". This relates to differences in the time horizons assumed: some are motivated by the immediacy of today's issues (either for societal concern or for political or personal gain), others worry about what impacts the narrowly-conceived, short-term decisions made today will have on future generations. Recent shortage of water in places such as Marathwada and increases in food-water imports in countries such as China demonstrate that the health of the **environment** and its resource base is a critical factor in sustainability.

The "*silver bullets*" of yesterdays' debate—the various activities that can help bring supply of water into some balance with the demand for it—are necessary and extremely important. However, they are not sufficient. Even if all, or most, of these interventions were to be implemented, the water shortage problems would not be fully solved, as there are other political, economic and social barriers, not usually dealt with in the current discourse, that undermine the impacts of such well-intentioned policies and actions.

The debate needed today encompass ideas such as reforestation to recharge the groundwater table, new technologies for growing food more efficiently, such as System of Crop Intensifications, Aquaponics and other water-friendly approaches, improvements in the system of governance, and innovations in technologies, institutional frameworks and economic instruments.

THE STARK NEED FOR POLICY COHERENCE

Existence of Policies - One of the greatest impediments to achieving the primary national goal of securing universal access to adequate water is the existence of policies, some within the water or related sectors, and others in seemingly unrelated sectors such as agriculture, energy, manufacturing, trade, that hinder the fulfilment of this goal. Although they may contribute positively to the achievement of some other nationally desirable objectives, an important question to be addressed is whether it is possible to deliver on those other objectives in an alternative manner that does not involve heavy costs to the water security goal.

Contradictions - The food-land-water-energy-climate change-etc. nexus is, for example, replete with instances of contradictory policies with countervailing outcomes and self-defeating impacts. However, even several of the recent global dialogues called to address these relationships have rarely gone beyond mentioning some simple links, such as those between water and energy, without analysing, let alone synthesizing, the policy implications of these – let alone of the interactions among the larger set of resources involved.

Policies & Actions - Examples of policies and actions that might have historical or social justification on grounds other than raising water security but that grossly distort the pricing of various resources related to it, leading to suboptimal use of these resources and losses to the sector and the national economy include: (a) perverse subsidies – such as for water, energy, food, fertilizer, transport; (b) technology choices – short-term benefits vs long-term costs; (c) inter-state tariff barriers; and (d) Job and income generation schemes

Examples of policies that influence, positively or negatively, the willingness, of investors in water production are:

- Security of land ownership and tenure; inheritance laws that promote continual fragmentation of farms
- Improving the Ecosystem services such as forest protection laws and watershed management
- Incentives for water regeneration and other changes in production systems
- Promotion of mechanization, chemicalization and financialization in agriculture and downstream activities
- Market pricing distortions due to hoarding, exports and other administrative, regulatory or legislative failures

Other examples of policies that impact water security are: (a) economic and fiscal policies that maintain or exacerbate economic disparities, and particularly poverty; (b) trade policies in all sectors, not just on importing raw materials needed for generating water; and (d) energy, environmental and other policies, or the inadequacy thereof, to mitigate or adapt to climate change and its impacts on water security.

In identifying the policy issues that need to be examined and modified, their relationships to the three fundamental values of sustainability– *commitment to equity, environment and economy* – must be carefully made explicit to enable a meaningful public debate. The goals of water security for all can only be attained if we bring a higher level of rationality and systemic insight into our policy and action frameworks.

SYSTEMS THINKING FOR WATER SECURITY

No government agency, single company, NGO or other actor can bring about the scale of environmental, social and economic change that is essential to tackle the inter-dependency of our globalised society. Water is an example, where there needs to be co-ordination across all parts of the system we are trying to change. For example, without a stable long-term supportive regulatory structure, companies will not risk capital investments that require a payback of many years, however good the technology on offer.



The art of systems thinking, which may represent the next phase in the evolution of sustainability, in driving sustainable transformation for changing systems, and helping multiple stakeholders find a common vision, requires expertise, a certain skill set including a sense of humility and sensitivity, and a deft touch.

Representatives of all the stakeholders for water security are included at the very beginning of the process and everyone has an equal seat at the table. A clear map of the water systems and how each part correlates to others is needed to be made by experienced system experts, takes time and many iterations to get right. It is vital to recognise the importance of cultural differences, because it is often in this area that collaborations fall apart. Finally, it is important not to forget the role of storytelling and to be open to including a spiritual dimension.

Food-Water-Energy Nexus: This conference on '*Water Security*' follows the first one last year on '*Food and Nutrition Security*', and will be followed the next year with focus on '*Energy Security*'. A *nexus approach* can help us to use and re-use resources more efficiently, reduce the impacts of critical technologies, and create synergies between resource sectors. There is also great potential to reduce pressure on existing resources by the recycling and cascading use of resources; for example wastewater from cities can be used to generate energy and be re-used in agriculture.

Food security, water security and energy security and are inextricably linked—as actions in one area will impact in one or both of the others. Food security is related to the nexus between water and energy, as (a) socio-economic development depends on the sustainable provision and use of these two resources; and (b) while water and energy are required for irrigation, energy is vital for water access, and water is critical for energy production. *A balance is crucial for the nexus.*

Humanity needs to feed more people with less water, in a context of climate change and growing energy demand, while maintaining healthy ecosystems. *Competing demands for water, energy and food will require us to make intelligent – and sometimes tough - choices and move away from business as usual solutions.*

Impact of Climate Change: The 21st **United Nations Climate Change Conference, COP21** will be held in Paris, France, from 30 November to 11 December 2015, to achieve a legally binding and universal agreement on climate, from all the nations of the world. The issues on (a) water security on adaptation to climate change and its role in sustainable development; and (b) Reforestation and REDD++—which are areas that the Club of Rome – India is working on and will be discussed in this conference—will be presented at COP21, by Development Alternatives, our Knowledge Partner.

THE CLUB OF ROME - BROAD AGENDA AND THEME FOR THE SUMMIT

"SECURING WATER FOR ALL – The Critical Need for Coherence in Policies and Action"

The Club of Rome—India’s Annual Conference (Delhi, 18-19 November, 2015), will bring together thought leaders to help identify the kinds of existing or proposed policies that have countervailing or counter productive implications (particularly those that are counter-intuitive) for water security and to formulate ways to bring some coherence among these and to formulate strategies for rationalizing them.

RULES OF ENGAGEMENT FOR THE SUMMIT

Participation in the CoR Annual Conference is by invitation. The purpose of the Conference is to consider and identify specific policies and actions that can be proposed to government, business, civil society, academic institutions & the media for taking forward and implementing in their respective domains.

To enable us to move the debate forward, invitees are requested to stay as closely as they can within the two basic rules of engagement for such a debate:

- For the issues that have already been widely or intensively debated, the main concern is how to get them internalized into policy, i.e., in this exercise: *identifying the direct interventions that can bring the sustainability issues—namely social equity, healthy environment and a viable economy—into balance, such as those listed in Section 2 above, which will need answers to the question:*
 - ***What proven methods can bring about such outcomes on the scale required?***
 - ***What are the policy changes needed to achieve this?***
- The primary focus will be on what is **not** top-of-mind in the mainstream thinking on the subject, but is of the highest importance and urgency, i.e., in this exercise: *identifying policies that either facilitate or conflict with the goals of water security itemized in Section 3 above, and on answering the questions:*
 - ***How does the policy in question run counter to the requirements of national water security?***
 - ***What can be done to bring it into alignment with that overarching goal?***

CONTACT DETAILS FOR THE CLUB OF ROME

Those interested to receive an invitation to attend the Annual Conference should write, with an indication of their involvement in the subject and a brief outline of their intended contribution to the debate to :-

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