

## **Guest Editorial –Special Issue on Water**

Adam Smith in his famous book *'An Inquiry into the Nature and Causes of the Wealth of Nations'* has pronounced the famous diamond-water paradox, where he argues that water is priceless, compared to diamond even water is imperative for the life. The diamond-water paradox proves that scarcity makes diamond costly. Growing urbanization and industrialization has made water a costly product. Trans-national corporations are catching the market for safe drinking water as well as other uses of water. Global evidence proves that market for water is costly and risky if it is not properly regulated by the Governments. Public policy for the distribution of water is very important at a time when neither the public water bodies nor the private water bodies are sensitive to the use and misuse of water. There are certain loopholes in the system, which need to be taken care of properly when we have global task like providing safe drinking water to one billion people on this earth as a part of Millennium Development Goal (MDGs). The current issue of Journal of Management & Public Policy presents a critical analysis of public policy on water. This issue is an important collection because the mixture of developed and developing countries experiences makes us aware about what and how water policy should be framed.

Vittorio Carlei & Alessandro Marra in their paper *'Investigating Public Governance in the Water Sector Management across 44 Countries'* focus on the water sector management and argue that insufficient organizational capacity of administering the phases of design, implementation and enforcement of regulatory policies are associated with poor environmental performance. This paper provides a quantitative, more systemic and sophisticated analysis of the relationship between the public governance and water sector performance. Authors have collected data on 44 countries and made use of the so-called "self-organizing maps", a specified neural network architecture, to develop a multivariate analysis whereby they link several variables of public governance to each other, together with the human development index, in a non-linear way, taking into account, properly and simultaneously, their mutual effects to find out a significant correspondence between public governance and wastewater performance.

Sujana Dhar's paper titled *'Investigation into the Effects of Climate Change for the Ajay River Basin using Hydroinformatics'* presents an exhaustive study on the Ajay River catchment under changed climate scenario from soil moisture accounting parameters. This paper attempts to quantify the impact of climate change on the water resources of the Ajay river catchment outlet at Natunhat, West Bengal. A distributed hydrological model, HEC HMS (HEC HMS Version 2.2.2, 2000) has been exercised over the river basin under changed climate scenario considering input parameters of four catchments of the Ajay River basin, spread over West Bengal, Jharkhand and Bihar in eastern India namely, Natunhat and Gheropara (West Bengal), Jamtara (Jharkhand) and Sikatia (Bihar) in order to generate soil moisture relationships from 2040-2050. Water Availability status for 2040-2050 has been accomplished by computing soil

moisture properties such as canopy overflow, soil infiltration and ET which have been determined and illustrated over the mentioned period of ten years. Paper provides a useful conclusion that climate change has the potential to alter ecosystems and the many resources they provide to society. Variation of properties such as soil ET, soil infiltration, canopy ET and its overflow over 2041-50 have been proved to have a considerable control over the future water availability scenario as illustrated in the projected scenarios under changed climate conditions.

Gurulingappa G. Koppa and Debiprasad Mishra's paper '*A Scenario Testing of Canal Irrigation Cooperatives for Multiple Use Services: A Case Study of Major Irrigation Project in Gujarat (India)*' presents India's thoughtful effort on a process to transfer the management of public irrigation systems to Water Users' Associations/ Irrigation Cooperatives (ICs). The paper highlights the fact that most of the failed co-operatives are weak in their financial position. It calls for a need to find out the various critical factors that ensure financial strength of the ICs, and the various steps taken by the co-operatives to increase their revenue for better financial management. Study tries to identify and analyze the scope for charging multiple use of water including domestic, livestock and industrial purpose by making non-farming users as members of the irrigation cooperatives, assess the capacity of the farmers/non-farmers to pay and elicit the conscious steps taken by the government and farmers for ensuring the financial strength of ICs. The study refers to a multi-disciplinary approach which involves simulations and scenario-testing, acknowledging that there are costs incurred by supplying water and water-related services to farmers and other users. The farmers tap into their monetary resources to pay these water service fees. The outcome of the study suggests that there is a need to include non-farmers as members with a membership fee and charge non-farm uses to make ICs financially sustainable in the long run.

Sujit Choudhury, Girija Sankar Chattopadhyay and Deepankar Chakrabarti have contributed an interesting paper titled '*Need for Integrated River Basin Management in the Context of West Bengal Floodplains*'. This paper makes a strong case for the integrated river basin management for water conservation and sustainable development. The paper presents a case study of West Bengal, a state having large numbers of rivers, which are facing problems associated with the vast floodplains of these rivers. For meeting the water demand and controlling floods a number of large dams and reservoirs have been built on these rivers. This has reduced the periodic floods in downstream areas and provides irrigation in the fertile floodplain areas. However, these measures have led to rapid changes of the land use characters of the floodplains of West Bengal. Water withdrawal in different rivers of Bengal results in reduction of flow amplitude increase in base flow variation, alteration in temperature regime and decline of mass transport of materials. With this the overall connectivity between upstream and downstream reaches are compromised. Authors caution of detrimental effect on biodiversity and ecological processes in case the pressing issues are not addressed by adopting integrated river basin management system.

Jarmo J. Hukka, Tapio S. Katko, Pekka. E. Pietilä and Osmo T. Seppälä in their paper '*Towards Balanced Public-Private Co-operation in Urban Water Management*' explore the experiences from various types of public-private collaboration in terms of water services provision and production over a longer time period. The first modern water systems in many countries were built according to the concession model, but the great majority had been taken over by local governments by the early 20th century. The experiences from the two extreme policies of the later 20<sup>th</sup> century – free water services, especially in developing countries, and privatization, particularly in Latin America, proved unrealistic. These and other recent findings imply the need of more realistic policies in a wider context. The interests of citizens rather than those of private companies should be the primary concern. The paper suggests that the ownership and modes of public-private cooperation should be decided by the municipality/community.

G. Vijayakumar, D. Tamilmani and P. K. Selvara in their paper '*Maximizing Water and Fertilizer Use Efficiencies under Drip Irrigation in Chili Crop*' share field experiments done at Agricultural Research Station, Bhavanisagar during 2007 and 2008 to maximize the water and fertilizer use efficiencies in chili crop. The experiments for this paper were laid out in factorial randomized block design with nine treatments which included three irrigation levels 100, 75 and 50 per cent of PE along with three fertigation levels viz. 125, 100 and 75 per cent of recommended N and K fertigation through drip irrigation and replicated thrice. In chilli, the highest yield was observed in drip irrigation at 75 per cent of PE with fertigation of 75 per cent of recommended N & K with maximum shoot length and higher number of branches during I and II crops. The highest nitrogen and potassium use efficiency were observed in drip irrigation at 75 per cent of PE with fertigation of 75 per cent of recommended N & K in both I and II crops with maximum benefit-cost ratio of 3.2 and 2.8 during I and II crops respectively.

Rose Mary George in her paper '*Dynamic Strategies and Static Issues in Water Governance: A Case of Water Privatization in India*' presents a case study on the Sheonath river privatization –the main river of Durg district, which originates from Panabaras Hill and flows towards northeast and flows in the middle of Durg district through Raipur, Bilaspur and Janjgir-Champa before merging with the Mahanadi at Shivrinarayan. This paper centers on the fundamental issues in water governance with special reference to the present management scenario of privatization. The case of Sheonath river privatization proves that regime change is of limited use in the globalization era. As the case study in Sheonath illustrates, the nature of water privatization is found to have diverse consequences. Similarly, the nature of privatization differs when it comes to the arena of extraction and distribution. Given that water privatization is a multi-faceted process, there is an urgent need to set up an institutional mechanism to regulate the functioning of private players in the water sector. Paper advocates for a more appropriate regulatory body where apart from bureaucratic and scientific personnel, there should be members from all walks of life such as social activists, panchayat representatives, local civil society leaders and local party members.

J Cyril Kanmony in his paper '*Imperative for Paradigm Shift in Water Policy: A Case of Drinking Water Provision in Kanyakumari*' does not only portrays the real scenario of the drinking water supply but also analyses the ways and means to find a solution for the water crisis existing in India, particularly in Kanyakumari district. This paper consists of three parts. Paper's first part brings out the quantitative and qualitative aspects of the freshwater availability and the demand for it and the second part explains the drinking water scenario. Paper does provide details regarding the changes in approach and policies in the last section.

The discussion and debate on the public policy on water does not end here. This special issue makes an effort to re-visit the exciting debate on public policy on Water. I invite the valuable comments and reactions by readers on various papers to take more proactive steps in future.

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