



ISSUES AND CHALLENGES IN WATER RESOURCE MANAGEMENT IN INDIA

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Abstract

The present paper examines the issues and challenges of water resource management in India. The National Water Policy has suggested various measures for effectively managing the water resources. It suggests to understand the availability of water and scarcity. Besides, the economic value of water has to be understood where huge amount of water is misused, wasted and inefficiency usage. Reforms has to bring changes in local bodies and water users association. Without the financial support of the Government, the association cannot complete the mission in managing water bodies. The paper suggest to the Government to draft policies for creating new water users associations for managing the water bodies in the country.

Keywords: Economic use, Water User Association, ground water, irrigation

Introduction

India having with 18 per cent of the world population has only 4 per cent of world's water resources. The average annual rainfall that India received is around 4000 billion cubic metres, which is the major source of water resources. The rainfall and available water resources varies across the states in India. India has around 20 river basins. Increase in population, industrialization, agricultural and basic needs of water has increased the demand over the period. Per capita availability of water has drastically decreased over the period. Groundwater parts a major role in supplying drinking water to both rural and urban people. It supports 85 per cent of the rural people, 50 per cent of the urban needs and 60 per cent of irrigation. But, Government has failed to draft strict regulation in extraction of groundwater, which has led to ground water depletion. As a result, many states in India suffers from water scarcity and depletion of water has led to sea water seepage. On the other hand, the country is mostly get affected because of drought and flood. Around one third of the country's geographical area is drought-prone and 12 per cent is flood prone. Given this, the present venture address the issues and challenges faced by the country in water resource management.

Water Crisis

India started face huge water crisis from the year 2011. According to the central water commission, more than 85 per cent of the water is consumed from agriculture. Due to water crisis, the availability and quantity of water for agriculture may drastically come down by 2025. A country is considered to be a water deficit nation it the per capita water comes below 1700 cubic metres. The scale of per capita availability has fallen from the above mentioned period and

quantity by 15 per cent. That is the per capita availability is fallen to 1400 cubic meters. Even though the per capita availability and total water resources is fallen continuously, the demand for the same has increased tremendously. But, the seriousness of the issue is not well taken by the people as well Government, which doubts the objectives of sustainable development.

Due to population pressure and industrialisation, the consumption of water has further hiked. By 2050, it is estimated that 800 million people may be residing in the urban region. Since the ground water is mostly depleted in the urban region, the people may be in a position to import water from large distance. As per Indian Constitution, 'water' is under the state list. But, the Centre looks after the state in managing the water resources. It also intermediates between the states in solving the inter-state issues on water sharing. However, improving water use efficiency, clearing line damages, imposing tariffs and revamp of water bodies alone can solve the water issues in both rural and urban regions.

Government Expenditure

The Governments, the State and Centre have spent huge amount of money for water management. In 2016, the Government allocated Rs.86, 500 crores for 99 irrigation projects in the drought prone districts. This fund could not solve the issue because the canal resources are not maintained well. Water utilisation services is not good and poor management of canal resources led to wastage of funds. Moreover, majority of the canal irrigation projects are undertaken with full involvement at the initial stage and not completed exclusively. Lands in Punjab, Haryana, Uttarakhand and Uttar Pradesh have surplus water sources from Himalayan Rivers. But, the remaining and adjacent states could not get enough water for irrigation due to incomplete irrigation projects. As a result, the issue between Tamil Nadu and Karnataka is continuing for decades without solution. In 1947, the Government partitioned the country for effective administrative purpose based on the linguists and culture. Besides, it is bifurcated according to the natural and economic endowments. Irrigation is the major source of agricultural development and the government gave more importance for the same. From the first plan the Government may much priority for the development of agriculture and irrigation and two lakh crore was allocated for the irrigation development. Government initiated Accelerated Irrigation Benefit Program in the 1996 in order to develop the irrigation infrastructure. But, the issue exists in large grounds and the overcoming this the Government has to increase the expenditure for irrigational projects particularly for the states where the farmers suffer huge for their agricultural needs.

Underutilisation and Incomplete Projects

Even though there is a huge water stress around the country, there is underutilisation of funds that has led to incomplete irrigational projects. This situation since the fourth plan wherein the incomplete projects range from 500 to 600 projects. The states have income projects are Andhra Pradesh, Karnataka, Maharashtra and Madhya Pradesh. Delay in processing of the project, land acquisition, delays in construction of infrastructure are the major reason for incomplete irrigational projects. As a result, the cost of the project estimated and actual differs widely. The estimate fails when the projects are in a position to be completed and there is no immediate measures for increasing the funds to complete the same. In India, due to time horizon in completion of the irrigational projects, there is need for increase the cost of the budget by 1.38 times. This additional requirements of funds affect the objectives of the irrigational projects.

Groundwater

Groundwater resources are used both for irrigation and domestic needs. Ground water contributes 70 per cent for irrigation and 80 per cent for the domestic needs. From this, it could be understood that ground water contributes considerable necessities of the country. But, the water table has hugely fallen continuously in the states such as Punjab, Haryana, UP and Rajasthan. There is no regulation for ground water use in India, overexploitation is the outcome of lack of ground water policy. Besides, most of the State Government gives free electricity for agriculture and the farmers make use of this opportunity, which results in ground water extraction beyond the limit. On the other, the farmers are encouraged to cultivate flood crops such as rice, wheat and fruit trees. In spite of the research findings, huge ground water is extracted through the country, there is no effective measures to regulate the usage.

Management Principle

Integrated Water Resource Management [IWRM] is an emerging new concept spelled all over the world. IWRM aims at integrating social, economic and environmental objectives. The policy of water management will be drafted by the Government and given to the autonomous bodies such as management organisation, community based organisation and private sectors are given importance. Some countries like Australia, Mexico and Korea have witnessed good results in IWRM but India could not reap expected benefits through IWRM. Policy makers and academicians suggest 'water use associations' for overcoming the failure of IWRM. The end users are the common people and giving the responsibility to them can bring more attention in managing the water bodies effectively.

Water User Associations (WUAs)

Government is unable to manage the water bodies effectively, the rights of management is devolved in the developing countries like India. The 11th plan earmarked Rs. 10,326 crore for irrigation. The Government allocation concentrates more for creation of water user association at local level. The states such as Andhra Pradesh, Madhya Pradesh, Chhattisgarh, Rajasthan, Karnataka and Orissa have enacted laws that mandates creation of WUAs. The institutional change and process alone will be taken by the Government authorities. The WUAs has to follow the instructions of the Government and other management formalities has to be followed by the WUAs. With some incentives to the WUAs, the association has to take care the management of water bodies. But, the activities of WUAs has not reached over the country and found functioning at meagre level.

National Water Policy

The water resource is a 'free good' and it is the major reason for uncontrollable mismanagement of the people. The revenue from the water supply to the Government is too meagre. Water planning and development is carried out at local administrative level such as Panchyat, Municipals and Corporation. The management of water is monitored at administrative level and they have their own regulations according to their local situation. As a result, there is no monitoring authority at higher level and this has affected the water resource management in India. The National Water Policy (2012) has suggested various measures for effectively managing the water resources. It suggests to understand the availability of water and scarcity. Besides, the

economic value of water has to be understood where huge amount of water is misused, wasted and inefficiency usage.

Reforms in Water Management

In spite of various measure taken for managing the water resources, the Government failed to attain sustainability due to lack of cooperation from the community. Without the support of the people and users, management of water bodies can be achieved. Thus, there is a need for change in planning, design, development and management of water bodies. Reforms has to bring changes in local bodies and water users association. Without the financial support of the Government, the association cannot complete the mission in managing water bodies.

Other Measures

The measures towards the management of water bodies must ensure that the association must take care of social and economic justice. Inequality in access towards the water resource due to economic or political factors has to be eliminated. The local association must ensure these menace and policies must be drawn for sharing the water resources effectively and economically. Fund also can be mobilised by the users and share the resources sustainably. Therefore, the Government has to come forward to draft policies for creating new associations for managing, sharing and mobilising the needs of the association at local level.

Conclusion and Policy Implications

Population growth, urbanisation and industrialisation has increased the consumption of water resources. Besides, the demand for water may still increase thereby led to huge social and economic issues. Huge amount of ground water is extracted through the country, there is no effective measures to regulate the usage. Thus, improving water use efficiency, clearing line damages, imposing tariffs and revamp of water bodies alone can solve the water issues in both rural and urban regions. Government has to increase the expenditure for irrigational projects particularly for the states where the farmers suffer huge for their agricultural needs.

The end users are the common people and giving the responsibility to them can bring more attention in managing the water bodies effectively. With some incentives to the WUAs, the association has to take care the management of water bodies. But, the activities of WUAs has not reached over the country and found functioning at meagre level. The National Water Policy has suggested various measures for effectively managing the water resources. It suggests to understand the availability of water and scarcity. Besides, the economic value of water has to be understood where huge amount of water is misused, wasted and inefficiency usage. Reforms has to bring changes in local bodies and water users association. Without the financial support of the Government, the association cannot complete the mission in managing water bodies. The Government has to come forward to draft policies for creating new water users associations for managing the water bodies in the country.

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