

## **WATER RESOURCES AND RESERVATION POLICIES IN ASSAM**

**Prasenjit Das Gupta**

**Guwahati, Assam**

**Abstract.** In this article we are discussing about the proper utilization of water resources found available in the north east region. Sufficient amount of water is the gift of the nature for this region for which we need appropriate project.

**Key Words.** Water Resource, Pollution, Environment.

### **1. INTRODUCTION**

Water is a natural resource, fundamental need of living being and invaluable national wealth. Planning, development and management of water resources need to be governed by national perspectives. Under the constitution, water resource is primarily a 'State Subject', with legislation and administration substantially framed within the context of State boundaries. In the developmental planning of any State, water is a decisive and multifaceted component.

Assam, located in the tropical latitudes (24°08'N & 27°59'N) and eastern longitudes (89°42'E & 96°01 'E), is the most populous State in the North-East India covering an area of 78, 523 sq . km. It is surrounded on three sides by hills and mountains with boundaries with Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya, West Bengal, Bangladesh and Bhutan. The State of

Assam consists of 27 districts for administration. The geology has endowed the State with many hills and rivers. These have tremendous influence on the soil quality, drainage pattern, land-use, vegetation pattern, population pattern, culture, etc.

## **2. OVERVIEW OF WATER RESOURCES**

### **2.1 Rainfall**

Bulk of the water in the State, both surface and groundwater is obtained from rainfall. Assam experiences the predominant influence of the south-west tropical monsoon which reigns from April to October with occasional winter showers. The average annual rainfall in the State varies from 1780 to 3050 mm.

### **2.2 Surface Water Availability**

Water resources of the State as a whole are substantial. About 82 51 sq km, which is 10.5% of the total geographical area of the State, is occupied by surface water bodies. Of this about 6503 sq km is occupied by the river systems including the mighty Brahmaputra and 1748 sq km by natural wetlands including seasonal and permanent waterlogged and marshy areas and man-made

### **2.3 Groundwater Availability**

The Annual Groundwater Draft is estimated as 5.44 billion cubic metre of which 4.85 billion cubic metre is for irrigation and 0.59 billion cubic metre is for domestic and industrial uses. The overall Stage of Groundwater Development in the State is 22% - with the lowest figure of 2% in Cachar District and highest 56% in Bongaigaon District - and has been categorized as 'safe'.

## **3. OBJECTIVES OF THE POLICY**

Having realized the need for formulation of a State Water Policy the broad objectives of the State Water Policy of Assam are:

- (a) To ensure preservation of all water resources and to optimize the utilization of the available resources.
- (b) Development of all utilizable water resources, including surface water, groundwater and wastewater, to the maximum possible extent for optimal economic development and social well-being.
- (c) To maintain water quality, both surface and underground, to established norms and standards.
- (d) To bring about qualitative improvement in water resource management with inclusion of users' participation and decentralization of authority.

(e) To generate water literacy and awareness among all users and user sectors.

### **3.2 Integrated Planning for Maximizing Water Usability**

(a) Water resources planning, development and management will be carried out adopting an integrated approach for a hydrological unit such as a river basin as a whole, or for a sub-basin, or for a watershed, multi-sectorally, conjunctively for surface and ground water and rainfall taking into account quantity, quality and environmental considerations. Because water in each such unit including rainfall, groundwater and surface water with storages in various structures, wetlands, etc. of all sizes can be used many times over for various purposes if planned, developed, operated and managed in an integrated manner.

(b) All individual development projects and investment proposals will be formulated and considered within the framework of river or sub-basin plan or watershed plan so that the best possible combination of options can be made and sustained for poverty alleviation, increased productivity and incomes, equity, reduced vulnerability to natural and economic risks and costs.

(c) Water allocation and planning will be done adopting a demand management approach.

(d) Conservation through demand management, recycling and reuse after treatment, improvement of irrigation efficiency, and inter-basin transfers when needed will be considered among the steps needed to increase the availability of utilizable water.

(e) Water would be made available to water-short areas by transfer from other areas including inter-basin transfer after taking into account the requirements of the areas and basins.

(f) The integrated approach of development planning will include catchment area treatment and management, environmental and ecological aspects, the rehabilitation of affected people and command area development.

(g) Study of the impact of a project during construction and later, on human lives, settlements, occupations, socio-economic environment and other aspects will be an essential component of project planning. All projects

### **3.3 Pollution and Environment**

(a) In project planning, implementation and operation, the preservation of the quality of the environment and the ecological balance would be a primary consideration. Adverse

impact, if any, on the environment would be minimized and off -set by adequate compensatory measures. Effluents will be treated to be treated to acceptable levels and standards before discharging them in natural streams and other bodies. Details of all effluents generated .by each industry or urban area would be maintained as a database in the State Water Resources Information System, the State Pollution Control Board and local administration and would be made available to the public.

(b) Necessary legislation would be made for the preservation of the existing water bodies by preventing encroachment and deterioration of water quality. A list of defaulters in this regard with the extent of area under encroachment would be prepared and published annually by the State Pollution Control Board so that the social and legal pressure can be brought to bear on the defaulters.

#### **4. STRATEGIC ADMINISTRATIVE INITIATIVES AND INSTITUTIONAL MECHANISMS**

(a) State Water Resources Board/Council

At present the responsibilities of water issues of the State are fragmented between different departments without any formal mechanism to ensure coordination. For multi-sectoral water planning, planning of water development programs and projects, management decisions, inter-sectoral water allocation, and resolution of water resources issues in total coordination of different departments and agencies, a State Water Resources Board/Council, with the Chief Minister of Assam as the Chairman, will be established.

(b) State Water Resources Development Authority

The State Water Resources Development Authority will be established to act as a technical secretariat of the State Water Resources Board/Council.

(c) State Water Resources Data & Information Centre

The prime requisite for resource planning is a well-developed information system.

A State Water Resources Data & Information Centre will be an essential component of the State Water Resources Development Authority with a network of data banks and databases on availability of water resources, availability of water for different purposes, actual use sector-wise, projected future availability and demand by way of credible and broader projections, etc. Present information and data system fragmented between different

departments and agencies will be merged in a single State Water Resources Data & Information Centre. Emphasis will be given for greater use of Remote Sensing & GIS techniques for improved, broader, modern and effective processing capabilities. Maintenance of all necessary data by users and regulatory departments would be made mandatory for compilation of data in the State Water Resources Data & Information Centre.

## **5. CONCLUSIONS**

The water resources of Assam provide the springboard to make the State a happening place and catapult its people towards a brighter future. In view of the vital importance of water for human and other living beings, for maintaining ecological balance and for economic and developmental activities of all kinds, and considering its increasing scarcity in spite of availability of a considerable quantum of the resource in the State chiefly due to mismanagement, the planning and management of this resource and its optimal, economical and equitable use has become a matter of utmost urgency. Addressing the vast needs in this respect may be difficult immediately but it has been felt that there are several priority aspects that are essential to bring the current situation to a level of acceptability to start with any meaningful water resource management initiative.

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