

Basin Planning & Climate Change (BP&CC)

(Basin Planning)

Introduction

The State of Orissa comprises of 11 nos of major river basins covering a geographical area of 1, 51,976 sq. km and minor river basins draining directly to the Bay of Bengal from an area of 3731 sq. km with a total area of 1,55,707 sqkm. Except river Rushikulya and Budhabalanga all the other major rivers either originates from or drains in to other states, classifying these river basins as interstate river basins.

Objective of River Basin Planning

The planning process for a river basin can be described as an orderly procedure to obtain an optimum development of the water and related land resources. It offers a framework for bringing out integration in planning consistence with overall economic, social and environmental policies of the country by development of providing drinking water, Ecology, Irrigation, Hydropower, Industrial use and navigation.

The objective of preparing river basin plans in Odisha are as follows:

- (i) To prepare a long term perspective plan for the development of the Basin's Water Resources.
- (ii) To develop a comprehensive and integrated approach to the development of water and other natural resources using water with due regard to constraints imposed by configuration of water availability.
- (iii) To creat a data bank for benefit of future generation.
- (iv) To review the management of existing water resources projects and incorporate necessary changes on both administrative and technical aspect so as to make the projects sustainable.
- (v) To identify and set priorities for promoting water resources development projects.
- (vi) To contribute towards the formulation of an integrated state water plan for water resources development.

Achievement During 2017 -18

The following activities have been performed during 2017-18.

- A) Basin Planning of 11 river basins of Odisha
 - i) Data Collection like Rain fall, and GD flow etc of all rivers
 - ii) Analysis for water availability study
 - iii) Rain fall analysis
 - iv) Annual Basin Management Plan
 - v) Initiation of IWRM Plan
 - vi) Feed back for CWC law framework ie, Rejuvention of Rivers, Sedimentation of rivers etc.
- B) Flow analysis at different rivers and tributaries of a river basin for different Industrial Allocation.
- C) Draft State Water Policy-2018.
- D) All Correspondence on Inter /intra basin related issues etc

**A BRIEF NOTE ON GEOGRAPHIC INFORMATION SYSTEM (GIS)
OF
CHIEF ENGINEER, BASIN PLANNING AND CLIMATE CHANGE.**

Geographic information system (GIS) is a computer based application of technology involving spatial and attributes by capturing, storing, integrating, manipulating, organizing, analyzing, and displaying geographically referenced information (i.e. data located to their location) to act as decision support tool. It keeps information in different layers and generates various combinations pertaining to the requirement of the decision making.

In line with India-WRIS, developed jointly by CWC, NRSC and ISRO for the development of web-GIS Water Resources Information System of India, it has been planned to develop the GIS data base for all the eleven river basins of Odisha in the GIS Cell. River basin has been considered as the basic hydrological units for Water Resources Planning and Management.

GIS data base report includes the major, medium and minor water resources projects, Hydro-metrological observation sites, topo graphic characteristics, climatic variability, land use, land cover pattern, National Water way etc. These reports has been prepared on 20-24 thematic layers and it has been contemplated to available latest information of the basin from all aspect of water resources which will be useful as base line information for the irrigation officials, Hydrologists, Agriculturist, conservationist and research organizations. At present GIS based maps and a report have been prepared to different thematic layers for all the 11 river basins. Subsequently after verification all the eleven basins report, an Atlas of Odisha river basin will be prepared.

A brief on Climate Change.

The statistical distribution of weather pattern is called Climate Change. Now world is increasingly confronted with a mounting evidence of significant alternations in climate patterns due to anthropogenic ally generated green house emission. Its affect creates,

- i) Rising of Sea level due to melting of glacier, lead submergence of coastal area and its erosion.
- ii) Occurrence of extreme events of floods and droughts causing habitat destruction.
- iii) Increase disease transmission.
- iv) Changes in water availability
- v) Changes in agricultural productivity

On June 2008, Hon'ble Prime Minister of India released country's first National Action Plan on Climate Change (**NAPCC**), outlining existing & future policies & programmes addressing climate mitigation and adaptation. The 8 National Missions form the core of the National Action Plan for Climate Change (**NAPCC**). National Water Mission (**NWM**) is one of them. The main objective of the NWM is conservation of water; minimize wastage ensuring equitable distribution both across and within the State through its five goals. 1. Comprehensive water data base in public domain and assessment of the impact of climate change on water resources. 2. Promotion of citizen and state actions for water conservation, augmentation and preservation. 3. Focused attention to vulnerable areas including over-exploited areas. 4. Increasing water use efficiency by 20%. 5. Promotion of basin level integrated water resources management.

Odisha Climate Change Action Plan had been formulated in line with National Action Plan on Climate Change (**NAPCC**). The Department of Water Resources had identified nine key priorities for water sector for implementation during 2010-15. Now DoWR had prepared the 2nd Five year action plan for the period 2015-20 for an amount of Rs. 22714 Crs., taking four main goals, such as

- To increase water use efficiency
- Conservation of water resources
- Flood control , river training , drainage improvement and arresting saline ingress
- Assessment of impact of climate change on water resources of the State

GLOBAL CONCERN

In the last 30th Nov. to 11th Dec.'2015 a meet was held in Paris on which representatives of 196 countries have taken part. An agreement was discussed to make emission of Carbon dioxide (CO₂) within 2°C or less instead of 6°C and for mitigation action is to be adopted for

- Reduction in emission of Green House Gases
- Incurring the capacity of carbon sinks through re-forestation avoid de-forestation
- Fossil fuel phase out.

COP 23 was held at Bonn, Germany from 6-17 November 2017.

The action plan on climate change from 2015-20 has been prepared and submitted to the GoO, in DoWR. In this context all the concerned Chief Engineer and Chief Construction Engineers have also been intimated and hence requested to furnish the monthly progress report to the Chief Engineer, BP&CC.

REPORTS ON SDGS:-

Reports on SDGs 13, 14, 15 under TWG No. VI and subsequently revised report has been submitted to Govt. In which the following documents and information have been furnished.

- i - Vision documents 2036 on climate change activities of DoWR .
- ii. "3 Years action plan from 2017-18 to 2019-20
- iii. 7 Years Strategic plan from 2017-18 to 2023-24
- iv. Strategic plan from 2017-18 to 2035-36

DRAFT REPORT OF COSTAL MISSION:-

Ministry of Environment, Forest and Climate Change has forwarded a Draft Report on Costal Mission to Govt. of Odisha for their comments / views. This same has been downloaded and the comments / views

have been submitted and complied. Vide this office Lr. No. 36285 (WE) dtd. 13.10.2016 of Chief Engineer, BP&CC and subsequently Vide Lr. No. 39891 dtd. 16.11.2016 of EIC(P&D) to Govt. in DoWR.

DRAFT CONCEPT NOTE ON "ENHANCING CLIMATE RESILIENCE IN COSTAL AREAS OF INDIA :-

A meeting was held at ICZMP building on 06.10.2016, in which CE, LMB was required to furnish the necessary reply / views.

BENCHMARKING OF IRR. PROJECTS: - Initially all the correspondences were being made by this organization but now benchmarking cell has been created and one DD has been employed for this purposes. This organization is only keeps the correspondences.

WATER USE EFFICIENCIES: - Initially 9no of projects have been selected for WUE study. Namely Mahanadi Delta Stage -1 ,Baitarani irr. System , Baguda , Baghua Stage -1 , Gohira , Hiradharbati, Jharabanda , Kalo , Salki. Among these 4nos of projects has been entrusted to Nit Rourkela these are Mahanadi Delta stage -1, Baitarani irr. System, Bahuda , and Baghua stage-1 . Regarding other 5nos of project it was referred to WALMI for this study as per CWC. WALMI has submitted estimate which was returned back for necessary compliances. In the meanwhile Sri Debaraj Swain, Director(GIS&CC) has been declared as nodal officer to co-ordinate with the Indian Institute of Water Management ,Bhubaneswar for different activities to be taken up for improvement of water use efficiency of different irr. Projects. Action has also been made for obtaining necessary views & guidance from IWM Directorate.

- **STATE SPECIFIC ACTION PLAN: -** To achieve the objectives and goals of NWM in a specified time frame, the State Specific Action Plan for the State of Odisha is under preparation by Odisha Construction Corporation limited for which Rs. 50.00 lacks has been kept by NWM. MOU/ Agreement have been drawn between OCCL and NERIWALM (nodal agency from NWM side) Scope of this work is (a) Preparation of status report on water resources development and management. (b) Preparation of Interim Report. (c) Preparation of State Specific Action Plan. Draft status report has already been prepared and transmitted to NERIWALM & NWM. A Meeting was held on 22.03.2017 at NWM, New Delhi under the Chairmanship of MD, NWM. As per the minutes EIC, W/R has been nominated as the State Nodal Officer for preparation of SSAP. State Monitoring Committee headed by Principal Secy. of DoWR and State Steering Committee headed by CS of Odisha has already been constituted. On 05.06.2017 a workshop was held at NWM, New Delhi and on 06.06.2017 a presentation was made by Odisha . It was decided that Telengana & Andrapradesh will prepare the templates and other state including Odisha will furnish the suggestions and templates is to be finalised for preparation of SSAP. On 26.07.2017 a discussion was made at NWM, New Delhi for preparation of templates of SSAP. CE, BP & CC and GM, OCCL has attended that session and the said template will be finalised after receiving suggestions from different stakeholders. On 23.10.2017 a meeting was held at NWM, New Delhi for the template for preparation of SSAP. This meeting was attended by EIC (P&D) and Director, GIS&CC. In that meeting a draft template has been prepared and the same is handed over to OCCL for taking further action. Correspondences have been made to obtain the data/information from different agency/organisation. One workshop on preparation of SSAP was held at Kolkata on 23.02.2018 West Bengal State Govt, which was attended by Director, GIS & CC and SM, OCCL. Discussion was made how to get the format for SSAP be filled up by selecting the nodal officers for different sectors. DoWR in his letter no – 10179 dated 07.04.2018 has suggested the NWM for review the data requirement for getting the job done in a reasonable time.