

Integrated Water Resources Management for Water Security – India Water Partnership Efforts

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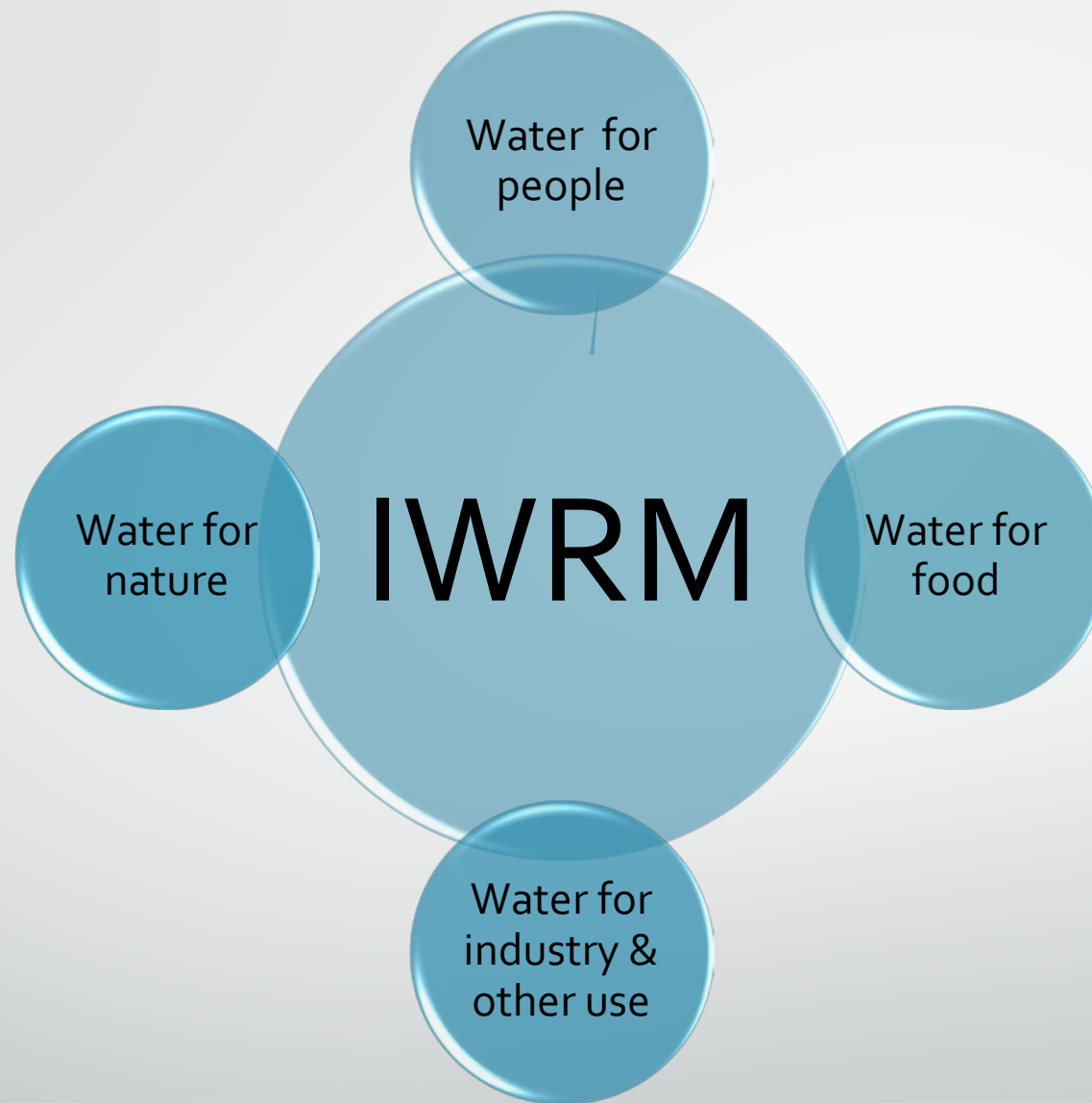
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IWRM- Definition

- *Integrated Water Resources Management (IWRM) is a process which promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems and the environment.*

---Global Water Partnership



Source -

<http://www.gwp.org/Global/The%20Challenge/IWRM%20and%20sub-sectors.jpg>

IWRM in Policies

Indian National Water Policy- 2012

- As per India National Water Policy-2012, Integrated Water Resources Management (IWRM) should take river basin / sub-basin like a unit as main principle for planning, development and management of water resources.
- The departments / organizations at Centre / State Governments levels should be restructured and made multi-disciplinary accordingly.

National Water Mission (NWM)

- One of the goals of NWM is - Promotion of basin level integrated water resources management.
- National Water Mission is one of the missions under National Action Plan for Climate Change.

IWRM for Water Security

Efforts of IWP to promote IWRM

Study on Sustainable Water Resources Management Approaches to effectively address Adaptation to Climate Change in villages of Jharkhand

- To use IWRM approaches for effectively addressing adaptation to climate change and other emerging changes at national level, India Water Partnership with its network partner; Action for Food Production (AFPRO) undertook the above study in selected districts of Jharkhand.
- Under this study, networking with local agencies/organizations/institutions, research organizations was done to understand the practices of using low cost water saving technologies promoted by them to address adaptation to climate change.
- Accordingly, **11 case studies on water savings and water harvesting technologies** adopted by the people in Harazibagh, East Singhbhum, Latehar, Gumla and Ranchi districts of Jharkhand State were prepared by India Water Partnership and disseminated during different workshops.



Different types of low cost water saving technologies in selected districts of Jharkhand.

IWRM in New Rajasthan Water Policy

- The New Rajasthan State Water Policy which came into force on 18th February, 2010 has incorporated Integrated Water Resource Management (IWRM) as part of the Policy.
- The policy also emphasizes the following:
 - multi-disciplinary, multi-sectoral, water planning, allocation and management;
 - establishment of a regulatory framework for managing water resources, including the full range of sector environment issues;
 - reorientation of government water institutions, coupled with increased participation of the private sector through farmers' managed WUAs and other private sector entities;
 - adopting modern management practices, such as financial management, programming and budgeting, and human resource management;
 - improving water and water related service delivery with an increased focus on high quality, cost effective and financially sustainable irrigation and drainage services through commercial oriented farmers' managed entities;
 - enhancing technical services through training and education.

IWRM in New Rajasthan Water Policy

- Under the new policy the state wants to create Water Users Organization/Groups (WUGs) in each village and seek active participation of water users.
- In managing the State water resources, NGOs and other formal and informal institutions have played an important role.
- As NGOs lack understanding about IWRM concept and its practical implications, there is a need to build the capacity of NGOs and PRIs to understand the new water policy and their role and responsibilities for proper implementation of the policy.

Review of New State Water Policy of Rajasthan

- IWP's northern Zonal Partner, Centre for Environment and Development Studies (CEDS), Jaipur with the support of India Water Partnership thoroughly reviewed the new state water policy of Rajasthan. Following were the major observations of the review:
 - There is very little understanding of IWRM among the stakeholders in the State.
 - The policy also does not define the clear cut role of NGOs and PRI members and how it will be implemented at the ground level?
 - The new water policy lacks in recognizing the various agro-climatic, social and cultural diversity in the State that govern the water use and management practices.
- Taking the above issues in account, the CEDS organized two workshops at different locations to further identify the gaps in presence of NGOs, Water User Groups, PRI officials, State Govt. representatives, farmers, etc.
- The major outcome of the workshops was that "the capacity building of NGOs, PRI members, etc. who are working at ground level, is urgently needed, at the same time knowledge enhancement of Water User Groups, farmers, village community is necessary for better and effective implementation of the new water policy".

Capacity Building of Stakeholders for effective implementation of New Water Policy of Rajasthan

- For capacity building of stakeholders for effective implementation of new Rajasthan Water Policy, IWP with the support of its another network partner Jheel Sanskaran Samiti (JSS), Udaipur invited all Rajasthan based stakeholders for a Brainstorming session on IWRM organized at Udaipur, Rajasthan on World Water Day, 22nd March, 2011.
- Subsequently, four more workshops were organized by JSS for NGOs, PRI members, WUAs, Engineers of the State Water Resources and Administrative Officers.
- A comprehensive but user friendly “**IWRM Capacity Development Manual**” prepared in Hindi was distributed to all the participants.
- The capacity building workshop paved the way for adoption of a strong IWRM and effective implementation of new Rajasthan Water Policy in the State.

Capacity Building of Stakeholders for effective implementation of New Water Policy of Rajasthan



IWRM Capacity Building Workshop for Women Self Help Groups on 10th October, 2011 at Udaipur, Rajasthan



Mr. J M Roussel (Team Leader , EU-SPP), Ms Julie Laudel (IWRM expert, EU-SPP), Mr Anil Mehta, Secretary, JSS and others addressing the participants during capacity development workshop on IWRM in 22nd April, 2011 at Udaipur, Rajasthan

Outcome of the Capacity Building Workshops

- IWP initiated and created a better understanding of IWRM in the context of Rajasthan by involving all stakeholders.
- The first step was to bring together the local authorities and key stakeholders at one platform to take the lead in improving planning and management practices, drawing on each other synergy.
- IWP and JSS have built a good relationship with State EU-SPP IWRM officials by inviting them in capacity development program which would give a strong support to EU led IWRM process in Rajasthan.

Preparation of Wainganga River Basin IWRM Plan

- Wainganga river originates from the state of Madhya Pradesh and joins the Godavari river by flowing through the state of Maharashtra.
- Pollution in the river by industrial effluent discharge coupled with flooding in the sub-basin particularly in the Vidarbha region has led to the decline of agricultural production in that region.
- It was felt that agriculture and economy needed boost through Integrated Water Resources Development & Management Plan (IWRD &MP) .
- So planning process for preparation of IWRD & MP for Wainganga river sub-basin was initiated by IWP in 2010 with the support of Western Zonal Water Partnership Coordinating Agency (WZWPCA), Gomukh Environmental Trust for Sustainable Development .
- While working on **negotiated approach** for Wainganga river sub- basin, WZWPCA was formally engaged by Water Resource Department, Government of Maharashtra for preparation of sub basin plans.
- After the several meetings of stakeholders, a total number of 896 projects were identified based on which the Integrated Water Resources Development and Management Plan (IWRD&MP) for Wainganga river sub-basin would be prepared.

Preparation of Wainganga River Basin IWRM Plan(Contd.)



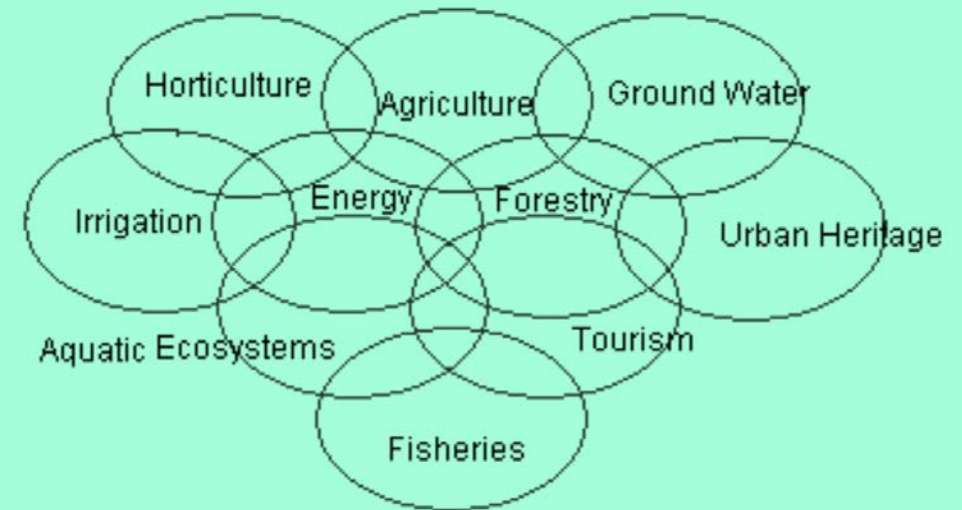
Wainganga River Basin (Maharashtra)

Preparation of Wainganga River Basin IWRM Plan(Contd.)

- During planning process, WZWPCA organized two rounds of consultation workshops of the stakeholders comprising of local tribes, fishermen, farmers, BPL people, women, representatives from the industry, urban areas, Govt. agencies etc.
- The main objectives of the workshops were ;
 - Initiating the process planning with inputs from all stakeholders which can form a base for developing the IWRD&MP;
 - Formation of sub-groups for collecting base data on key subjects related to Integrated Water Resource Management ;
 - Assigning responsibilities to the individual sub-groups to arrive at a set of proposals or investment projects which would constitute the Master Plan ;
 - Arriving at a system of exchanging information between the stakeholders and the sectoral government agencies like Irrigation, Agriculture, Forestry, Fisheries, Hydro-power, Urban Water supply, Pollution Control Board, etc.

Preparation of Wainganga River Basin IWRM Plan (Contd.)

- The plan after preparation would comprise of:
 - Assessment of project area (pre-plan) & SWOT analysis
 - Land use planning, development & management
 - Water Resources Development
 - Water Resources Management
 - Disaster Management
 - Water for energy
 - Tourism
 - Fisheries



Resources Integration

IWRM in Orissa

Multi Stakeholder Consultation on Integrated Water Resources Management (IWRM)



IWRM in Orissa (Contd.)

- A one day Multi-stake holder meeting on IWRM was organized by India Water Partnership, Eastern Zone Water Partnership and Odisha Water Forum at Bhubaneswar during 2011 to discuss the road map prepared by Orissa government with the technical assistance of Asian Development Bank (ADB).
- The consultation was aimed to discuss about the present status of Integrated Water Resources Management (IWRM) in Orissa and future strategy and preparation of new road map with people's participation.
- The consultation was attended by government officials from Water Planning Organization of the Water Resources Department, Govt. of Orissa, civil society groups and research institutions.
- During the consultation, it was recommended that there is a need of capacity building of the stakeholders so that they are informed about the IWRM practices so that they will be in a position to play an effective role in decision making.

- The steps suggested for implementation of IWRM by Water Resources Department in the state are:
 - *Developing a Proper Dialogue Mechanism*
 - *Preparation of Basin Plan in 11 basins*
 - *Water allocation and pricing*
 - *Water regulation and Legal aspects*
- Ensuring participation, Equity and Inclusion of stakeholders
 - *the stakeholders need to own the process*
 - *play an effective role in the stakeholders' platforms*
 - *stress on advocacy and social mobilization*

What role the Civil Society Organizations (CSOs) should play in furthering the basic mandate of IWRM?

- Civil Society Organizations (CSOs) can play a role in creating a healthy platform for dialogue and discussion among the stakeholders to address the imperfections of the IWRM approach and adapt it to our conditions.
- CSOs should play a role in dissemination of information on water, help articulate the water related issues and also propagate the basic principles of IWRM so that an informed dialogue takes place.
- The CSOs should play a key role in devising an institutional framework that will ensure proper participation of the stakeholders especially the farmers, artisans and common man.
- CSOs may come up with the ideas on different type of tax, cost recovery principles.
- CSOs can help the government in capacity building of the communities, functionaries, etc..

Community Resilience on Climate Change for Water Security

- A one day sensitization workshop on “Community Resilience on Climate Change for Water Security “ was organized by India Water Partnership with its member organization Udyama 22nd March, 2013 (the World Water Day) at Nabrangpur, Orissa. The workshop stressed that:
- With the advance of global climate change, Orissa has already witnessed severity of heat waves, droughts; dry spells and heavy down pours, floods after floods in this year
- Hence community resilience is essential right now to mitigate crisis and accelerate the adaptation capacity to cope with the climate change.
- So focus on more micro-water initiative, widening the water conservation, preservation of biodiversity, household water recycle, reuse and restoration to be considered as water security measures.
- Simultaneously deepening governance, undertaking local action, inclusion of sectoral initiatives, program convergence at district and state level with greater partnership would be ideal for enhancing community resilience on climate change that would finally lead to water security.

Thank You !

Examining climate change issues in Wainganga sub-basin

- It is expected that the Wainganga Basin would receive higher than average rainfall as an impact of Climate Change.
- However, there has also been a marked increase in the dry spell in the region, which would necessitate better management of the water resources of the area.
- Based on the available hydrology data, five-yearly rainfall variation assessments were made for duration of 20 years using computer software called **Arc GIS Environment**.

- It was found that, in contradiction with the IPCC reports, the rainfall has been showing a decreasing trend in Wainganga sub-basin.
- There is a significant change in the intensity and distribution of rainfall.
- Based on the assessment following activities were proposed-
 - Construction of farm ponds
 - Developing multiple livelihood sources like, fishery, poultry, agro-tourism, etc.
 - Maintaining local and wild seed varieties in village level seed banks
 - Maintaining village level grain stocks
 - Planning disaster management strategies at village level
 - Maintaining climate data at village level will prove useful for building up climate change resilience.