Report on
Regional Consultation on
Mainstreaming Integrated Water Resources Management in Uttar Pradesh

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We hope the findings of the Status Paper will provide an opportunity for the stakeholders to reflect on various aspects of water governance and stimulate further deliberations for improvisations in view of the recommendations and suggestions made in the Status Paper.

Dr.VeenaKhanduri,
Executive Secretary-cum-Country Coordinator

Acronyms

CEDSJ	:	Centre for Environment and Development Studies Jaipur
CWMI	:	Composite Water Management Index
EU	:	European Union
GIS	:	Geographical Information System
IWRM	:	Integrated Water and Resources Management
MLAs	:	Member of Legislative Assembly
NITI Aayog	:	National Institute for Transforming India Aayog
NRSC	:	National Remote Sensing Centre
NWP	:	National Water Policy
PIM	:	Participatory Irrigation Management
PRI	:	Panchayati Raj Institution
RERA	:	Real Estate Regulatory Authority
RWSRP	:	Rajasthan Water Structuring Resource Programme
SDGs	:	Sustainable Development Goals
SEES	:	School of Environment and Earth Sciences
SSNL	:	Sardar Sarovar Nigam Limited
SWRPD	:	State Water Resources Planning Department
WRD	:	Water Resources Department
WRIS	:	Water Resource Information System

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Executive Summary

The Report summarizes the proceedings and outcomes of a Regional Consultation on Integrated Water Resources Management (IWRM) held on 27th December 2021 in Lucknow, Uttar Pradesh (U.P). The Consultation was organized by a consortium of organizations that include Global Water Partnership (GWP), India Water Partnership (IWP), Indian Environment Law Organization and School of Environment and Earth Sciences (SEES), Lucknow. Water Aid also joined as the field inputs partner in view of its work at the grassroots level in U.P. The Consultation participants (around 40 people) included relevant central and State government officials, National and International experts and representatives from the civil society organizations from the States of Uttar Pradesh, Gujarat, Rajasthan, Chhattisgarh, Odisha, Uttarakhand and Haryana.

The concept of IWRM has evolved over a period of decades and has been defined by the international organizations such as United Nations Environment Program (UNEP)[1] and Global Water Partnership (GWP)[2]. In India, IWRM has been defined by the Central Water Commission (CWC) to be 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. River basins provide a logical unit for IWRM implementation (Guidelines for Integrated Water Resource Management, Central Water Commission, 2017)[3]. IWRM as defined by the CWC is thus applicable to the state level initiatives and policies on IWRM in U.P.

The overall objective of the Consultation was to identify the key bottlenecks and opportunities for mainstreaming the IWRM in U.P. The specific objectives of the Consultations were (i) share the perspectives and diagnostic analysis on the water institutions in U.P with a larger set of stakeholders; (ii) Seek inputs for finalizing the Draft Status Paper on 'Mapping the mainstreaming of IWRM in U.P; and (iii) Engage with the State level stakeholders in U.P for evolving a Roadmap for the adoption and implementation of IWRM in the State.

To address the first objective, the national experts (invited from various States) provided case studies from the seven identified States of Bihar, Chhattisgarh, Gujarat, Haryana, Odisha, Rajasthan and Uttarakhand that have a similar socio-economic context as that of U.P. Progress and initiatives across India were generally discussed including (i) initiatives and regulatory structures; (ii) experiences on water resources departments & authorities; and, (iii) an overview of water related challenges.

To address the second objective, specific interaction session was held in view of concerns highlighted by the local and regional experts interviewed under this assignment.

[1] https://www.unep.org/explore-topics/disasters-conflicts/where-we-work/sudan/what-integrated-water-resources-management#:~:text=Integrated%20Water%20Resources%20Management%20(IWRM,the%20sustainability%20of%20vital%20ecosystems.

[2] https://www.gwp.org/en/GWP-CEE/about/why/what-is-iwrm/

[3] http://cwc.gov.in/sites/default/files/IWRM_Guidelines.pdf

For addressing the third specific objective, the experts made presentations on various themes and proposed solutions for mainstreaming IWRM in Uttar Pradesh.

The Workshop also provided an opportunity for the stakeholders to deliberate on the policy and implementation aspects of the ongoing flagship programs of the Central Government that are closely linked with IWRM at the State level. For example, extensive discussions were held on the Atal Bhujal Yojna (ABHY) and its effect on groundwater management in the State. The water availability scenarios for the Jal Jeevan Mission (JJM) were also discussed. Further, the stakeholders from the State of U.P. stressed that presence of many laws on water resource management has created confusion among the implementing agencies and thus the State of U.P needs a single water resource management law which is fundamental to mainstreaming IWRM in the State. Many other issues that require attention of the policy makers at the State and the National level such as environmental flows, pollution of smaller rivers, poor state of urban water supply infrastructure and absence of River Basin Organizations (RBOs) were also flagged.

Background and Context of the Regional Consultation on IWRM[4]

India's rapidly changing socio-economic needs and the linked water demands have resulted in a major demand–supply gap while the options for supply augmentation are few, far and stretched. Recent projections indicate that India's current water demands have already outstripped supply and may even be twice the available supply by 2030. Though the scale of demand-supply gap varies from one river basin to the other, the general understanding is that without major reforms and investments, it would be impossible to meet the water demands for all competing water uses. With the objective to overcome the water security challenge in India, Central Government had adopted the National Water Policy-2012 (NWP-2012). The NWP calls for the paradigm shift in the water governance and advocates for the Integrated Water Resources Management with emphasis on finding reasonable and generally acceptable solutions for most of the stakeholders[6].

India's commitment to the Sustainable Development Goals (SDGs) has further strengthened the case for mainstreaming the IWRM in India at the National and sub-national level. The progress on IWRM could be measured based on four important parameters – enabling environment, institutions, management instruments and financing. The National Institution for Transforming India (NITI) Aayog has evolved a Composite SDG Index-India for monitoring the progress of all the SDGs at the state level[7]. With respect to IWRM, the NITI Aayog's Report on SDG Index demonstrates that the performance of Uttar Pradesh on IWRM is at the very initial stages where the nodal departments have been identified. The performance of the State of U.P on SDG 6.5 is however not reported. The globally accepted basic framework to evaluate the progress on IWRM is also helpful for understanding the mainstreaming of IWRM in the State of U.P.

[4] IELO acknowledges the support of the final year Students of the Masters of Business Administration Program from the Indian Institute of Management (IIM), Rohtak throughout the Study on UPIWRM, specially Mr. Mukund N Rao and Darshan Gaikwad who have contributed immensely in enriching the methodology and processes as well as the Regional Consultation through their meticulous approach and hard work.

[6] 9.2, the National Water Policy, 2012 http://jalshakti-dowr.gov.in/sites/default/files/NWP2012Eng6495132651_1.pdf

[7] SDG India available at https://www.niti.gov.in/reports-sdg

In the context discussed above, a yearlong Project titled '**Mapping the Mainstreaming of IWRM in India: A Case Study of Uttar Pradesh' (U.P-IWRM)** was implemented by the Indian Environment Law Organization, New Delhi and School of Earth and Environment Sciences, Lucknow, and was supported by Global Water Partnership and the India Water Partnership. The key approach to implementing the Project involved multi-stakeholder engagement based diagnostic assessment of challenges and opportunities for mainstreaming IWRM in U.P. As part of this, a deliberative methodology was adopted that comprised of research and analysis of the existing policies and regulatory frameworks on water and stakeholder engagement from diverse background. In many instances multiple interactions with experts from U.P and other States in India were also carried out. The findings were shared and presented in a Regional consultation at an appropriate level which formed the integral part of the methodology. As per the interactions with the experts, it emerged that the consultation on IWRM should be held at the regional level with participation of experts from other States. In view of the interest generated and the inputs from the experts, the proposition was supported by the India Water Partnership. Accordingly, a Regional Consultation was conceived to achieve the three specific objectives of the Project viz. i) verification of diagnostic research findings; ii) Regional expert inputs on the (Draft) Status Paper on IWRM in UP; iii) Deliberations on preparing the Roadmap for mainstreaming of IWRM in U.P.

1. Enabling Framework on IWRM in India at National and State Level:

The National Water Policy (NWP), 2012 advocates for the IWRM with the emphasis on finding reasonable and generally acceptable solutions for most of the stakeholders[8]. The NWP also suggests for Integrated Watershed Management. The National Water Mission, 2009 and the (Draft) National Water Framework Law also support IWRM. The National level Legal Framework on water is mainly concerned with inter-state issues related with water management, water sharing, and dispute resolution. Thus, the River Boards Act, 1956 and the Interstate Water Disputes Act, 1958 are concerned with the management of rivers and river valleys and the disputes arising out of volumetric sharing of surface water between the States. In addition to the policy and legal frameworks, the NITI Aayog has developed a Composite Water Management Index (CWMI) that seeks to evaluate the progress of States on Integrated Water Resources Management. The CWMI can be used to measure the level of IWRM implementation in a State/Union Territory.

In Uttar Pradesh the State level Policy Framework on Water acknowledges the role of IWRM but the legal and institutional framework does not provide the requisite support for its implementation. Thus a number of policy and legal instruments such as the Uttar Pradesh State Water Policy, 1999, the Uttar Pradesh Water Management Regulatory Commission Act, 2008, the Uttar Pradesh Participatory Irrigation Management Act, 2009 and the Uttar Pradesh Ground Water Act, 2020 are relevant for promoting IWRM in the State. From the urban water management perspective, the Uttar Pradesh Urban Sanitation Policy, 2009, the Uttar Pradesh Municipalities Act, 1916 and the Uttar Pradesh Water Supply and Sewerage Act, 1975 are relevant. The Uttar Pradesh Bhoomi Evam Jal Sanrakshan Adhiniyam, 1963 is an older legislation in the State that has not been optimally used for promoting integrated management of land and water resources but has the potential to provide legal backing to the initiatives on IWRM.

[8] Clause 9.2, NWP, 2012

2. Methodology and Design of the Regional Consultation:

The Regional Consultation was conceived as a connected event aimed at engaging with a wider set of stakeholder experts from within the State and the neighbouring States with similar water governance contexts. In this connection, the interviewees, the experts from State Water Resources Departments from U.P and other States, the National Institute of Hydrology, Roorkee, a wider group of academic experts, field NGOs and hydrologists were engaged creatively during a daylong Consultation. Prior to this, the Background Note, the perspectives from the interviews and the Draft Status Paper on IWRM was shared with the speakers of various sessions. Thereafter, the Draft Status Paper was also shared with the participants. The Consultation was divided into four sessions. The Inaugural Session was aimed at providing an introduction and background to the Consultation, the Technical Sessions were aimed at inciting discussions focussed on sectoral challenges and their possible solutions through IWRM in the State and the Final Plenary was aimed at identifying policy and regulatory gaps that are impediments for mainstreaming IWRM in the State. The Agenda of the Regional Consultation is attached as **Annex-1.** The list of Participants is at **Annex-2** and the Media coverage is given at **Annex-3.**

3. Summary and Highlights of the Technical Sessions:

3.1 Inaugural Session:

In the Inaugural Session, Professor Venkatesh Dutta, co-organizer and local partner for the Regional Consultation introduced the stakeholders to the Project titled '**Mapping the Mainstreaming of IWRM in Uttar Pradesh**' and spoke about the importance of IWRM in the water scenario of Uttar Pradesh. He also shared his views and experiences on water resources management and river rejuvenation such as Hindon and Namami Gange Project and the process of formulating a new State Water Policy where he was involved. He highlighted that the stakeholders present in the workshop have a varied experiences and perspectives that could be useful for mainstreaming IWRM in Uttar Pradesh.

Dr Veena Khanduri, Executive Secretary-cum-Country Coordinator, India Water Partnership (IWP)- welcomed the participants and explained the role of Global Water Partnership (GWP)-IWP in supporting the U.P Project on IWRM and the Regional Consultation. In her address she stressed upon SDG 6.5 and the role that IWRM can play in water security in India in general and in a water stressed State like Uttar Pradesh. She thanked all the distinguished experts, speakers and participants for engaging with this important theme that is being pursued by the GWP and India Water Partnership. She expressed the hope that the interactions and exchanges on the subject among the stakeholders will provide useful insights on mainstreaming IWRM in U.P.

Hon'ble Justice Dr. Devendra Kumar Arora, Chairman, State Real Estate Regulatory Authority (RERA), the Chief Guest highlighted the role of water that can play in sustaining economy and growth in the country. Right to drinking water is also an essential human right

as well as it is critical for all living creatures. The State government of Uttar Pradesh has made a number of efforts to ensure 'water to all' for drinking and agriculture but given the large population of the State it is very challenging, he remarked. To improve the water management, governance is essential and this could only be done in an integrated and collective manner by the cooperation of all the stakeholder departments. Thus cooperation among various line departments can form the key to ensuring IWRM in the State.

(Addressing the Inaugural Session - *Left: Hon'ble Justice Dr. Devendra Kumar Arora; Right: Er. Shri V K Niranjan, Engineer-in Chief, U.P Water Resources Department, Government of Uttar Pradesh)*

Er. V K Niranjan, Engineer-in-Chief, Water Resources Department (WRD), Government of Uttar Pradesh Special Guest, apprised about the water management challenges in the State. Uttar Pradesh being an agrarian State, irrigation is the major consumer of surface and groundwater resources. The Water Resources Department is faced with many challenges that range from providing canal water to farmers in a timely manner to supplying safe and clean drinking water to a large rural population in the State. In addition to this, growing demand for urban and industrial water use presents a challenging scenario where competing uses and demand for water has increased whereas the total water availability in the State has declined. The State has also taken pro-active initiatives to advance the Jal Jeevan Mission and the Atal-Bhujal Yojna of the Central Government. Mr. Niranjan highlighted that while there is a responsibility to accomplish targets under the Central Schemes, the sources of water are limited and there are no major efforts to store two months of monsoons water when the discharge in the rivers exceeds their carrying capacities. However, storing monsoon water has its own environmental risks and challenges due to pollution in the catchment areas.. Rivers also bring pollution load with harmful chemicals and toxic elements so the first responsibility is to clean the rivers and surface water everywhere, he remarked. This cannot be achieved without the active participation of industry and citizens. Control over sources of pollution to rivers is necessary to secure surface water. Excessive use of chemicals & fertilizers are leading to pollution of groundwater aquifers, said Er. V K Niranjan.

Mr Lal Induruwage, Regional Coordinator, GWP South Asia, Colombo (Sri Lanka), participating in the online mode expressed his pleasure over the initiative of the IWP and the co-organizers. He said that he cannot emphasize more on the importance of IWRM as the study done by the organizers already have some documents on the policy and institutional

framework on IWRM in India in the form of the National Water Policy and so on. But at the same time we also know that IWRM would require technical and institutional support for which the capacity and preparedness is required. The achievement of Global SDGs related to IWRM will depend on the efforts made in this direction. He wished participants to have an engaging dialogue for meaningful outcomes.

3.2 Technical Sessions

3.2.1 Technical Session-I: Initiatives and Emerging Trends in Water Governance in UP: Perspectives on IWRM

The Technical Session 1 was presided by Er. D. K. Dudeja, Engineer-in-Chief (Retd), Government of Uttar Pradesh. This Session was comprised of power point presentations and remarks by the panel members on hydrological and management aspects of surface and groundwater in Uttar Pradesh. The Panellists were Mr. R. S. Sinha, Sr. Hydro-geologist (Retd.), U.P, Er Ravindra Kumar, Former Staff Officer, U.P. and Er Puneet Srivastava, WaterAid UK. Two specific case studies were also shared by the speakers. The key recommendations from the Technical Session-I are as follows:

- IWRM principles need to be rigorously applied while formulating water schemes and plans for implementation. Conjunctive use of water and treating surface and groundwater as one hydrological unit is critical for ensuring water security in the State.
- Institutional functioning is not geared-up towards IWRM approaches. Often the water sector institutions work in silos without having much intra and inter-departmental coordination. There are administrative guidelines issued by the departments on the functional aspects of water resources management but these are not much helpful due to systemic overlaps and duplicity.

- Forests function as natural reservoirs of water. This specific role of forests has been severely underestimated so far. Water security policies need to include concrete steps towards water resource replenishment through forest conservation.

- Water conservation through use of recycled water at large residential and commercial complexes and rainwater harvesting are vital means for regulating and mitigating consumption in urban areas. Widespread use of such methods can reduce demand deficit.

- Agriculture, a sector with one of the highest water demands in the State needs attention in terms of promoting water efficient varieties of crops like rice, wheat, and sugarcane.

- Policies based on outdated data cause additional harm to water resources. Regular reassessment of resources by employing space inputs made in 2019 by the National Remote Sensing Centre (NRSC), Hyderabad need to be undertaken. This will ensure better policies based on precise data.

- The Case for Payment for ecosystem services to improve water governance and IWRM was presented by Dr. Puneet Srivastava. He argued that people conserving water resources need to be incentivized and this could change the whole dynamics of how water management is done in a top down manner as communities will find interest in managing water due to monetary benefits involved.

Key Messages from Technical Session-I

- ✓ Forest and water policies are delinked. Without forests, ground and surface water cannot be saved. Thus water programs must interact with the forest conservation schemes to enhance health of catchments.
- ✓ Urban and commercial water recycling and wastewater reuse needs to be made compulsory. There is a need for infrastructure development around this.
- ✓ Payment for Ecosystem Services needs to be mainstreamed in water policies and practice.

3.2.2 Technical Session-II: Contextual Approaches and Experiences on IWRM – Sharing Regional Perspectives

The Technical Session-II aimed to bring regional perspectives and experiences from seven States having different water availability and policy-institutional framework. These States include; Bihar, Chhattisgarh, Gujarat, Haryana, Odisha, Rajasthan and Uttarakhand. This Session was chaired by Dr. Vikas C Goyal, Scientist “E”, Indian Institute of Hydrology, Roorkee.

In his introductory remarks, he welcomed the speakers and provided them an overview of the IWRM and expectations from the Regional consultation.

Er. Paresh M Shah, former Chief Engineer, Sardar Sarovar Nigam Limited (SSNL), Gujarat explained about the Gujarat State Water Plan that has been created by the State Water Resources Department and the Draft State Water Policy, 2015 that aims at ensuring safe reliable and affordable drinking water for all, and provide stable water supply for agriculture through a pan Gujarat water grid and efficient irrigation systems. He presented a vision for the drinking water sector in Gujarat which focussed on the twin strategies of resource management and financial sustainability of investments in the large water infrastructure such as Sardar Sarovar Dam. One of the important visions of the State Government of Gujarat is to create systems and policies towards effective, efficient and sustainable use of water in order to reduce poverty, improve human health and promote economic development.

Dr. Manohar Singh Rathore, Director, Centre for Environment & Development Studies, Jaipur (CEDSJ) in his technical presentation shared the experiences on water resources management in Rajasthan. In Rajasthan 'Water Sector Reform' implementation was reduced to procedural changes with policy declarations, creation of new organizations or remodeling earlier ones, without any actual or real changes taking place at the ground level. Institutional change is always slow, evolutionary and continuous, sometimes involving a time gap between the implementation of reforms and the actual gains out of such reform processes, he said. The real impact of reforms depends upon the speed and amount of influence these changes have upon allocation, use and management of water. The recently enacted Water Regulatory Act in 2013, and Rajasthan River Basin and Water Resources Planning Act 2015 of the Government of Rajasthan are envisioned to address the above challenges by promoting principles of IWRM in the State. IWRM is a participatory planning and implementation process based on sound principals that bring stakeholders together to determine how to meet society's need for water in long run while maintaining ecological balance and economic benefits, Dr. Rathore Remarked.

The European Union-State Partnership Program (EU-SPP) Water Sector programme concluded between the EU and Rajasthan resulted in a water policy on Integrated Water Resources Management (IWRM) for the State, as well as in the preparation of a Panchayat-based Action Plan for 3200 villages in 82 blocks of 11 districts of Rajasthan. Following the EU's intervention, Rajasthan also enacted a Water Regulatory Act in 2013 and Rajasthan River Basin and Water Resources Planning Act 2015. However, the EU-SPP noted the key areas for strengthening such as: Building capacities and role of PRI in decentralized planning; role of community planning infrastructure; IWRM plans based on scenario of overall supplies and demands at contiguous watershed scales detailing out interventions for each Gram Panchayat (GP) within it, instead of just an aggregate of GP level plans at the district level; capacities of department frontline field functionaries such as irrigation and watershed development;

building capacities of Sarpanches, Pradhans and MLAs; and, capacity of policy makers and planners at the State level. Overall, the issues for strengthening include building capacities at various levels of key stakeholders, and integration and mainstreaming of IWRM in planning and budgeting of relevant key Sate line departments. Despite these two major programmes and laws the IWRM approach did not find due place at field level. To improve the performance of the irrigation water sector in Rajasthan, the State Government had taken up "Rajasthan Water Sector Restructuring Project (RWSRP) supported by the World Bank. One of the main development objectives of the RWSRP was to strengthen the capacity for strategic planning and sustainable development and management of surface and groundwater resources in Rajasthan. The project envisaged the three main components: The first component was Water Sector Institutional Restructuring and Capacity Building. This component emphasized for ensuring the effective functioning of key institutions for sustainable water resources management and system performance in the State. A fully functional State Water Resources Planning Department (SWRPD) was created. Units of SWRPD have been assigned the tasks of planning, regulation and ensuring consistency in implementation of basin plans across Water Resources Department to change its role to the one for effectively providing client oriented water services. With a view of modernization of MIS system in the Government of Rajasthan (GOR), information technology based programs were undertaken. The development of web enabled Water Resources Information System (WRIS) was also an effort for 'Single Window' solution of all water resources data classified in different water related modules. The second program covered the preparation of digitized map of 14 river basins for developing GIS based Water Resource Development Plan based on IWRM principle. With a view of capacity building for sustainable groundwater management three Pilot projects of community-based institutions for sustainable groundwater management in three water-scarce areas were also undertaken for developing community based groundwater management solutions and revision of groundwater legislation.

Mr. Durjoy Chakrobarty, former Sr. Scientist, Central Ground Water Authority, Odisha shared his perspectives and experiences from water management practices in Chhattisgarh and Odisha. He highlighted that Chhattisgarh is a difficult terrain and has different soil types, in each of the three ecological zones in the State (namely the central plains, Bastar plateau and the northern hill zone) have been identified. The State has taken measures such as the manner of sowing of crops in the fields, ways to collect and re-cycle rainwater, varieties of rice that can be sown, appropriate time for sowing of certain crops, schedule of application of

weedicides, etc, have been suggested. Areas that warrant either further improvements, or research, or different mechanical inputs (such as implements for sowing) have also been identified. The Chhatisgarh State Water Policy, 2012 is a major step taken by the State in this regard. The Policy provides for the methods to improve water management and quality by way of integrated and co-ordinated efforts by all concerned institutions/organisations in developing a policy framework for planning the water resources, augmenting them and putting them to a productive use. Thus the Policy talks about integration and coordination of different institutions. The State Water Policy, 2012 also talks about Integrated Water Resources Development Plan (IWRDP) to be formulated by the State. The IWRDP is a good policy practice that can help to mainstream IWRM at a basin scale.

In Odisha, water challenges range from acute water scarcity to severe pollution of rivers and diminished lean season flows. There have been concerted efforts by the government on local water harvesting and conservation through community sensitization and participation. The State had adopted a Water Policy in 2007 which provides for the integrated and sustainable use of water resources. However, the need for policy, legal and institutional changes are required to make this possible has not been clearly spelt out. The Policy also misses on the conjunctive use of surface and ground water. Water use efficiency and public participation in water management are other missing elements on which the policy needs to be strengthened.

Mr. Bhagwan Ji Pathak from Bihar highlighted the water paradox in Bihar by stating that Bihar is blessed with rich water resources but experiencing acute water shortages. This has happened as instead of nature based solutions, engineers attempted to control mighty and large rivers that also bring rich soil from Himalayas and were adding natural minerals to the soil in the State. The customary knowledge to deal with floods in Bihar ensured food and water security since millennia but a jacketed formula to embank all the rivers in the State has made the entire water and land scenario very complicated and other States should learn from Bihar on what not to do with their water and land management which perhaps is the call of IWRM. The State Water Policy of Bihar is in Draft Stage and several Flood Committees and Commissions have their say in altering land and rivers. Certain areas of Uttar Pradesh bordering Bihar and Nepal have a similar context and thus there can be an experience sharing lessons from villages on local water management in Bihar.

Ms Shilpa Chohan, Advocate and Partner IELO presented the case of water management scenario in Haryana and Delhi and highlighted the case of urban water mismanagement and lack of water use efficiency. She said U.P can learn from the wastewater treatment and failure of urban bodies in Delhi and Haryana to prevent over extraction of groundwater.

Key Messages from Technical Session-II

- ✓ The water supply model created by the Sardar Sarovar Nigam Limited needs to be studied further as it has been reasonably successful in supplying water to the far and remote areas of Gujarat that do not have potable water.
- ✓ Rajasthan has all the necessary policy, legal and institutional infrastructure in the form of a State Water Policy, 2010, a Water Regulatory Act, 2013, a Rajasthan River Basin and Water Resources Planning Act, 2015 and yet a Rajasthan Water Resources Restructuring Project (RWRRP) was needed to build capacities and reorient the institutions which are underway. Thus legal enactments do not necessary lead to outcomes but are helpful in creating an enabling environment.
- ✓ Chhattisgarh and Odisha are grappling with safe drinking water to its rural and tribal populations in rural and forest areas.
- ✓ The failure of institutions in Delhi and Haryana to mainstream water use efficiency and wastewater treatment and reuse offers lessons on how the inefficient management of resources can lead to water crises and conflicts.
- ✓ The Water Regulatory Act in 2013, and the Rajasthan River Basin and Water Resources Planning Act 2015 of the Government of Rajasthan is envisioned to address the water management challenges by promoting principles of IWRM in the State. However, the real impact of reforms will depend on the speed and amount of influence these changes have upon allocation, use and management of water.

4. Final Plenary: Key Messages from the experts and the stakeholders

a. Challenges in implementing IWRM:

- **Absence of data**: Data gap has emerged as one of the main challenges for mainstreaming IWRM at the State level in Uttar Pradesh. The experts highlighted that there is no credible data on existing and extinct water bodies in the State. The revenue records also do not reflect changes in the common water bodies at the village level. The updated data on ecologically important areas such as wetlands, lakes and new water bodies created due to floods etc is also not there. Further, access to data is limited to only Government departments in most of the cases and each stakeholder department seems to be having its own data on water resources which is often incompatible. The non-government organizations working on IWRM in the State do not have access to the complete data on water resources availability in the State.

- Lack of effective water governance has resulted in the severe depletion of groundwater resources. There is no accountability for over extraction of groundwater and the law favours the owner of land to withdraw groundwater resources.

- Water demand and provisioning has no common and integrated approach. The lack of convergence between the urban development policies and river conservation approaches has resulted in the unchecked urban expansion especially in and around water bodies in the cities.

- The wastewater treatment has not been taken up effectively by the Urban Local Bodies (ULBs) and there is very little private sector involvement on this. The capacity of the ULBs to undertake waste water treatment is also very limited. Thus private sector and market has a role to play in this space.

Solutions/Reforms:

- Decentralization of water resources management is the key to achieving IWRM in Uttar Pradesh. Given the large size of its population and livelihood dependence on agriculture, farmers and village communities must be involved to influence water related decisions that ensure sustainability and long term water security. Village level water budgeting must be formalized through the approval of annual schemes at the Panchayat level.

- Climate Change is still to find its appropriate space in the water resource planning and management. Measures for climate adaptation such as choice of crops as per agro-climatic zones, incentives for water efficient crops and encouraging farmers to adopt on-field water conservation by harvesting rain water are some of the climate adaptive approaches that would complement IWRM. Climate adaptation and water management have to be closely linked through policy and institutional functioning.

- River Basin Approach: The NWP, 2012 provides a clear direction on adopting the scientific planning at the Basin and Sub-Basin level. As per the NWP, basin is the

basic unit for planning at the hydrological level[9]. The Water Resources Department in Uttar Pradesh has identified six major river basins. The River Basin Plans (RBPs) for the six basins have also been prepared by the State Water Resources Agency (SWARA)[10]. However, the institutional capacity to implement RBPs remains a challenge as the State Government has not carried out any institutional restructuring to support RBP. Thus institutional capacity building to support RBP should be carried out by the State Government.

- Payment for Ecosystem Services: Payment for Ecosystem Services (PES) has been recognized as one of the effective ways for benefit sharing arising out of natural resources management. Under the PES approach communities protecting a resource are incentivized by communities benefitting from that resource. For example, villages protecting a dense forest area that serves as a critical catchment or watershed used by the downstream communities are incentivised for their conservation services by the downstream villages that depend on water flows for fisheries, irrigation and other uses. The water conservation planning involving communities can introduce PES as one of the ways to encourage communities for incentive based conservation of water resources in the State.

- The Water Policy of Uttar Pradesh is over two decades old. Since the U.P State Water Policy, 1999 precedes the National Water Policy (NWP) of 2012, some of the principles and approaches contained therein still remain to be harmonized to be in tune with NWP-2012 that promotes IWRM as the central approach to water resources management.

- The regulatory framework on water in the State is more elaborate and is based on enactments such as; Uttar Pradesh State Water Policy, 1999, Uttar Pradesh Water Supply and Sewerage Act, 1975, U.P. Panchayati Raj Act, 1947, Uttar Pradesh Participatory Irrigation Management Act, 2009, Uttar Pradesh Water Management and Regulatory Commission Act 2008, Uttar Pradesh Bhoomi Evam Jal Sanrakshan Adhiniyam, 1963, Uttar Pradesh Municipalities Act, 1916, Uttar Pradesh Urban Sanitation Policy, 2009. The State has recently enacted a Groundwater Act, 2020. However, the existing framework is disconnected with each other and the institutions created under them have their priorities without coordinating with each other. This has resulted in confusion and inefficient water management scenario in the State. There is thus a need to revisit the regulatory framework in totality. It is recommended that the State Government should consider a single unified water law for Uttar Pradesh.

- The emerging challenges of climate change, over-exploitation of groundwater and inefficiency in water use are not effectively addressed in the State Water Policy, 1999 and are not covered by any of the regulatory instruments on water in the State. The other instruments attempt to address the issues from a one sided approach which

[9] Preamble, National Water Policy, 2012
[10]

needs to be converged in view of the overall holistic management of water resources in the State. There is thus a need for mainstreaming climate concerns into policy and planning in the State.

GROUND WATER ACTION GROUP (GWAG)

Annex-1:

Perspectives on Mainstreaming IWRM in Uttar Pradesh- A Regional Consultation

27th December 2021
(10.00 am-3.30 pm)
Oudh-I, Hotel Fortune Park, Lucknow, Uttar Pradesh

Time	Session Details	Remarks
Inaugural Session		
10.00-10.30	Registration	
10.30-10.35	**Welcome and Opening Address** *Prof. Venkatesh Dutta, SEES, BBAU*	
10.35-10.40	**Address:** *Dr.Veena Khanduri*, Executive Secretary-cum-Country Coordinator India Water Partnership (IWP)	
10.40-10.50	**Key Note Address by the Guest of Honor** *Shri Rajesh Kumar Pandey* IAS, Special Secretary, State Mission for Clean Ganga, Uttar Pradesh	
10.50-11.00	**Address by the Chief Guest**: Hon'ble *Dr. Justice Devendra Kumar Arora,* Chairman, State Real Estate Regulatory Authority (RERA)	
	Special Guest: *Er. V. K Niranjan Engineer-in-Chief, Water Resources Department, Govt. of Uttar Pradesh*	
Tea Break (11.00-11.15)		
Technical Session-I	**Initiatives and Emerging Trends in Water Governance in UP: Perspectives on IWRM in UP** *Chair and Moderator:* ***Er. V. K. Niranjan****, Engineer-in-Chief, Water Resources Department, Govt. of Uttar Pradesh*	
11.15-11.30	Technical Presentation on the Highlights of the Research and Interviews: by *Mr. Shawahiq Siddiqui*, Advocate and Founding Partner, IELO	
11.30-12.00	**Panel Discussion:** On the Presentation and the Strategies for Mainstreaming IWRM in UP in the current scenario	

	Panellists • ***Er. D. K. Dudeja**, Engineer-in-Chief (Retd.), Water Resources Department, Govt. of Uttar Pradesh* • ***"What is missing and what is required: IWRM in Regional Perspective with Special Reference to UP"** by **Mr. R. S. Sinha**, by **Mr. R. S. Sinha**, Sr. Hydrogeologist (Retd.) & OSD, Ground Water Department, Govt. of Uttar Pradesh & Convener, GWAG* • ***Er. Ravindra Kumar**, Former Staff Officer, State Water Resources Agency, Govt. of Uttar Pradesh* • ***"Payment for water as ecosystem services under IWRM approach" by Er. Puneet Srivastava**, WaterAid, UK*	
12.00-12.15	Open House	
Technical Session –II:	**Regional Perspectives: Contextual Approaches and Experiences on IWRM** *Chair: Dr Vikas Goyal, National Institute of Hydrology, Roorkee*	
12.15-1.15	• **Gujarat-** Coastal and Industrial water challenges perspective and IWRM, Er. Paresh M Shah, former Chief Engineer, Sardar Sarovar Nigam Limited (SSNL), Gujarat • **Chhattisgarh**: A central Indian perspective on IWRM; Shri Durjoy Chakrobarty, former Sr. Scientist, Central Ground Water Authority • **Bihar-** Flood, silt and water logging and community water management perspective on IWRM, Shri Bhagwan Ji Pathak, Water Rights Activist, Bihar • **Haryana-** Groundwater challenges and IWRM; Ms. Shilpa Chohan, Advocate and Founding Partner, IELO • **Rajasthan:** Desert area perspectives on IWRM Shri Manohar Singh Rathore, Institute of Development Studies, Jaipur	
1.15-2.00	**Lunch**	
2.00-2.30	*Chair and Moderator- Shri M S Rathore* **Discussion:** Lessons from the Regional perspectives – IWRM Tools and what has not worked so far?	
2.30-3.30	**Final Plenary and the Way Forward: *Enabling Environment, Participation and Governance*** *Chair and Moderator: Er. P. R. Chaurasia, Former Director, Minor Irrigation and Ground Water Department, UP* *Co-Chair: Avinash C Tyagi*	
	• *Dr. Yashpal Singh, Former Director, Directorate of Environment, Govt. of Uttar Pradesh* • *Er. B. B. Trivedi, CGWB* • *Er. P. K. Srivastava, Water Resource Department, Govt. of Uttar Pradesh* • *Er. Phanish Sinha, Consultant, World Bank* • *Farrukh Rahman, WaterAid*	
	Vote of Thanks	

Annex-2[11]

Perspectives on Mainstreaming IWRM in Uttar Pradesh- A Regional Consultation

27th December 2021, Hotel Fortune Park, Lucknow

Registration List

Sr. no.	Name	Designation/Organizaton	Signature
1	Justice DK Arora	Chairman, State Real Estate Appellate Authority	
2	*Rajesh Kumar Pandey*	IAS, Special Secretary, State Mission for Clean Ganga	
3	*Er. V. K Niranjan*	*EnC, Water Resources Department, Govt. of Uttar Pradesh*	
4	Er. D K Dudeja	EnC (Retd.) Irrigation department	
5	Mr. R S Sinha	GWAG	
6	Er. Ravindra Srivastava	SWaRA	
7	Mr. B B Trivedi	GWAG	
8	Er. P K Srivastava	Ex SE, Irrigation department	
9	Dr.AbhishekSaxena	RamaswarupUni	
10	Dr.Bhanu Mall	GWAG	
11	Mr. Naveen Shukla	Jal Nigam	
12	Er. Puneet Srivastava	WaterAid	
13	Dr. V C Goyal	National Institute of Hydrology	
14	Er. Paresh M Shah	(SSNL), Gujarat	
15	Shri DurjoyChakrobarty	former Sr. Scientist, Central Ground Water Authority	
16	Shri BhagwanJi Pathak	Water Rights Activist, Bihar	
17	ShilpaChohan	Advocate and Founding Partner, IELO	
18	Shri Manohar Singh Rathore	Institute of Development Studies, Jaipur	
19	*Er. P. R. Chaurasia*	*Former Director, Minor Irrigation and Ground Water Dept, UP*	
20	*Avinash C Tyagi*	Co chair	
21	*Dr.Yashpal Singh*	*Former Director, Directorate of Environment, GOUP*	
22	*Er. Phanish Sinha*	*Consultant, World Bank*	
23	*Farrukh Rahman*	*WaterAid*	
24	*Dr.Seema Srivastava*	Environmental consultant	
25	Dr.VeenaKhanduri	IWP Country Coordinator	
26	Prof.Venkatesh Dutta	SEES, BBAU	
27	Adv. Shawahiq Siddiqui	Founding Partner, IELO	
28	Gurav Randhawa	Randhawa Broscon	
29	Bhanu Pratap	Research Scholar (BBAU)	
30	Divya Dubey	Research Scholar (Ph.D)	
31	Surya Kumar Singh	Exc Eng., Irrigation Dept	

32 Ugrasen — Exc Eng, Irrigation Dept.

33 Dr. Ambuj Dwivedi

34 Dr. SP Singh — SE, Irrigation

[11] Many participants in the list joined in the online mode whose signatures could not be appended

Name	Designation	Contact No	Sign
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Rishikesh Singh	Director - Earthvision	7080007474	
?ajeev Shukla	State Consultant UPJN.	9450666731	
Dr. Kashif Imdad	Asst. Prof, PPN College Kanpur	9889379131	
?.K. Gupta	Secretary SACH	6393253016	
?. Shishir Chandra	WaterAid	9457507178	

Annex-3: Media Coverage

THE TIMES OF INDIA, LUCKNOW
TUESDAY, MARCH 22, 2022

BENNETT, COLEMAN & CO. LTD. | ESTABLISHED 1838 | VOL. XL NO. 66 LUCKNOW | TUESDAY, MARCH 22, 2022 |

Mainstreaming water governance amid UP's possibilities, challenges

Venkatesh Dutta & Shawahiq Siddiqui

Water is the basis for life in all forms and central to economic growth and sustainable development. Uttar Pradesh poses a unique combination of possibilities and challenges, mainly due to its large size and availability of water resources. The risk of climate change is going to add an additional layer of complexity in the overall water governance framework.

Water being a state subject under the Indian Constitution, the state has a prominent role to play in not only advancing the initiatives by the central government but also by strengthening water resources management focused on conservation and efficient utilization. While the state is blessed with a rich water endowment, being a large agrarian state, it is faced with tremendous water management challenges due to the large size of the urban and rural population and developmental aspirations.

Integrated Water Resource Management (IWRM) at the river basin level is therefore required for the success of water governance and management authorities. There are eight large river basins in the state, and the resource dynamics need to be understood from all perspectives to mainstream IWRM into practice. Moreover, it is also imperative to regularly document the spatial diversity of water systems in the state and their inter-linkages with availability to plan the future course of action.

DROP BY DROP

Pursuant to the global and national policy mandates on IWRM, several national initiatives such as the *Jal Jeevan Mission, Atal Bhujal Yojna* and *Har Khet Ko Pani* targeting drinking water, groundwater management and irrigation water supply, respectively, are being implemented by the state government. The state is attempting a number of water policy and institutional measures for addressing water scenarios. It is also evident that institutional and regulatory challenges could constrain the mainstreaming of IWRM at the state and local levels. IWRM is a well-known concept in the field of water governance. Based on principles of inclusion, sustainability, and integration, this concept has gained momentum in the face of increasing water scarcity.

WORLD WATER DAY

Creating a roadmap in water management requires a fair amount of accurate and reliable hydrological data. And in case of IWRM, basin mapping based on iterative systems of measurements is necessary to obtain accurate data to base future plans on. Secondly, these plans should ideally be combinations of modern innovative technologies with traditional know-how. This would certainly enable policymakers to implement effective water management without disrupting the natural hydrological systems.

Similarly, adaptation to climate change is even more important to frame future plans and policies; especially in drought-prone areas like Bundelkhand. There is a deep need to involve all stakeholders, even private players, in attempts to make water policies that are resilient in the face of shortages. Doing so can enable knowledge sharing regarding best practices of water conservation in various fields that may have wider applications. On the other hand, pollution of existing water bodies also needs to be curbed. This requires a phased approach including establishing effective wastewater treatment plants at various levels where water is used and disposed. The state also needs to frame policy and guidelines on water reuse for effective application of a large amount of water that goes in our natural systems.

IWRM in UP means that we cannot overlook groundwater usage patterns across the state, assess the ecological, economic, and social efficiency it brings to the state and devise both supply and demand side methods that can increase the efficiency. Achieving water supply connections through household tap connections in different regions of the state under schemes such as the Jal Jeevan Mission, efficiency of delivery, widespread metering for establishing better tariff structures, and creating largescale water harvesting systems need to be some of the strategic focus points while considering IWRM.

This concept warrants a wide range of actions; from revising subsidy schemes to encouraging crop diversification and every such strategy in between. Technological interventions that can help achieve the underlined objectives also need to be leveraged as policy instruments.

(Venkatesh Dutta is a professor at BBAU, Lucknow, and Shawahiq Siddiqui is an environmental lawyer)

{ ON WATER REFORM } Hindustan Times, Dec 28, 2021

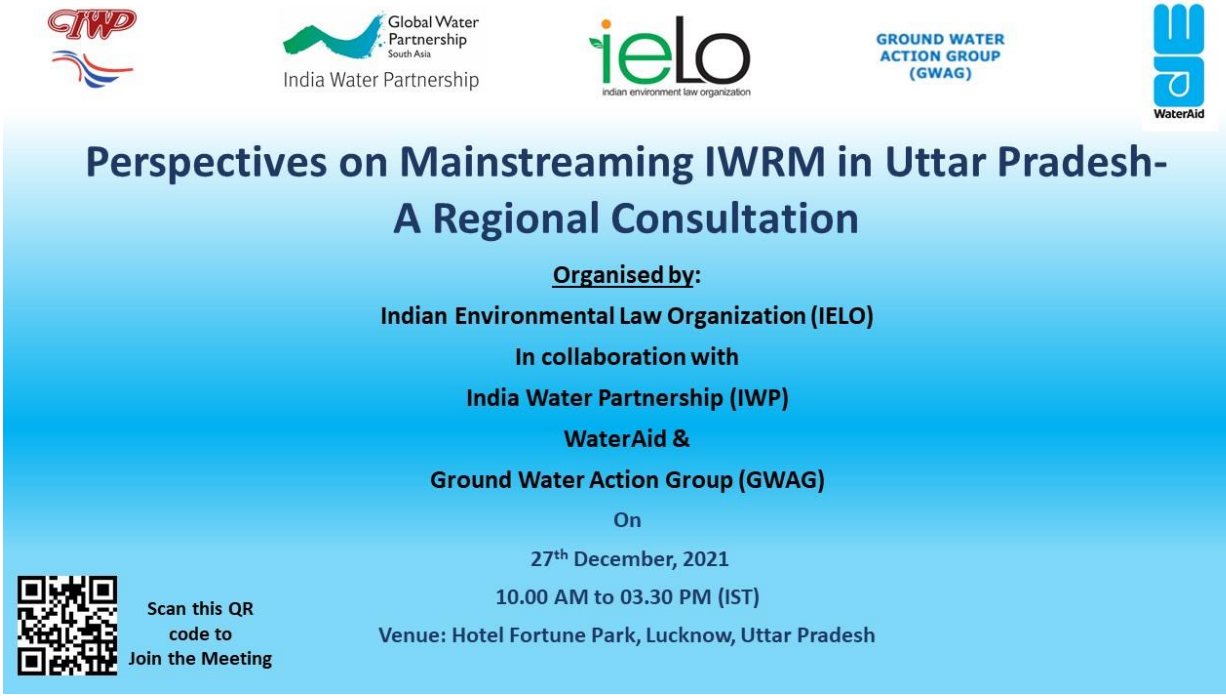
Consultation on IWRM: Experts share views

LUCKNOW : A regional consultation on the future of Integrated Water Resource Management (IWRM) in Uttar Pradesh was organised in Lucknow on Monday, by UP-IWRM core group members comprising experts from Ground Water Action Group, WaterAid, Indian Environmental Law Organisation, and India Water Partnership.

Eminent experts from diverse stakeholder groups shared their views on water reform measures being undertaken in the state. The chief guest Justice DK Arora (State Real Estate Appellate Authority) and special guest Er VK NIranjan (Engineer in Chief, Water Resources department, UP) addressed gathering with their experienced perspectives on various aspects of IWRM.

Speakers in the technical sessions concentrated on specific aspects like legal provisions, social integration, and institutional improvements. Convener of the workshop, Prof Venkatesh Dutta delivered the opening address and outlined the water scenario of UP. He said that policy framework should be backed by adequate legal provisions and enforcement mechanisms. Shawahiq Siddiqui, founding partner, IELO shed light on key legal frameworks for IWRM.

RS Sinha, eminent hydro-geologist and former staff officer, SWaRA Er Ravindra Kumar spoke of policy bottlenecks and potential solutions. Er Puneet Srivastava from WaterAid stressed on the need for democratization of water management through initiatives such as Jal Chaupal and the payment for ecosystem services model. Other highlights of discussion included departmental jurisdiction, data collection, mapping and access, role of technology, need for de-centralized water governance, community engagement and institutional framework. HTC



IWP

Global Water Partnership South Asia
India Water Partnership

ielo
indian environment law organization

GROUND WATER ACTION GROUP (GWAG)

WaterAid

Perspectives on Mainstreaming IWRM in Uttar Pradesh- A Regional Consultation

Organised by:

Indian Environmental Law Organization (IELO)

In collaboration with

India Water Partnership (IWP)

WaterAid &

Ground Water Action Group (GWAG)

On

27th December, 2021

10.00 AM to 03.30 PM (IST)

Venue: Hotel Fortune Park, Lucknow, Uttar Pradesh

Scan this QR code to Join the Meeting

'Groundwater crisis grave, strict ban on extraction need of the hr'

TIMES NEWS NETWORK

Lucknow: Groundwater experts on Monday suggested a strict ban on groundwater extraction from shallow aquifers in alluvial regions of the state.

Suggesting ways to handle the groundwater crisis in Uttar Pradesh, the experts also suggested that a roadmap with the help of reliable hydrological data must also be chalked out to handle the crisis.

They also mooted integrated and periodic assessment of groundwater quality through extensive (district-wise) mapping.

The suggestions were made by senior hydrologists and groundwater experts at the regional consultation workshop on 'Perspectives on mainstreaming Integrated Water Resources Management (IWRM) in Uttar Pradesh' organized by Indian Environmental Law Organization in collaboration with India Water Partnership, Water Aid, and Ground Water Action Group at a private hotel on Monday.

Workshop on water management underway in Lucknow

"We have to look at groundwater and surface water in totality and make concerted efforts for their management. Since there is a reduction in rainfall in the state in the last three decades, we have to change the way we make and implement our plans. Groundwater exploitation has become unbridled and it is affecting the small rivers fed by groundwater," said senior hydrologist (retired) and OSD, ground water department, RS Sinha

He said that there is a need to have clarity on water availability, demand and supply. Also, we need to reconcile, validate, rationalize and analyze all water data and statistics for the correctness of data so that policies and plans can be implemented effectively, he added.

"Creating a roadmap in water management; be it at the state level or only for a single settlement, requires a fair amount of accurate and reliable hydrological data. And in the case of Integrated Water Resource Management, basin mapping based on iterative systems of measurements is necessary to obtain accurate data to base future plans," said Venkatesh Dutta, noted environmentalist and convener of the workshop.

Times of India, December 28, 2021

Groundwater depletion must be arrested

Institutional reform in the form of creating water user groups, besides pricing water realistically, should be seriously pursued

On Tuesday, the world will observe World Water Day on the theme 'Groundwater: making the invisible visible'. Initiated in 1993, this Day raises awareness of about 2.2 billion people living without access to safe water. The broad aim of this Day is to put the spotlight on groundwater management, enhance knowledge exchange and create awareness of the importance of groundwater.

In India, out of available water resources of 1,123 billion cubic meter (bcm), 433 bcm comes from groundwater and the remaining from surface water. Groundwater is the main source of domestic water supply for both rural and urban areas as more than 80 per cent of supply is sourced through it, making the country the largest user of groundwater in the world.

The agriculture sector uses 89 per cent of the groundwater for irrigation while it percent is used by the domestic and industrial sectors. This excessive extraction of groundwater has made almost 22 per cent of the assessed blocks critical or overexploited. At the State level, in Punjab, Haryana, Rajasthan and Delhi groundwater extraction is more than 100 per cent. There are about 8,000 major and small townships in the country and most of them depend on groundwater due to its easy accessibility. The construction of private tube wells, especially in housing colonies and multi-storey buildings, is going on unchecked and, as a result, dependency on groundwater, especially in big cities, has increased manifold times.

Groundwater also plays a significant role in regulating the economy of our cities. According to a study by The Energy and Resources Institute (TERI), as much as a third of the GDP of cities like Lucknow is directly dependent on groundwater. By 2030, the country's water demand is projected to be twice the available supply, implying severe water scarcity for hundreds of millions of people and an eventual about 6 per cent loss in the country's GDP.

Excessive exploitation of groundwater, urbanisation and associated concretisation are considered to be the major causes of the declining water table. However, global warming-induced climate change affects the hydrologic cycle and increases the variability of water supply, especially surface water. This will put more pressure on groundwater. Thus, recharging groundwater in its

Farm sector, a major water guzzler

potential. Also, almost half of the districts in the country are reported to be having contaminated groundwater, with nitrate, fluoride, arsenic and other heavy metals.

Jal Jeevan Mission

To ensure universal access of drinking water, the government has launched the Jal Jeevan Mission which aims to provide water tap connection to rural and urban households. This will result in connection to more than 80 crore households in rural areas and 2.68 crore households in urban areas by 2024.

Under JJM (Rural), single village groundwater-based schemes with end-to-end source sustainability will be encouraged in groundwater-rich areas. In places where groundwater is not abundant, especially in the designated dark blocks and in areas affected by water quality issues, surface water based multi-village schemes will be promoted.

Way forward

According to a report by NITI Aayog, if methods for water conservation in India were not adopted, around 20 cities including Bengaluru, Delhi and Hyderabad would run out of groundwater in the next few years. Thus, rainwater harvesting and artificial groundwater recharge need to be adopted in a mission mode, across the country.

Most States have put in place legislation for protecting water bodies and enabling water harvesting in buildings. But a key policy reform – adequate pricing of water – is still far from becoming a reality. There is wide variation in the percentage of households being charged for water, with the average being about 45 per cent in non-Himalayan States.

Similar to rural areas, community engagement in urban areas is necessary to create a sense of responsibility among the masses. Water help groups/water users associations , with members trained to take care of water conservation activities at the local level, must be formed. Easy line of credit for imple-

mentation of water conservation measures should be made available to the groups.

Similarly, 'commercial water user groups' should be formed and engagement of commercial and bulk users in groundwater management must be ensured. Probably, a mechanism similar to 'fire safety control' needs to be placed for water conservation in premises of every commercial user having a specifically designated team of water warriors within the organisation.

For sustainable use of water, efficient management of groundwater is a must. Human induced climate change calls for conserving groundwater through efficient recharge and sustainable management. Innovative technologies like zero-water systems, de-centralised wastewater treatment systems, construction of 'green and grey' infrastructure like separate drains for stormwater management will reduce pressure on groundwater.

The Atal Bhujal Scheme is a step in the right direction for groundwater mapping and management. This will create more awareness of groundwater resources and their effective conservation.

Sarkar is Distinguished Fellow, and Nayal is Senior Fellow, TERI

RAVIKANTH

Hindustan Times, Dec 28, 2021

{ ON WATER REFORM }

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हिंदुस्तान, 28 दिसंबर 2021

जंगलों को बचाकर सुधार सकते हैं भूगर्भ जल स्तर

लखनऊ | वरिष्ठ संवाददाता

जंगल खत्म हो रहे हैं। पेड़-पौधों की कटान जारी है। इससे पर्यावरण संतुलन बिगड़ रहा है। प्रदूषण का स्तर बढ़ रहा है। वहीं नदी और नहर का अस्तित्व भी संकट में है। इसका खामियाजा किसानों को भुगतना पड़ रहा है। सिंचाई के लिए पर्याप्त पानी नहीं मिल पा रहा है। गांव-कस्बों में पेयजल का संकट भी खड़ा हो गया है। यह जानकारी वरिष्ठ हाइड्रोलाजिस्ट आरएस सिन्हा ने दी।

ग्राउंड वाटर एक्शन ग्रुप, वाटर एड संस्था, इंडियन एनवायरनमेंट ला आर्गेनाइजेशन और इंडिया वाटर पार्टनरशिप संस्था के तत्वावधान में सोमवार को उत्तर प्रदेश में एकीकृत जल प्रबंधन पर कार्यशाला हुई। वरिष्ठ हाइड्रोलॉजिस्ट आरएस सिन्हा ने कहा कि भूगर्भ जलस्तर लगातार घट रहा है। प्रदेश में लगभग 3000 किलोमीटर की छोटी नदियां हैं। इनमें पानी का स्तर कम हो रहा है। पहले इसमें साल भर पानी भरा रहता था। यह हमारी कृषि की सिंचाई के लिए पर्याप्त पानी नहीं मिल पा रहा है।

दैनिक जागरण, 28 दिसंबर 2021

विकराल हो रही नदियों में पानी की समस्या

जासं, लखनऊ : प्रदेश में लगभग तीन हजार किलोमीटर में छोटी नदियों का तंत्र है। इनमें काफी समय से पानी की कमी विकराल समस्या के रूप में उभर कर आई है। जिनमें सालभर पानी बना रहता था, अब वे मौसमी नदियों के रूप में परिवर्तित होती जा रही हैं। यह हमारी फसलों की सिंचाई के लिए, गांव और कस्बों में पेयजल की आपूर्ति के लिए भी संकट का सबब बनता जा रहा है।

ग्राउंड वाटर एक्शन ग्रुप (जीडब्ल्यूएजी), वाटर एड संस्था, इंडियन एनवायरनमेंट ला आर्गेनाइजेशन और इंडिया वाटर पार्टनरशिप (आइडब्ल्यूपी) संस्था के तत्वावधान में एक होटल में सोमवार को उत्तर प्रदेश में एकीकृत जल प्रबंधन विषय पर कार्यशाला हुई। यूपी रियल स्टेट एप्लेट अथारिटी के चेयरमैन जस्टिस डा. देवेंद्र कुमार अरोड़ा ने कहा कि अगर हम पहले ही अपनी योजनाओं और नीतियों में पर्यावरण संरक्षण का ध्यान रखें तो एक बेहतर पर्यावरण भी मिलेगा और पर्यावरण संरक्षण में जाया होने वाले सरकारों के समय और संसाधन से भी निजात मिलेगी।

अमर उजाला, 28 दिसंबर 2021

संविधान में जल प्रबंधन के लिए स्पष्ट व्यवस्था

लखनऊ। जल प्रबंधन के लिए संविधान में स्पष्ट व्यवस्था है। इसे अनिवार्य रूप से सुनिश्चित करना ही होगा। रविवार को जल प्रबंधन पर राणा प्रताप मार्ग स्थित होटल में आयोजित जल प्रबंधन पर क्षेत्रीय कार्यशाला में रेरा ट्रिब्यूनल के चेयरमैन जस्टिस डीके अरोड़ा ने यह बात कही। उनका कहना है कि संविधान में सभी नागरिकों को पर्याप्त जल मिले। इसके लिए ही जल प्रबंधन की स्पष्ट व्यवस्था दी गई है। जल संसाधनों का समेकित प्रबंधन ही एकमात्र उपाय इसके लिए है। वहीं भूजल विशेषज्ञ डॉ. आरएस सिन्हा का कहना है कि अब हमें भूगर्भ जल और सतही जल को एक साथ देखना होगा। इसके प्रबंधन के लिए भी समेकित प्रयास करने होंगे। बीते तीन दशकों में जिस प्रकार बारिश में कमी आई है। उसको देखते हुए हमें अपनी योजनाओं को बनाने व लागू करने के तरीकों में बदलाव करना होगा। वहीं बीबीएयू के पर्यावरण अध्ययन के प्रोफेसर डॉ. वेंकटेश दत्ता का कहना है कि प्रदेश में समय से जल प्रबंधन की संभावनाओं को तलाशने और उन्हें क्रियान्वित करने के लिए मसौदा तैयार किया जा रहा है। (माई सिटी रिपोर्टर)


Global Water Partnership South Asia
India Water Partnership
ielo
indian environment law organization
WaterAid
GROUND WATER ACTION GROUP (GWAG)
Perspectives on Mainstreaming IWRM in UP
December 27th
10 AM
Hotel Fortune Park, Lucknow
A Regional Consultation

About the Organizers

India Water Partnership (IWP) is a non-profit organization with the goal of propagating, promoting and supporting Integrated Water Resources Management (IWRM) in India.

The IWP serves as an independent voice on water management issues outside the government's ambit and has been pursuing activities that influence policy and enhance stakeholders' participation through critical and unbiased analysis of issues, stimulating public awareness and understanding and promoting dialogue and exchange of information between the individuals, agencies and government departments within the country.

Based at Stockholm, Sweden, the Global Water Partnership (GWP) was founded in 1996 by the World Bank, the United Nations Development Programme (UNDP), and the Swedish International Development Cooperation Agency (SIDA) to foster integrated water resource management (IWRM). The GWP vision is for a water secure world. Its mission is to support the sustainable development and management of water resources at all levels.

Indian Environment Law Organisation (IELO) is a law firm dedicated to the practice of environment and development law. IELO's mission is to make development more inclusive, equitable, sustainable and benign, with committed legal services in the field of natural resource law and environmental law. IELO strives to bring to the fore critical environmental concerns and imperatives so that these are incorporated in the development policy and laws of the country.

GROUND WATER ACTION GROUP (GWAG):

GWAG is a voluntary forum of ground water experts and NGOs based in Lucknow, Uttar Pradesh.