

TOGETHER FOR WETLANDS

A CEPA STRATEGY FOR WISE USE OF WETLANDS IN UTTAR PRADESH



**SAVE
WETLANDS
CAMPAIGN**

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New Delhi, 2025



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Supported by:



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पर्यावरण, वन एवं जलवायु परिवर्तन
भारत सरकार

सत्यमेव जयते
भूपेन्द्र यादव
BHUPENDER YADAV

MINISTER
ENVIRONMENT, FOREST AND CLIMATE CHANGE
GOVERNMENT OF INDIA



MESSAGE

Wetlands have long been an essential part of our natural heritage, providing a wide range of ecological, economic, and cultural benefits. However, these vital ecosystems are increasingly under threat, and their conservation requires not only policy interventions but also active and sustained involvement from local communities. The Ramsar Convention's Communication, Capacity Building, Education, Participation, and Awareness (CEPA) programme underscores the necessity of an inclusive and participatory approach to wetlands management, emphasizing that the involvement of local people is key to ensuring the long-term protection of these ecosystems. The programme's overarching goal is to ensure that **"people take action for the wise use of wetlands,"** a principle that directly resonates with our national efforts.

In India, initiatives such as *Amrit Dharohar* and the *Save Wetlands Campaign* are helping to place people's participation at the core of wetlands conservation efforts. These initiatives recognize that without engaging and empowering communities, the goals of wetlands conservation cannot be fully achieved. The strategy document, **"Together for Wetlands: A CEPA Strategy for Wise Use of Wetlands in Uttar Pradesh,"** serves as a comprehensive guide to fostering community-driven efforts. By strengthening communication, capacity building, education, and awareness, this document will equip citizens with the tools they need to use for an active role in the preservation of their local wetlands.

Through this approach, we are not just conserving wetlands, we are also empowering communities to contribute to the nation's resilience against climate change. The implementation of this strategy will ensure the continued commitment of the Government of India to the Ramsar Convention towards the conservation and wise use of all its wetlands. I encourage all citizens and stakeholders to embrace this strategy, ensuring that our wetlands remain safeguarded for generations to come.

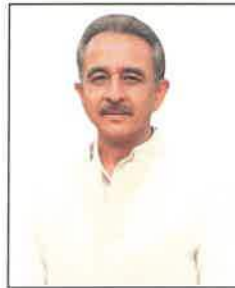
(Bhupender Yadav)



एक कदम स्वच्छता की ओर



सत्यमेव जयते



MESSAGE

राज्य मंत्री
पर्यावरण, वन एवं जलवायु परिवर्तन
विदेश मंत्रालय

भारत सरकार
MINISTER OF STATE
ENVIRONMENT, FOREST AND CLIMATE CHANGE
EXTERNAL AFFAIRS
GOVERNMENT OF INDIA

कीर्तवर्धन सिंह
KIRTI VARDHAN SINGH

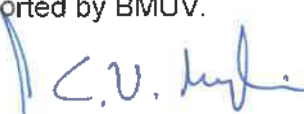
Wetlands hold immense ecological, economic, and cultural significance. Ensuring their conservation requires a strategic, inclusive approach where local communities are at the heart of the efforts. Local communities, particularly those residing near wetlands and reliant on the ecosystem services provided by these unique habitats, have an intricate relationship with the wetlands, since ages, and therefore, play a pivotal role in their sustainable management. Their deep-rooted traditional knowledge of natural resources and the intricacy of the local ecology empowers them to engage proactively and effectively in the long-term protection of the environment and the welfare of both natural ecosystems and human societies.

The Communication, Capacity Building, Education, Participation and Awareness (CEPA) programme highlights the importance of fostering awareness and participation and this strategy document is a vital tool in that endeavour. Uttar Pradesh stands out as one of India's most significant states in terms of wetlands conservation. With 10 Ramsar Sites, Uttar Pradesh holds the second position in the country, highlighting its crucial role in global wetlands conservation. Furthermore, Uttar Pradesh has one of the highest numbers of inland wetlands in the country, making it a key player in preserving these vital ecosystems for biodiversity and climate resilience.

In the development of this strategy document, pilot interventions on CEPA were conducted at four priority sites: Mankotahi Taal (Kushinagar), Parvati Arga Bird Sanctuary (Gonda), Sarsai Nawar Jheel (Etawah) and Bakhira Wildlife Sanctuary (Sant Kabir Nagar). These pilot initiatives focused on engaging and prioritizing stakeholders at the grassroot level to understand local needs and enhance community participation in wetlands conservation.

The strategy document, "Together for Wetlands: A CEPA Strategy for Wise Use of Wetlands in Uttar Pradesh" is a step towards ensuring the active involvement of citizens in wetlands conservation. By empowering communities through capacity building, education, and communication, this document will guide efforts to strengthen community engagement in wetlands management.

It is developed under the 'Wetlands Management for Biodiversity and Climate Protection' project implemented by the MoEF&CC (Wetlands Division) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). It is part of the International Climate Initiative (IKI) supported by BMUV.


(Kirti Vardhan Singh)

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सत्यमेव जयते



Message



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SECRETARY
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& CLIMATE CHANGE

Wetlands are among the most valuable ecosystems we have, supporting biodiversity, regulating water cycles, and mitigating climate change. Yet, they face growing pressures due to human activities and environmental changes. The conservation and management of these ecosystems requires not only sound governance but also a robust, community-driven approach. The Ramsar Convention's Communication, Capacity Building, Education, Participation, and Awareness (CEPA) programme has long emphasized the importance of fostering a participatory model for wetlands management, encouraging people to play an active role in ensuring their wise use.

Mission *Sahbhagita*, a 'whole of society' approach, is an important step towards participatory conservation and wise use of wetlands, enabling a society ownership approach with communities leading at the forefront. Also, initiatives such as Amrit Dharohar and the Save Wetlands Campaign are pivotal in reinforcing the importance of community participation. These initiatives focus on mobilizing citizens and local groups to take ownership of wetlands conservation, fostering a deep sense of responsibility and stewardship for these ecosystems.

On the other hand, Mission LIFE (Lifestyle for Environment) promotes sustainable practices at both individual and collective levels, advocating for climate-conscious behaviour that can be seamlessly integrated into daily life. By emphasizing education, awareness, and participation, the CEPA strategy aligns closely with Mission LIFE's goals. It can amplify its message by fostering a deeper understanding of wetlands' ecological importance while encouraging communities to adopt conservation-friendly practices. Through targeted communication and capacity-building initiatives, the CEPA strategy empowers stakeholders to make informed decisions, driving transformative action that reinforces the vision of Mission LIFE.

The **"Together for Wetlands: A CEPA Strategy for Wise Use of Wetlands in Uttar Pradesh"** document provides a roadmap for empowering communities with

the knowledge and resources necessary to actively participate in wetlands conservation. By strengthening communication, capacity building, and education, this strategy document will inspire citizens to take ownership of the wetlands around them and contribute to their sustainable management. By integrating these principles into our wetlands conservation practices, we are laying the groundwork for more sustainable, community-centred approaches that will not only protect wetlands but also enhance our climate resilience.

I am confident that this strategy will serve as a catalyst for community engagement, ensuring that wetlands across India continue to thrive as vital resources for future generations. Let us work together to conserve and protect these critical ecosystems and contribute to the broader global efforts to address climate change.

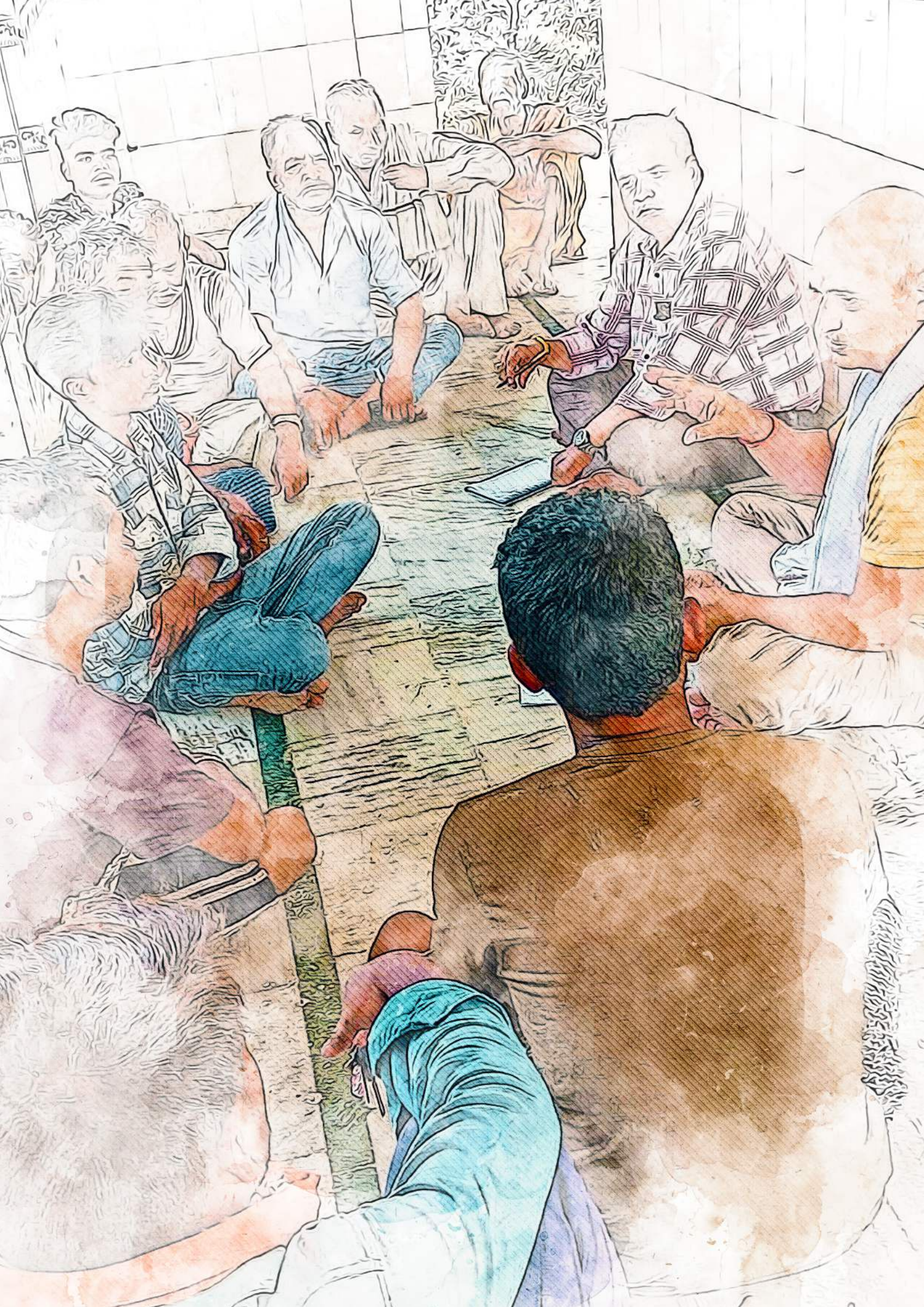
New Delhi,
February 17, 2025.


(**Tanmay Kumar**)



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BACKGROUND



Wetlands are transitional lands between terrestrial and aquatic ecosystems where the water table is usually at or near the surface, or the land is covered by shallow water permanently or seasonally. Wetland ecosystems stand out as some of the most productive environments on our planet.

These ecosystems are not just bodies of water; they are prominent landscape features that play pivotal roles. Wetlands are essential for ensuring our food, water, and climate security and offer important ecosystem services including Provisioning, Supporting, Cultural and Regulating services - making a vital contribution to human health and well-being. Provisioning ecosystem services include products obtained from wetland ecosystems, such as food, water, timber, fiber, or genetic resources. Regulating ecosystem services include air quality regulation, climate regulation, water purification, disease regulation, pest regulation, pollination, and natural hazard regulation. Cultural ecosystem services include benefits that people obtain from ecosystems related to spiritual enrichment, recreation, ecotourism, aesthetics, formal and informal education, inspiration, and cultural heritage. Supporting ecosystem services include basic ecosystem processes of nutrient cycling and primary productivity that may, in turn, lead to the other three services listed above.

Wetlands help in biodiversity conservation, supporting a wide range of plant and animal species. They serve as crucial habitats for many species, including migratory birds, fish, amphibians, reptiles, and insects. Wetlands provide breeding, nesting, and feeding grounds, and some species rely on wetlands for their entire life cycles. Wetlands also act as natural filters. They absorb and trap sediments, pollutants, and excess nutrients from runoff, improving water quality in adjacent water bodies. They help reduce the impact of pollutants on downstream ecosystems and drinking water sources.

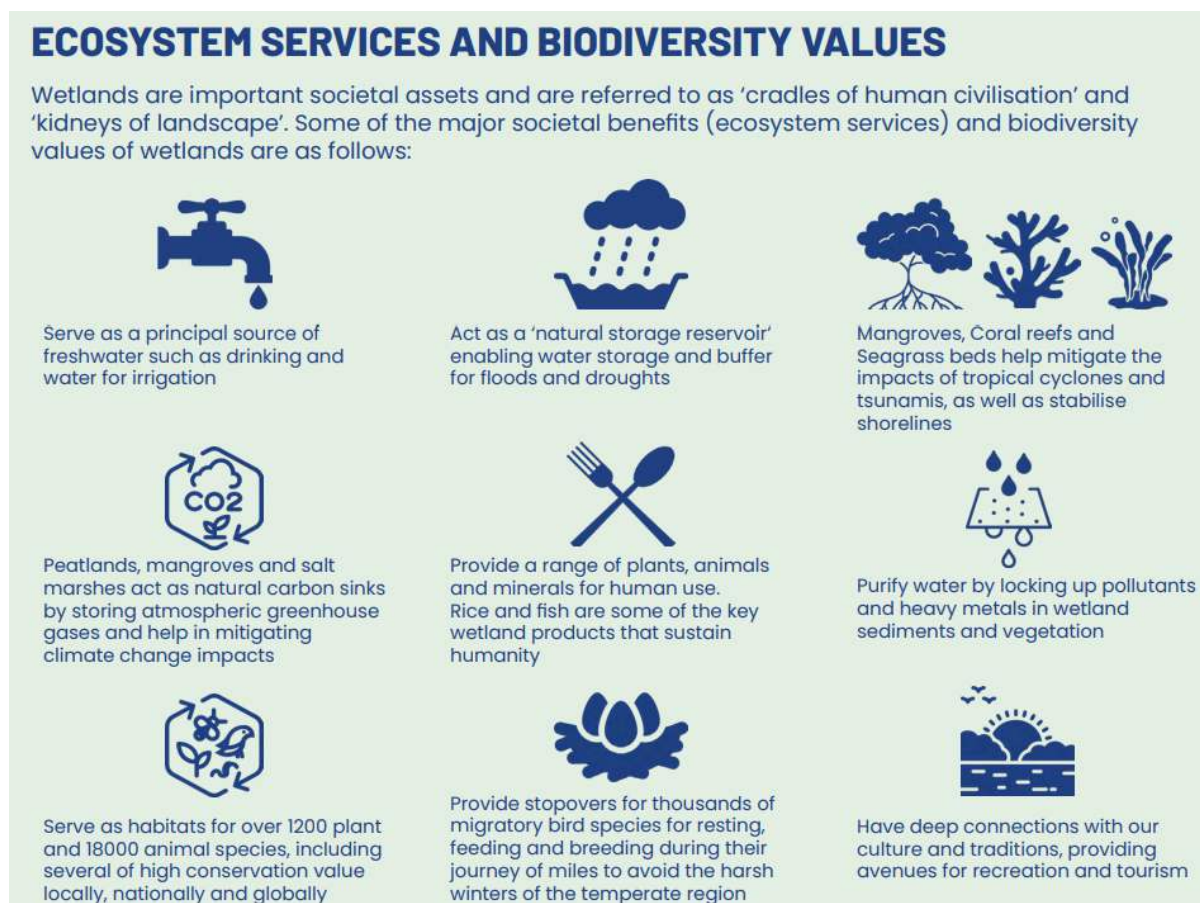


Figure-1: Ecosystem Services and Biodiversity values of wetlands

(Source: Wetlands Conservation – Approach and Initiatives, MoEFCC, Govt of India)

Wetlands help recharge aquifers and maintain water tables, which are essential for maintaining the availability of freshwater resources. They act as natural sponges, absorbing excess water during heavy rainfall or flooding events. They help reduce the risk of downstream flooding by storing and slowly releasing water, mitigating the impact of extreme weather events. Wetlands also store large amounts of carbon in their soil and vegetation, acting as carbon sinks. When wetlands are drained or degraded, this stored carbon can be released into the atmosphere, contributing to greenhouse gas emissions. Preserving and restoring wetlands can help mitigate climate change. Further, wetlands also support economic activities, such as fishing, agriculture, aquaculture, tourism and recreation. They also offer valuable ecosystem services, such as crop pollination, which can contribute to local economies.

The protection and restoration of wetlands is a key component of the measures needed to mitigate climate change and reduce disaster risks. Wetlands store vast amounts of carbon, both in plant biomass and especially in their soils. The drainage or conversion (loss) of wetlands not only reduces their ability to take up and store carbon, but can cause large quantities of previously accumulated carbon to be lost, moving it from the soil to the atmosphere as carbon dioxide.

Wetlands also increase the resilience of communities to damage caused by storms and extreme weather. Many types of wetlands, such as floodplains, etc. are natural buffers against weather hazards, and wetland loss and degradation in many regions is strongly linked to increases in climate-related impacts.

The protection and restoration of wetlands is a key component of the measures needed to mitigate climate change and reduce disaster risks.



RAMSAR CONVENTION ON WETLANDS

The **Ramsar Convention on Wetlands** is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources. The Convention was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975. Since then, almost 90% of UN member states, from all the world's geographic regions, have acceded to become "Contracting Parties". India became a Contracting Party in February 1982 and since then, it has expanded its network of Ramsar Sites and designated 85 wetlands in the country under the Ramsar Convention (as on January, 2025). These sites are critical for conserving global biological diversity, for instance, allowing migratory species of Central Asian Flyway to complete their life cycle. The network of Indian Ramsar Sites currently covers 1.35 million hectares, which is close to 10% of the known wetland extent of the country.

The Ramsar Convention defines wetlands as 'areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tides does not exceed six meters.'

Further, moving in the direction of gender-responsive approach to sustainable wetland conservation, in 2018, the Contracting Parties to the Convention on Wetlands adopted Resolution XIII.18 on **Gender and Wetlands**, the first Resolution which recognizes the importance of addressing gender equality and women's empowerment in the implementation of the Convention. Contracting Parties further committed to mainstream a gender perspective in the Convention's work, recognizing that women play a vital role as agents of development, and to acknowledge that gender equality and the empowerment of all women and girls is crucial to making progress across all Sustainable Development Goals and targets.

NATIONAL INITIATIVES ON WETLANDS IN INDIA

Conservation and protection of wetlands is deeply ingrained in Indian conservation values as part of its culture and heritage. Wetlands (Conservation and Management) Rules, 2017 provide the legislative framework for their management at a national scale and a centrally sponsored scheme, namely, the National Plan for Conservation of Aquatic Ecosystems (NPCA) is implemented by the Ministry of Environment, Forest and Climate Change, Government of India.

AMRIT DHAROHAR - AN INITIATIVE TO PROMOTE UNIQUE CONSERVATION VALUES OF RAMSAR SITES

Acknowledging the importance of conservation of Ramsar Sites and to promote their unique conservation values, the Government of India, in June 2023 as part of the 2023-24 budget announcement, launched the “Amrit Dharohar” initiative exclusively for Ramsar Sites to create demonstration, replication and upscaling effect on other wetlands of national and international importance. The activities emphasize on:

- Protecting and promoting unique conservation and cultural heritage values
- Creating nature tourism opportunities and income generation for local communities
- Encouraging optimal use while ensuring maintenance of wetland ecological character
- Safeguarding and enhancing biological diversity and carbon stock
- Enabling integrated management to ensure sustained provision of full range of ecosystem services

The Amrit Dharohar programme is implemented in convergence with various Central Government ministries and agencies, State Wetland Authorities, and a network of formal and informal institutions and individuals, working together for a common cause. The technical backstopping for the implementation of Amrit Dharohar is provided by the Knowledge Partners of the Wetlands Division of MoEFCC.

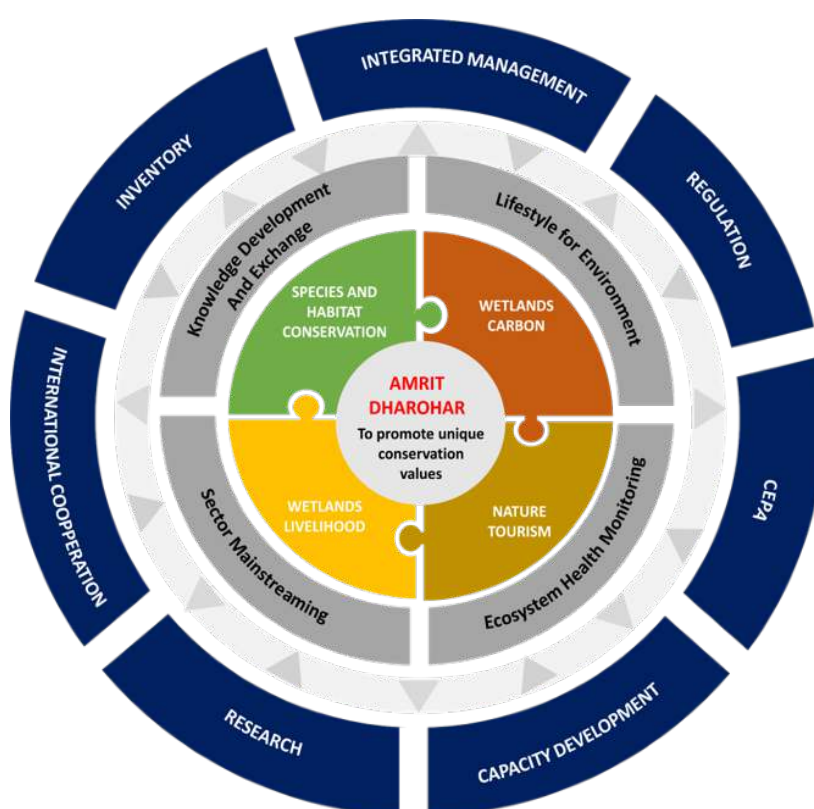


Figure-2: The implementation approach of Amrit Dharohar

SAVE WETLANDS CAMPAIGN

“Save Wetlands Campaign” is yet another initiative of Government of India which aims at creating mass awareness about the importance of wetland conservation and management involving local communities, departments and other stakeholders. It is built on the vision outlined by **“Mission Sahbhagita”** and advances the ‘whole of society’ approach for conserving and sustainably managing Amrit Dharohars, with primary stakeholders and local communities at the forefront. Media campaigns, awareness programmes, Wetland Mitra enrolment, Shramdhaan campaigns for catchment restoration, de-weeding, and clean-up drives, engagement of community by the site managers for wetland health monitoring, bird surveys, etc. are integral components of Save Wetlands Campaign.

Besides the above, the National Disaster Management Plan (2019) and the National Environmental Policy (2006) also advocates for sustainable ecosystem management and emphasize on the relevance of Nature-based Solutions in addressing climate and disaster-related risks.

At the state level, the State Wetland Authorities are a statutory authority meant to function as State’s nodal agency to implement the task of policy development, regulatory frameworks, integrated management, planning, implementation of action plans, capacity building, research, networking, communication, awareness, creation and raising of funds for wetland conservation and management. Further, the One District, One Wetland (ODOW) initiative of the state government aims to develop one wetland in each district as an ecotourism site including conserving wetlands outside protected areas, protecting wetlands that are notified under the Wetlands (Conservation and Management) Rules, 2017 promoting wetland biodiversity, promoting carbon stock and generating income for local communities.

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WISE USE OF WETLANDS

Wise use is the central tenet of wetlands conservation and management¹. As a signatory to the Ramsar Convention, India is committed to ensuring the wise use of all wetlands in her territory². The wetland wise use stands out as the longest-established example among intergovernmental processes of the application of the ecosystem approaches for the conservation and sustainable development of natural resources. The ‘wise use’ concept identifies the critical linkages between people and the sustainable development of natural resources and encourages community engagement and transparency in negotiating conservation development trade-offs between different sectors and stakeholders and determining equitable outcomes for conservation. Despite the centrality of the wise use concept, vagueness remains in the meaning of the wise use term and its application in wetland management.



¹ C. Max Finlayson, Nick Davidson, Dave Pritchard, G. Randy Milton & Heather MacKay [2011]. The Ramsar Convention and Ecosystem-Based Approaches to the Wise Use and Sustainable Development of Wetlands, *Journal of International Wildlife Law & Policy*, 14:3-4, 176-198, DOI: 10.1080/13880292.2011.626704

² Ramsar Convention Secretariat [2010]. Wise use of wetlands: Concepts and approaches for the wise use of wetlands. Ramsar handbooks for the wise use of wetlands, 4th edition, vol. 1. Ramsar Convention Secretariat, Gland, Switzerland.

The Ramsar Convention defines wise use of wetlands as - ***“the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development”***. India ratifies this definition of wise use and has an implementation framework in place for achieving wetland wise use for India.

India’s National Environment Policy, 2006 identifies wetlands as components of ‘freshwater resources’ and recommends integration in developmental planning, management based on prudent use strategies, promotion of ecotourism and implementation of a regulatory framework³.

The Ministry of Environment, Forest and Climate Change’s (MoEF&CC) flagship programme on wetlands, the National Plan for Conservation of Aquatic Ecosystems (NPCA), recommends that the management of each wetland is guided by an Integrated Management Plan (IMP), which describes strategies and actions for achieving wise use⁴. The Wetlands (Conservation and Management) Rules, 2017, require the State/UT Wetland Authorities to define strategies for the conservation and wise use of wetlands within their jurisdiction. Further, these authorities have also been tasked to prepare brief documents which include ecological character descriptions of the sites to be regulated⁵.

The active involvement of communities and related stakeholders is imperative for the effective management and conservation of Ramsar Wetland Sites. The ‘wise use’ approach recognizes that stemming wetland loss and degradation requires the incorporation of linkages between people and wetlands and that the human use of these ecosystems on a sustainable basis is compatible with conservation. Implementing wise use requires an ‘all-of-society’ approach, which well aligns with Mission *Sahbhagita* of Government of India, that ensures participation of all stakeholders in checking degradation of wetlands.



3 Government of India [2006]. The National Environment Policy, 2006. Ministry of Environment and Forest.

4 Government of India [2024]. National Plan for Conservation of Aquatic Ecosystems [NPCA]. Ministry of Environment, Forest and Climate Change.

5 Wetlands [Conservation and Management] Rules, 2017. Gazette of India. REGD. NO. D. L.-33004/99. SEPTEMBER 26, 2017.

RAMSAR WETLANDS IN UTTAR PRADESH



In the First Census of Water bodies (Volume-II), Ministry of Jal Shakti, Govt of India, a total of 2,45,087 water bodies are enumerated in the state of Uttar Pradesh, out of which 98% (2,40,139) are in rural areas and the remaining 2% (4,948) are in urban areas. Majority of these water bodies are classified as ponds.

Uttar Pradesh is home to 10 Ramsar Sites, securing the second place in having highest number of Ramsar Wetlands after Tamil Nadu, which has 18 Ramsar Sites (as on January, 2025). These Ramsar Wetland Sites are spread across different agro-climatic zones in UP. The total area of wetlands in Uttar Pradesh is about 1.5 million hectares. Wetlands in Uttar Pradesh support a variety of plant and animal life, including over 300 species of birds.

Wetlands play an important role in the environment and economy of Uttar Pradesh. They provide a habitat for a variety of plants and animals, help to regulate the water cycle, and prevent floods. Wetlands also support a number of economic activities, such as fishing, tourism, and agriculture. However, wetlands in Uttar Pradesh are facing a number of threats, including deforestation, pollution, indiscriminate dumping of waste, encroachment, overgrazing and climate change. Therefore, it is important to protect the wetlands of UP for the sake of biodiversity, flood control, and water supply.

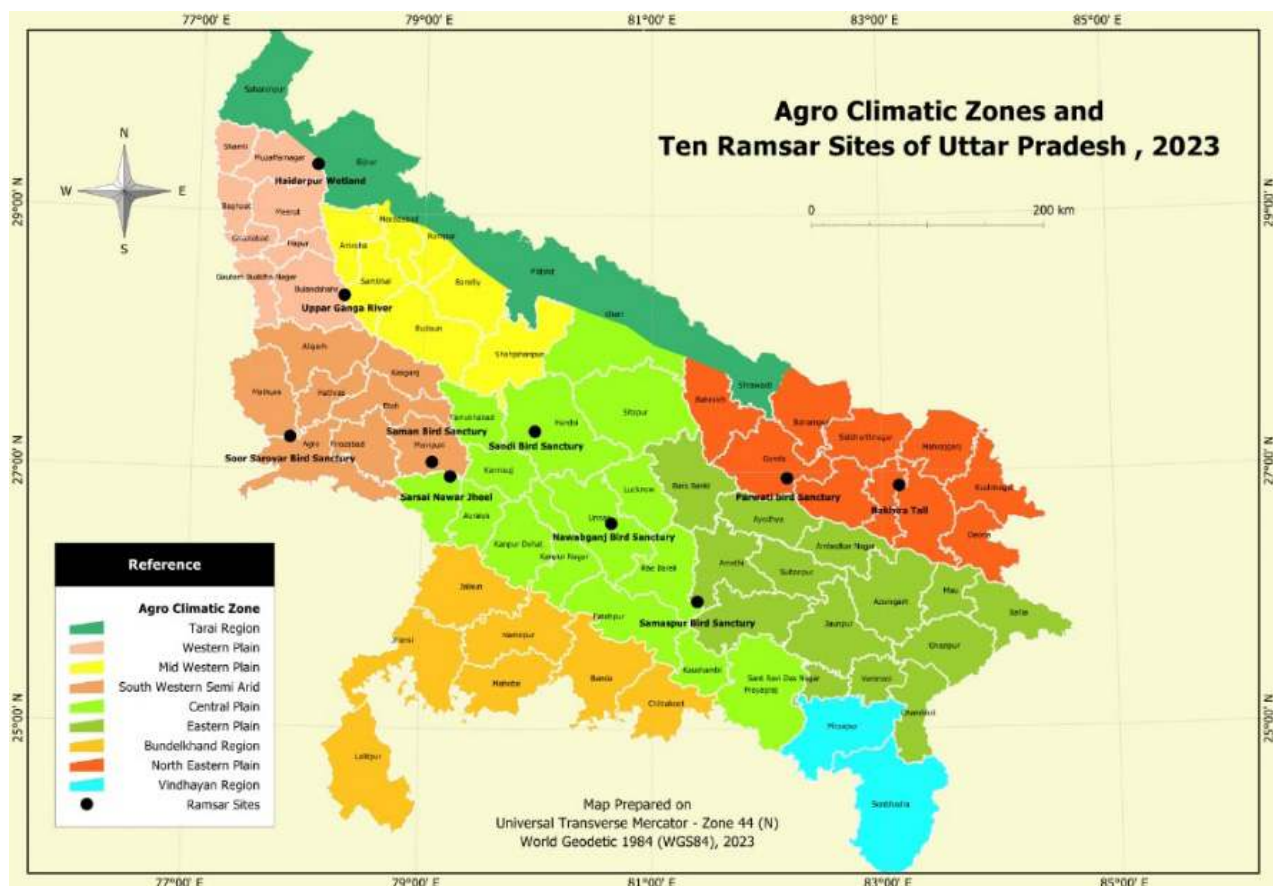


Figure-3: Agro Climatic Zones in Uttar Pradesh and spread of Ramsar Sites

[Map developed by Gorakhpur Environmental Action Group]

CEPA STRATEGY FOR UTTAR PRADESH: THE RATIONALE



Local communities, particularly those residing in close proximity to wetlands and reliant on the ecosystem services provided by these unique habitats, have an intricate relationship with the wetlands, since ages, and therefore, play a pivotal role in their sustainable management. Their deep-rooted traditional knowledge of natural resources and the intricacies of the local ecology empowers them to engage proactively and effectively in the long-term protection of the environment and the welfare of both natural ecosystems and human societies.

These communities draw essential resources such as water, food, fodder, fuel, etc. from the wetlands, and have been actually 'living with ecosystem' in a true sense. By harnessing their traditional knowledge, local citizens can contribute significantly to wetland restoration and undertake community-based conservation initiatives leading to wise use of wetlands without harming its ecology.

Specifically, women are vital to the future of the wetlands. Their distinct roles and experiences within societies supply women with unique knowledge and valuable perspectives on these all too-rapidly disappearing ecosystems. Women's role to manage resources for their families bring them closer to wetland ecosystems from where they harness resources including water, food, fodder, fuel, etc. which often gives them a deeper understanding, relationship with the environment, good understanding of biodiversity and a sense of ownership of these ecosystems to protect them. Equal involvement of women and men in decision-making in all matters is central to achieving an effective gender-responsive approach to the wise use, management and conservation of wetlands. Importantly, it helps ensure that efforts address the differential needs of both women and men, and that the distribution of benefits, resources, status and rights is equitable.

Local community groups (both informal and formal) play a very important role in protection of these wetland ecosystems by evolving and implementing rules and guidelines which can enhance the efficiency of relevant ecosystem services as well as keep a check on factors negatively impacting the wetlands.

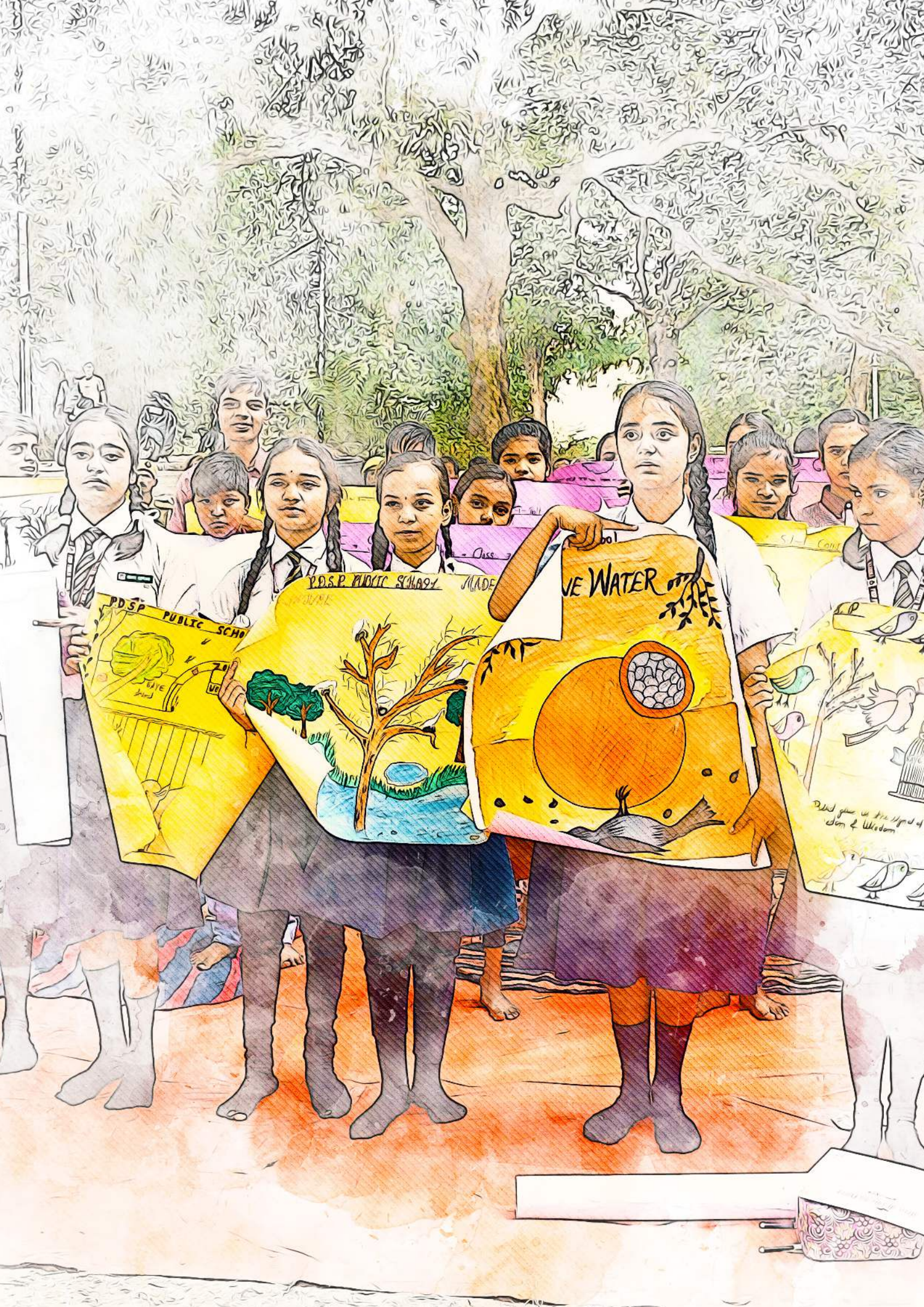




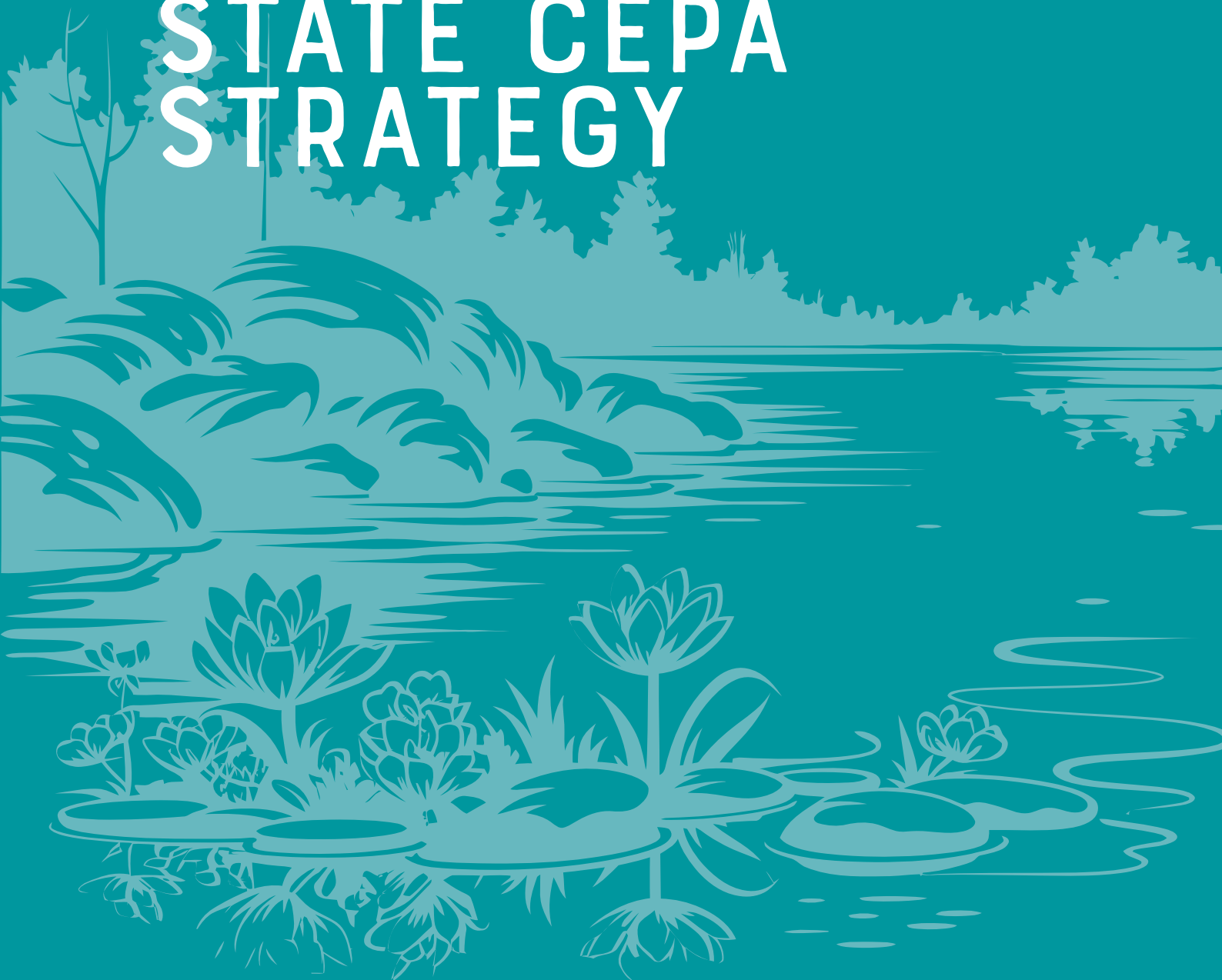
Therefore, for integrated management planning of wetlands, biodiversity, ecosystem services and climate risks are priority considerations towards which capacity building initiatives need to be focused. Towards conservation of wetlands from degradation and losses, strategic and targeted communication must be put in place to sensitise and build awareness in communities and other stakeholders. To operationalize this, the Convention on Wetlands' Programme on communication, capacity building, education, participation and awareness (CEPA), was adopted through Resolution XII.9 at COP12 in 2015. CEPA envisions to "prevent, stop and reverse the degradation of wetlands and use them wisely". The overarching goal is **"People taking action for the conservation and wise use of wetlands"**. Effective use of CEPA requires a planned systematic approach which reflects the interests of stakeholders and beneficiaries and is tailored to the local context, culture and traditions.

A State-level CEPA strategy for Uttar Pradesh has been developed which will be vital for protecting its Ramsar and other wetlands of national/international importance, as it will foster community involvement, enhance understanding, and build collective responsibility for wetland conservation. The CEPA strategy will equip stakeholders, from local residents and farmers to policymakers and students, with the knowledge and tools to understand the importance of these ecosystems, encouraging sustainable practices and behavior changes. Through education and participation initiatives, communities will learn about sustainable resource use, conservation techniques, and wise use of wetlands for their livelihoods. The active involvement will build a sense of ownership among locals, turning them into stewards of the wetland. Engaging diverse stakeholders through tailored communication campaigns and participatory programs, as outlined in this document, will ensure that Ramsar wetlands in Uttar Pradesh are protected, not just through regulations, but with the active commitment and awareness of those who rely on and benefit from these vital ecosystem services.

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STRATEGIC APPROACH TO DEVELOPING STATE CEPA STRATEGY



Active and engaging participation of local communities is central to sustainable preservation and protection of vital ecosystems. A well-thought-out communication strategy can help mobilize community participation effectively.

The strategic approach adopted for evolving CEPA strategies for citizen's engagement in wetlands management in UP, was as below:

The strategic approach entailed three important components:

- 1) The **"Wetland Ecosystem"**, providing essential ecosystem services and at the same time, facing various stresses and threats impeding its sustainability
- 2) The **Citizens (Individuals and Groups)** directly or indirectly linked with the wetlands
- 3) The concerned **Rules/Policies/Guidelines**, both formal and informal, influencing the conservation and management of wetlands.

Any linear effort for protection and maintenance of wetland ecosystems are not sustainable in the long-run. The relationship between wetland ecosystems, the related communities, and influencing governance regime are inter-connected and this is an important consideration in needed actions towards sustainability of these ecosystems.

These components and the interconnectedness are explained in detail as below:

1. Wetland System (Ramsar Sites) - Services and Stresses:

The 10 Ramsar Sites in Uttar Pradesh, spread across different agro-climatic zones, offer important ecosystem services- in the local ecological context- for the communities directly or indirectly dependent for its Provisioning, Regulating, Supporting and Cultural services, such as water for agriculture, fodder for livestock, recharge groundwater, buffer floods, maintaining life-cycles of migratory birds, nutrient recycling, nature-based tourism, recreation and so on. However, due to stresses caused by human interaction and natural causes, these wetlands are also under several threats such as pollution from agricultural run-off, habitat fragmentation, invasive species, over-grazing, tourism pressure, encroachment, excessive groundwater extraction, wastewater and sewage disposal, erosion, biodiversity loss, climate change impacts and so on. While the efficiency of wetland services needs to be enhanced, it is imperative to also reduce the threats and stresses, for which engagement of citizens is crucial.

2. Citizens (Individuals and Groups):

The citizens (individual and groups), directly or indirectly linked with wetlands and its services are broadly divided into two groups:

Primary level: This comprise of the local communities including men, women, children and youth living in the vicinity of wetlands who are the most important stakeholders, accessing the benefits of ecosystem services for their livelihood and wellbeing and play a pivotal role in management of wetlands and linked services. They have been living with wetlands and over a period of time, have acquired and developed knowledge about local ecological systems, framed local rules, policies and traditions helping in management of wetlands. The local Panchayats, NGOs, students, NCC, NYK, Mahila Mangal Dal, Yuvak Mangal Dal, Self Help Groups, Ganga Vichar Manch, Wetland Champions, other community institutions and leadership have played important role in protection and management of wetlands and its services.

Secondary level: Besides the citizens and local communities, there are individuals, groups and institutions having direct or indirect interests in ecosystem generated

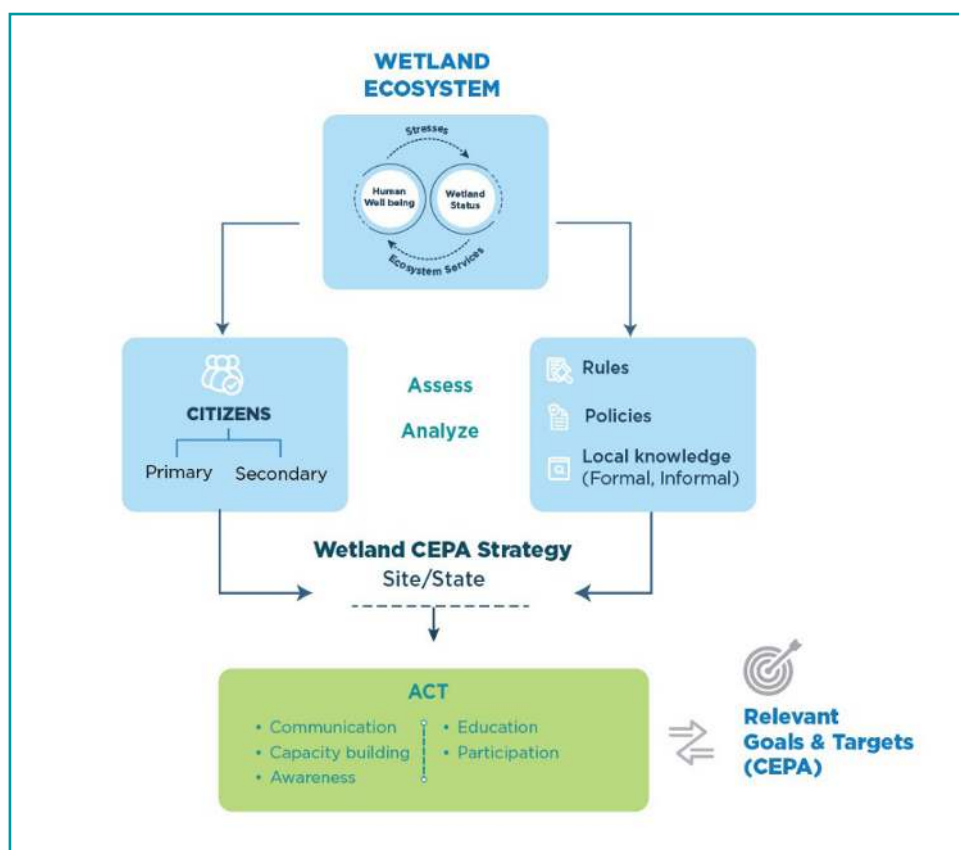


Figure-4: Strategic approach for evolving CEPA Strategy for Wetlands Management

services. Relevant government departments, elected representatives, tourists, knowledge institutions like schools, colleges having academic and educational interests, private sector, media, etc. are set of secondary stakeholders. The primary and secondary nature of stake may also change - depending on the interest areas.

The citizens' actions are influenced by prevailing policies, guidelines and local knowledge that impacts the management of wetlands.

3. Rules/Policies/Guidelines:

The rules/policies/guidelines, both formal and informal, play an important role in the maintenance and sustainability of wetlands and encourages/restricts in engagement of citizens. There are various policies and guidelines formulated by the national, state, and local agencies that work together to protect and conserve the wetlands, for instance, the Ministry of Environment, Forest and Climate Change (MoEFCC) and its Wetlands (Conservation and Management) Rules, 2017, National Wetlands Committee, State Wetland Authority, Uttar Pradesh, State Forest Department, State Pollution Control Board, Department of Agriculture, Department of Fisheries, Research and Academic Institutions, International Organisations and so on. The informal rules and policies developed by local community-based institutions, Panchayats and citizen groups also play an important role in sustainable management of wetlands.

Gorakhpur Environmental Action Group (GEAG) with the support of GIZ India worked on developing Ramsar/Nationally Important Site-specific Communication, Capacity building, Education, Participation, and Awareness (CEPA) strategies, based on the evolved understanding of the above three components and their inter-connectedness, to foster active engagement of citizens in wetland management. The 4 Site-specific CEPA strategies demonstrated different citizen engagement approaches and actions that could be taken for wise use of wetlands.

The relationship between wetland ecosystems, the related communities, and influencing governance regime are inter-connected and this is an important consideration in needed actions towards sustainability of these ecosystems.



The four wetland sites that were selected by GEAG, in consultation with GIZ India and Uttar Pradesh Environment, Forest and Climate Change Department for developing Site-specific CEPA strategies were as below:

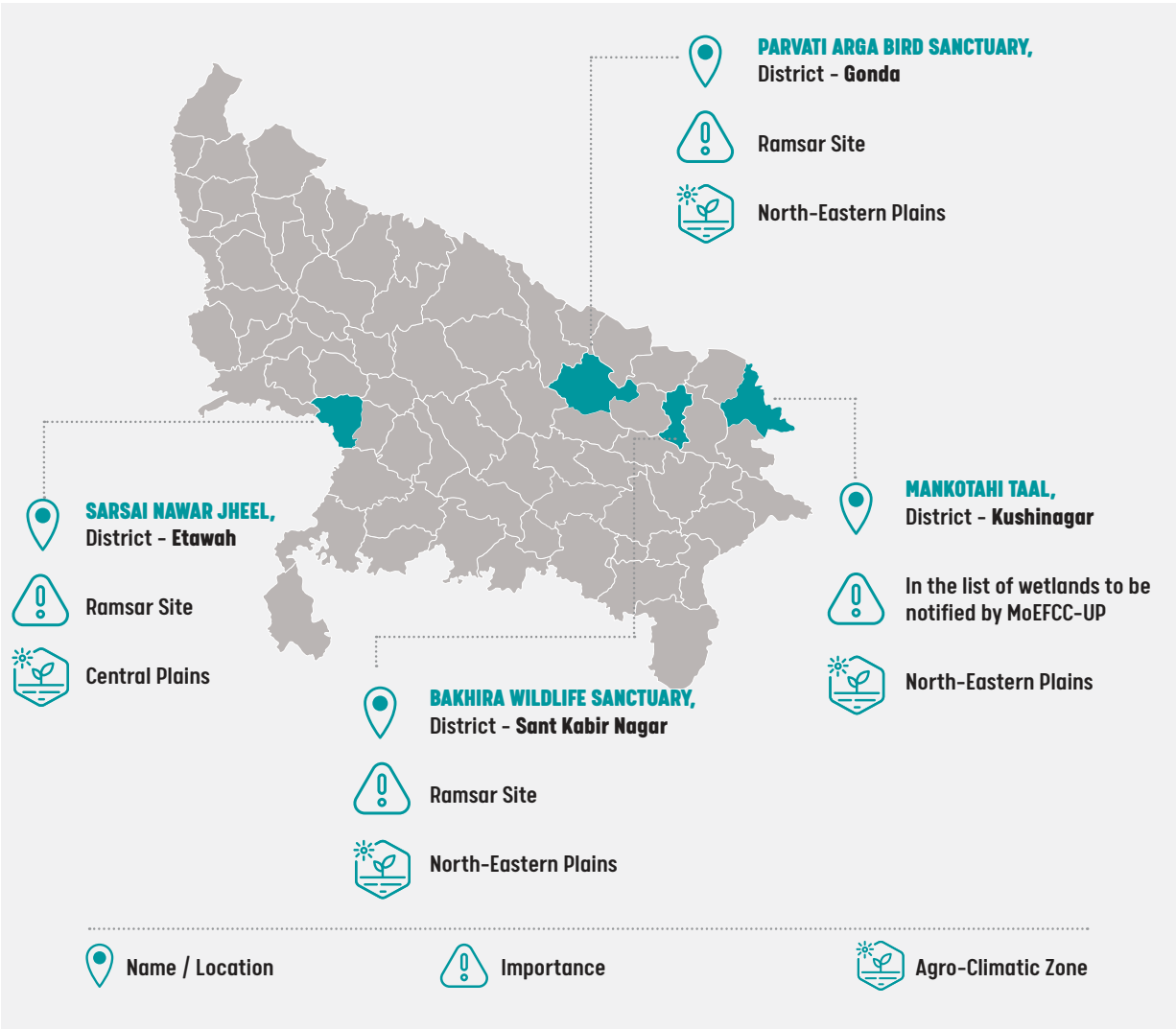


Figure-5: Four CEPA pilot intervention sites in Uttar Pradesh

Based on the experiences gained during the development of these Site-specific CEPA strategies along with secondary research of remaining Ramsar Sites in UP, this document was developed as State-level CEPA Strategy for wise use of wetlands in UP.

PEOPLE AND WETLANDS: CAPTURING LOCAL PERSPECTIVES



Historically, wetlands, and more generally, aquatic ecosystems, have been vital for humans. It is no accident that river valleys and their floodplains have been the focus of human civilizations since times immemorial. Wetlands, in a broad sense, are among the most productive ecosystems on the planet and are, thus, an important element in people's everyday life. Wetlands are used for water supply, food resources - including fishing, irrigation, recreation, religion and beliefs, transportation and communications, energy production, etc., but they also provide natural ecosystem services that are of tremendous importance to people, such as water production, filtration, storm prevention and flood mitigation, erosion control, groundwater recharge micro climate regulation, particularly rainfall and temperature.

Perception of wetlands is key to the relationship between people and wetlands. The perception of a wetland by a city inhabitant and by a villager is very different. And so the political perception of wetlands is also shaped by these individual perceptions, from a potential for tourism and economic development to sources of waste being drained into it and becoming breeding grounds for mosquitoes and other vectors.

Despite the different perceptions, wetlands play an equally vital role for the communities, especially those living around it as they get a range of services from the wetlands surrounding their village if they are maintained and managed appropriately. Wetlands are often the engines for the local economy, but as they become degraded, livelihoods and the potential for development are undermined. Often, local communities that have a high dependency on wetlands for their food or income are caught in a poverty trap, having no other option than to overexploit the natural resources. But by sensitizing communities and providing certain incentives to use wetlands wisely and diversifying livelihood options for local communities, it is possible to reverse this trend.

During the development of this state CEPA strategy, engagement and in-depth discussions were held with local communities, especially in the 4 wetland sites in districts Kushinagar,



Gonda, Etawah and Sant Kabir Nagar in UP, to understand their perspectives on the wetlands and the role they play in supporting their lives and livelihoods. Below are few perspectives as shared by the different community groups:

Farming Community:

The farmers connected with the surrounding wetlands hold a highly positive perspective toward the wetland's role in supporting their agricultural activities. They highlighted the following key benefits of the wetland:

- **Stable water levels:** The wetland helps to maintain a stable water level in the area, ensuring the soil remains moist for agriculture, which is essential for crop growth.
- **Water retention for agriculture:** The wetland supports water retention in fields, reducing the need for irrigation and making water resources more accessible.
- **Reduced pest infestation:** The presence of migratory and native birds in the wetland aids in natural pest control, lowering the prevalence of harmful pests in agricultural lands.
- **Main source for wetland-based farming:** The wetland sustains wetland-based agriculture, including water-intensive crops like water chestnut, paddy, water spinach, etc. which thrive in the region.
- **Support for Livestock:** The wetland provides essential resources for livestock and their feed, highlighting its importance for integrated farming systems in the area.

Fishing Community

- **Livelihood opportunity:** The wetland and water resources provide the community with livelihood opportunities, such as fishing and harvesting of edible aquatic species like snails, etc.
- **Enhancing biodiversity:** The wetland supports a rich diversity of fish species, which enhances biodiversity and sustains the local fishing economy.

Rural Communities living in the vicinity:

- **Micro climate regulation:** The presence of the wetland provides relief from extreme summer heat, dust storms, and cold waves in surrounding areas.
- **Cultural services:** The wetland is intertwined with the social and cultural lives of communities and serves as an importance source for various festivals and rituals.
- **Recreation:** The wetlands witness resident and migratory birds during mornings and evenings which is a good sight for recreation.
- **Provisioning services:** It provides valuable natural resources, including essential food supplies, fuel, and fodder.
- **Recharging groundwater:** The wetland helps in recharging groundwater due to which the nearby wells and handpumps do not go dry in summers.

Women groups:

- **Cultural values:** The wetland holds significant value in our religious and cultural practices, deeply enriching our traditions and heritage.
- **Resources:** It provides essential access to natural resources for everyone, including

During the development of this state CEPA strategy, engagement and in-depth discussions were held with local communities to understand their perspectives on the wetlands and the role they play in supporting their lives and livelihoods.



materials like fodder, medicinal plants, and craft supplies.

- **Livelihood options:** The wetland supports various livelihood options, such as lotus flower and its roots, grass weaving of carpets/baskets, water spinach, etc. which are crucial sources of income for local communities.

Youth and Children:

- **Recreation:** The wetland area provides an ideal location for morning and evening walks, promoting good health and well-being for the community.
- **Bird watching:** It attracts a variety of migratory and local birds, creating a scenic environment that people enjoy observing.
- **Ecological balance:** The wetland plays a crucial role in maintaining ecological balance in our surroundings, supporting biodiversity conservation.
- **Potential for developing Eco-Tourism:** Developing the wetland area as an ecotourism center could create employment opportunities for local youth, benefiting the entire community.

Local Governance:

- It is essential for farmers that the wetland boundaries be clearly demarcated to prevent encroachment and maintain its integrity.
- Regular cleaning of the water sources and de-silting of the wetland regularly is necessary to preserve the wetland ecosystem.
- The role and responsibility of the Gram Panchayats in the maintenance and conservation of the wetland need to be clearly defined and enforced.
- Fishing communities should prioritize selection of those fish species that supports wetland biodiversity and do not disturb the wetland ecosystem.
- Farmers should reduce reliance on chemical pesticides in favor of organic practices to protect the aquatic life in and around the wetland.
- Promoting sustainable livelihood options in the wetland area will encourage conservation efforts and reduce over-extraction.
- Resolving conflicts between communities and the District Wetland Committees/Forest Departments, etc. is essential towards sustainable wetland management.
- Clear roles and responsibilities, transparency and accountability of various stakeholders are crucial in safeguarding the wetland's conservation efforts.

Ownership Perspectives:

- Local communities want to keep the wetland area clean and well-maintained.
- Communities used to take ownership of the wetlands and had an understanding to protect/conservate it. However, due to the restrictions imposed after declaration of protected areas such as Bird or Wildlife Sanctuaries, there has been a disconnect between communities and wetland and hence, their interest has gradually declined in conservation efforts.
- The community takes responsibility for ensuring that the water storage is maintained in the wetland.



WOMEN AND WETLANDS

Women play a central role in providing, managing, and safeguarding wetland and water resources. Given their close link with water, women are often highly aware of the importance of wetlands and water to livelihoods. The degradation and loss of wetlands also has gender differentiated impacts, for example, on the availability of water for household and agricultural use.

With respect to gender equality, the Ramsar Convention's Strategic Plan (2016–2024) recognizes the direct relevance of wetlands to the achievement of all the Sustainable Development Goals, including Goal 5 on Gender Equality and Goal 6 on Water⁶. One of the Convention's resolutions on culture also includes a principle to “take into account culturally appropriate treatment of gender, age and social role issues” in the management of wetlands (Ramsar Resolution VIII.19 on the cultural values of wetlands)⁷. The Convention's Strategic Plan and many of its resolutions on communities, Indigenous peoples, and culture further support global objectives linked to women and gender equality, such as the Kunming-Montreal Global Biodiversity Framework⁸ Target 22 which emphasizes on ensuring the full, equitable, inclusive, effective and gender-responsive representation and participation in decision-making, and access to justice and information related to biodiversity by indigenous peoples and local communities, respecting their cultures and their rights over lands, territories, resources, and traditional knowledge, as well as by women and girls, children and youth, and persons with disabilities and ensure the full protection of environmental human rights defenders. Further, the Target-23 specifically focusses on ensuring a gender equality and a gender-responsive approach for biodiversity action.

The Convention's Strategic Plan and many of its resolutions on communities, Indigenous peoples, and culture further support global objectives linked to women and gender equality



⁶ The 4th Strategic Plan 2016 – 2024. The Ramsar Convention on Wetlands [online] [2015].

⁷ <https://www.ramsar.org/>

⁸ <https://www.cbd.int/gbf/targets>

In India, women have been environmental stewards since ancient times. The presence of *Tulsi* plant in almost every Indian home and Peepal trees in villages reflect their deep-rooted connection to nature. They have historically practiced rituals of offering food, conserving water, and respecting land, fostering an environmental ethos that honors every element of nature. Indian women have always contributed to conservation efforts, resisting any harm to the environment. India's history is full of environmental movements led by women, such as the Chipko Movement, Narmada Bachao Andolan, Save the Forests, and Navdanya Movement, which continue to inspire conservation.

Wetlands are a crucial part of our ecosystem and are closely linked to human society. Protecting wetland biodiversity is essential to sustain its ecological role, which has become an urgent issue today. In society, women are especially proactive in conserving natural resources, including wetlands. They lead the way in sustainably using, maintaining, and safeguarding resources, ensuring they are available for future generations.

Natural resources like land, water, wetlands, forests, and wildlife are integral to women's daily lives, supporting activities like gathering firewood, livestock rearing, water collection, and bamboo work. Women are actively involved in various traditional livelihood activities, including fishing, boat management, grazing animals, using clay for household items, and weaving. Local women through Self-Help Groups (SHGs), manage and monetize resources from the wetland to support their families. In addition to earning a livelihood, they also preserve cultural practices such as singing, folklore, and festivals. This connection empowers women to act as natural resource custodians, building bonds between people and their surrounding wetlands.

In particular, women play an essential role in wetland conservation by:

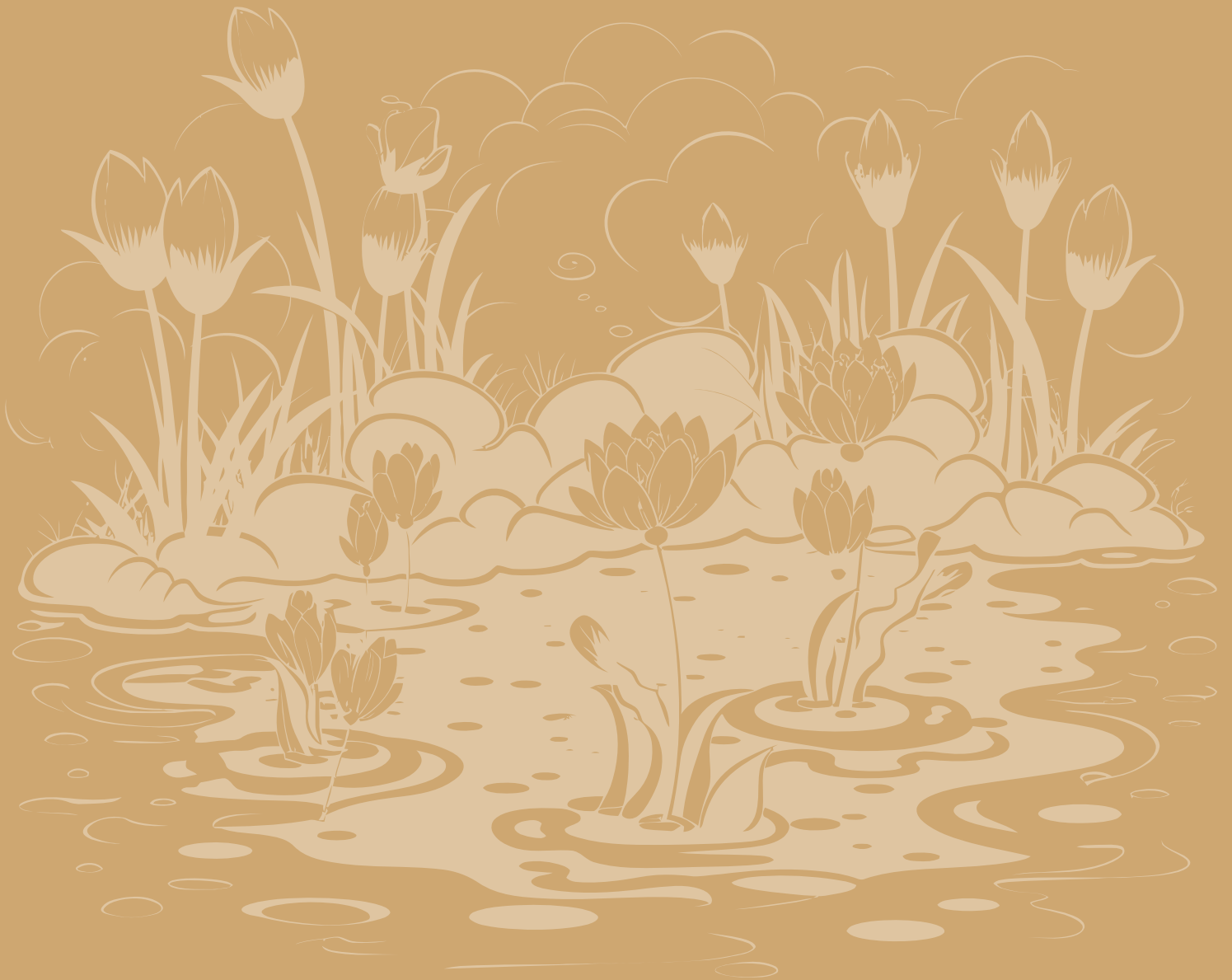
- Leading and promoting sustainable wetland usage for its protection.
- Actively participating in wetland management to ensure continuous access to its resources, preventing overuse.
- Taking initiatives for waste and debris management in the wetland.
- Ensuring its cultural significance by maintaining cleanliness and promoting a healthy environment.

Through these efforts, women emerge as pivotal leaders in protecting wetlands and fostering sustainable relationships between nature and the community.

Wetlands are a crucial part of our ecosystem and are closely linked to human society. Protecting wetland biodiversity is essential to sustain its ecological role, which has become an urgent issue today.



WETLAND ECOSYSTEM – MAPPING VALUES AND BENEFITS



Following the strategic approach towards developing the state CEPA strategy for UP, the values and benefits being derived as ecosystem services from the 4 wetlands in UP were assessed using the Rapid Assessment of Wetland Ecosystem Services (RAWES) Approach (Resolution XIII.17) of the Ramsar Convention on Wetlands. The RAWES approach has services grouped into functional categories, which were originally defined in the Millennium Ecosystem Assessment, namely provisioning, regulating, cultural and supporting services, acts as an initial structured framework. It also recognizes the functioning and resilience of productive ecosystems rather than valuation. RAWES is designed as a simple and rapid site assessment system that may obtain input from existing studies but does not rely on detailed, quantitative assessments.

Using the RAWES approach as a guiding document, the assessment of Ecosystem Services was done in the 4 wetlands using participatory discussions with local stakeholders and various line departments to understand the major ecosystem services provided by these wetlands which are summarised as below:



Ecosystem Services	Categories	How important?				Description of benefits	Key Strategic Directions for evolving CEPA
		Mankotahi Taal, Kushinagar	Parvati Arga Bird Sanctuary, Gonda	Sarsai Nawar Jheel, Etawah	Bakhira Wildlife Sanctuary, Sant Kabir Nagar		
Provisioning	Food, Fibre and Fuel Production	++	+	+	++	- The wetlands provide essential resources such as fish, prawns, fodder, water, fuelwood, grasses, snails, lotus roots, and aquatic plants, fruits and vegetables. - It also offers a reliable source of pure water and helps maintain soil moisture for a longer period in surrounding fields. - Additionally, the wetland region supplies medicinal plants like Nagarmotha (Nut Grass), Water Spinach, etc. to the community, supporting both health and livelihoods.	- The valuable resources obtained from the wetland area, including food materials, medicinal plants, and various plant-based raw materials, should be sustainably harvested and maintained to ensure the long-term health of the wetland ecosystem. A regulated and mindful use of these natural resources is essential to prevent adverse impacts on the wetland's conservation. Hence, a "Wise Use" approach of the wetland need to be strictly adopted. - Strict adherence to the Wetlands [Conservation and Management] Rules, 2017 and the Wildlife [Protection] Act, 1972 must be ensured to protect biodiversity and support sustainable resource use within the wetland ecosystem. - The role of the wetland is currently centered almost exclusively on the conservation of bird species, often overlooking the broader, interdependent ecological and social systems that the wetland supports. This singular focus on avian protection neglects the wetland's multifaceted benefits to local communities and ecosystems. Therefore, the need is to move towards integrated and multi-disciplinary approach for wetland management. The MoEFCC's flagship scheme NPCA recommends that the management of wetlands is guided by an Integrated Management Plan, and therefore, this approach need to be adopted. - A thorough identification and inventory of medicinal plants within the wetland ecosystem should be developed, supported by a taxonomical study to accurately document and understand floral diversity. This study will provide essential information on the types and uses of native medicinal plants, which can be shared with the local community to raise awareness and promote conservation. Educating the community on the ecological and potential health benefits of these plants can empower them to participate actively in preserving this botanical diversity, ensuring the wetland's role as a resource for traditional medicine is valued and protected. - Capacity building programmes should be organized for Government officials on identifying and managing invasive species, focusing on both flora and fauna, that may disrupt the native ecosystem so that they can better prevent the spread of invasive species, maintain ecological balance, and preserve native biodiversity.
	Fresh Water Supply		+	++	+		
	Medicinal Plants			+			

Ecosystem Services	Categories	How important?				Description of benefits	Key Strategic Directions for evolving CEPA
		Mankotahi Taal, Kushinagar	Parvati Arga Bird Sanctuary, Gonda	Sarsai Nawar Jheel, Etawah	Bakhira Wildlife Sanctuary, Sant Kabir Nagar		
Regulating	Erosion Control		++	++	+	The wetland area helps in maintaining stable groundwater levels, controls soil erosion, and regulates groundwater recharge, thus supporting the local environment while also protecting against future droughts and diseases. For instance, in Sarsai Nawar Wetland, Etawah and Parvati Arga Wetland in Gonda, the water levels within a 40-50 feet radius around the wetland are significantly higher. Just 8-10 meters away from the wetland, the water level increases to around 80-90 feet, highlighting the wetland's critical role in sustaining groundwater for the region.	To preserve the ecosystem services provided by wetlands, it is crucial to establish well-defined boundaries and strictly regulate encroachment. Clear boundary demarcation should be supported by ongoing monitoring to prevent unregulated expansion into wetland areas. Additionally, maintaining natural water flow and hydrological connections with both inlet channels and water sources is essential for sustaining wetland health. To ensure stable water levels year-round, a selective, minimal sediment removal strategy should be implemented. This approach will preserve the wetland's ecological balance, minimizing habitat disruption and allowing native flora and fauna to thrive.
	Water Regulation/Purification						
	Disease		++	++	+		
	Local climate regulation	++	++	++	++		
	Fire regulation	+	+	++	0		
	Flood/Waterlogging regulation	+	+	+	+		
Cultural	Aesthetic value	++	++	+	+	The wetland area is deeply interwoven with community traditions and activities, including seasonal worship, fairs, and important ceremonies like weddings. During these events, the community builds a strong and essential connection with the wetland. Local schools also make use of the area, taking students on educational tours to enhance learning and build awareness. Additionally, researchers find the wetland valuable for scientific studies. The surrounding community benefits from the natural environment, using the area for walks and outdoor activities that promote health and well-being, further strengthening their bond with the wetland ecosystem.	■ Educational Outreach: Promote visits to wetlands by nearby educational institutions. Engaging students and educators in wetland visits can foster early awareness and inspire active participation in conservation efforts. Structured educational experiences should highlight the ecological importance and diverse species found within these ecosystems. ■ Resource-Sensitive Management: At the local level, a flexible management approach should be developed to protect wetlands from degradation. Emphasize sustainable practices for natural resource use, such as regulated harvests of cultural resources and plants associated with wetlands, ensuring both environmental sustainability and community benefit. ■ Research and Awareness: Enhance research initiatives focused on wetland ecosystems and biodiversity. Clear understanding through research is necessary for long-term preservation and to educate local communities on the value of biodiversity, encouraging sustainable interactions with these natural resources.
	Recreation	++	+	+	+		
	Spiritual and religious value	++	+	++	++		
	Educational and research	+	+	+	+		
	Cultural heritage	++	+	++	++		

Ecosystem Services	Categories	How important?				Description of benefits	Key Strategic Directions for evolving CEPA
		Mankotahi Taal, Kushinagar	Parvati Arga Bird Sanctuary, Gonda	Sarsai Nawar Jheel, Etawah	Bakhira Wildlife Sanctuary, Sant Kabir Nagar		
Supporting	Habitat	++	++	++	++	The wetlands are playing a crucial role in supporting agricultural productivity on nearby arable lands by enriching the soil and providing habitat for diverse migratory and local species, including various fish, crabs, snails, frogs, and water birds, which collectively contribute to biodiversity conservation and ecosystem stability. Additionally, the wetland helps local communities maintain their livelihoods by supplying organic compost, which is essential for soil health. However, in the absence of proper boundary demarcation and limitations, solid and liquid waste pollution from various sources is increasingly affecting the wetland area, threatening its sustainability and ecological integrity.	■ Sustainable Runoff and Waste Management: Establish a waste management plan focusing on filtering out untreated wastewater, solid waste and chemical-laden runoff. Implement pollution control measures to reduce negative impacts on wetland quality and ensure the sustainability of ecosystem services. ■ Conservation of Native Species: Maintain wetland habitat integrity by reducing invasive plant encroachment and preserving native vegetation. This approach will support local wildlife species that depend on these habitats and maintain ecological balance within the wetland area. ■ Sediment Control and Community Engagement: Implement regulated usage guidelines for external soil/clay entering the wetland area. Establish community guidelines that promote responsible interactions with the ecosystem to prevent excessive buildup of materials that could alter the wetland's natural state.
	Waste assimilation						
	Soil formation	+					

Keys

++ Significant positive benefit

+ Positive benefit

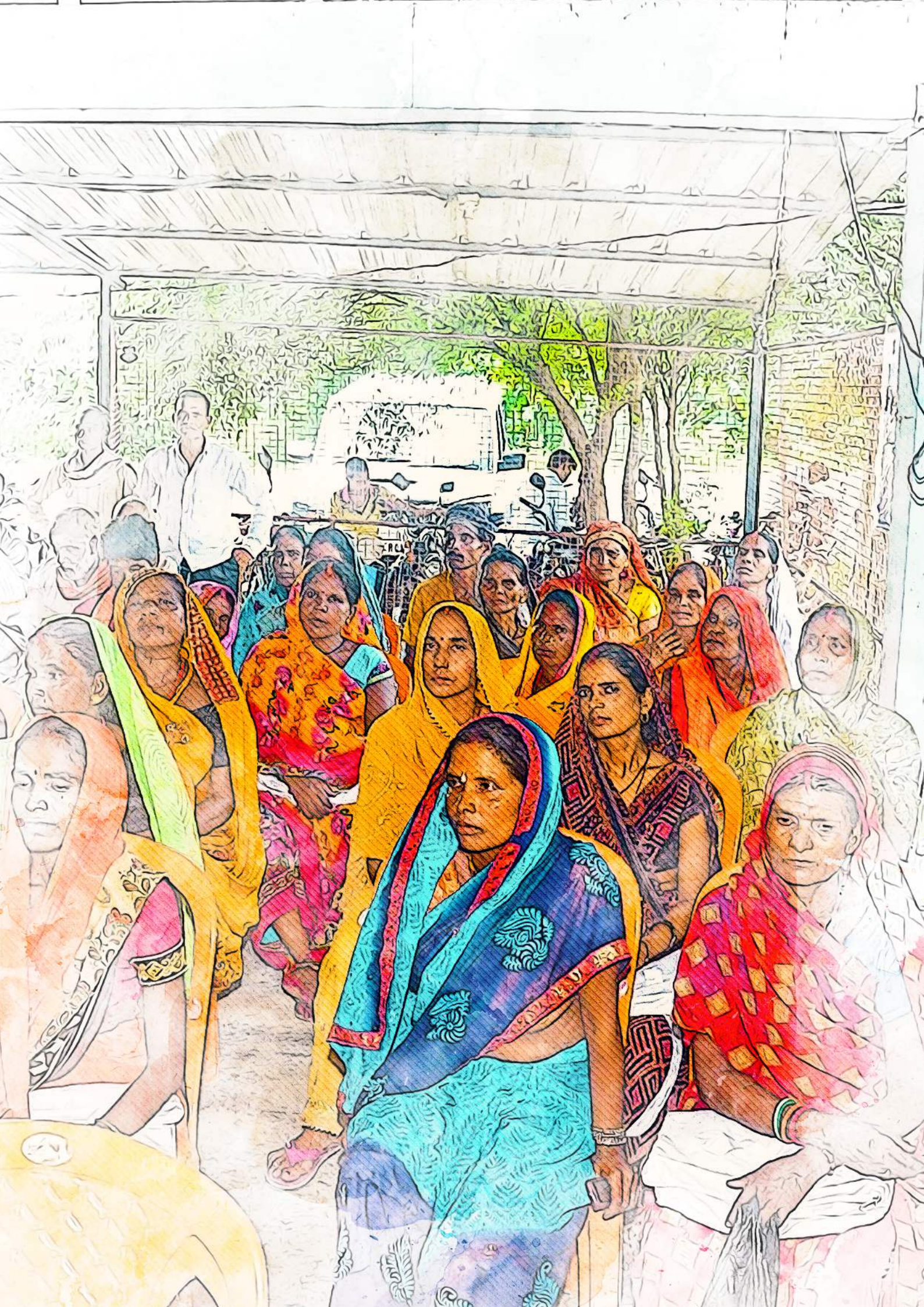
0 Negligible benefit

-- Significant negative benefit

- Negative benefit

? Gaps in evidence





THREATS TO WETLANDS



Despite being the source of a range of benefits, wetlands have been drained, filled and converted for alternate uses in almost all parts of the world. In India, nearly one-third of the natural wetlands have been lost in the last three decades alone⁹. As wetlands degrade, the benefits provided naturally by these ecosystems are lost, impacting survival of species as well as livelihoods of dependent communities.

In Uttar Pradesh too, as seen in the 4 selected wetland sites and through the secondary researches of other wetlands in the state, there are several threats that are impeding the sustainability of wetland ecosystems. Some of the major threats to wetlands, as observed, in Uttar Pradesh are discussed below:

1. Pollution:

Lack of adequate waste management infrastructure has led wetlands to become waste receptacles. Agricultural intensification and the increased use of chemical fertilizers have resulted in negative impacts on the water quality within rural wetlands. For instance, most of wetlands in UP are in an advanced state of eutrophication due to the discharge of untreated sewage as well as runoff from agricultural fields.

As observed during the formulation of this strategy document, farmers are engaged in large scale water chestnut farming, tobacco cultivation and cereal crop production, with intensive use of chemical fertilizers and pesticides. This is directly polluting the wetland and degrading the ecosystem services, also harming the biodiversity in the wetland area. In Mankotahi Taal in district Kushinagar, the wetland is leased out for fish farming and the fishers dump large amounts of cow dung, poultry and duck excreta, dead animal flesh, chemical fertilizers, and pesticides into the wetland to rear fishes. As a result, almost no vegetation has remained within the wetland. On the other hand, the peripheral areas of the Parvati Arga wetland in district Gonda, have become dumping ground for hospital and other solid waste from nearby markets, which is causing ill-effects on the wetland. Moreover, lack of community toilets surrounding the wetland area, lead to open defecation during any festivals/fairs/wedding/events that are organized near the wetland. This leads to contamination of wetland waters.

2. Over-extraction of resources:

Owing to high livelihood dependence, wetlands are subjected to over-extraction of resources for enhancing provisioning services such as fuel wood, fish, water, etc. at the cost of regulating and cultural services. Uses of harmful fish farming practices, such as dumping large amounts of chemicals, cow dung, animal excreta and flesh, etc., are prevalent in wetlands, as observed in Mankotahi Taal. Wetland biodiversity is also put under stress by loss through catch. Varying inundation regimes are often modified to suit agriculture and aquaculture uses. Over-extraction of water for agriculture and other purposes attributes to shrinkage of water spread area in wetlands.

3. Alteration of natural hydrological regimes:

Water regimes govern biodiversity and ecosystem services of wetlands. The natural water connections to the wetland in the form of rivers, canals, drains, and even rainfall pattern – play a crucial role in maintaining the hydrological processes. Alteration of natural hydrological regimes often leads to reduced water availability, altered hydro-period, loss of connectivity with biodiversity habitats, impeded nutrient exchange and other

⁹ <https://south-asia.wetlands.org/news/conserving-wetlands-biodiversity-bending-the-biodiversity-loss-curve/>

processes which significantly enhance their degradation.

In several instances, lack of consideration of the inflows into the wetlands has created adverse impacts on its ecosystem services and aquatic habitats. For instance, in Bakhira Wildlife Sanctuary, construction of roads and embankments have led to a disconnect between the river Rapti channels and the lake which has reduced the inflow of fresh water into the lake, leaving it to be a rainfed wetland or from the contaminated water from the nearby households. Similarly, in the Mankotahi Taal, Kushinagar, the inlet channels are either encroached or filled with garbage and solid waste, obstructing the flow of water from the nearby villages into the wetland. As a result, only 30% of the total wetland area (103 hectares) has water while rest of the area is dried up. Agricultural residues, contaminants from fishing activities and eroded soil has reduced the capacity of the wetland for regulating flow regimes.

4. Siltation:

Wetland degradation is also caused by siltation which is yet another significant threat. Improper management of crop residues and lack of plantation in the periphery of wetlands aids in flow of solid waste/residues in the wetland, thereby increasing siltation. Moreover, soil erosion due to erratic rainfall and water run-off also leads to accumulation of silt in the wetland bed. The solid and liquid waste, especially plastic waste, from surrounding households and markets – all flow into the wetland without any checks, thus, polluting the wetlands and degrading its water quality.

5. Climate change:

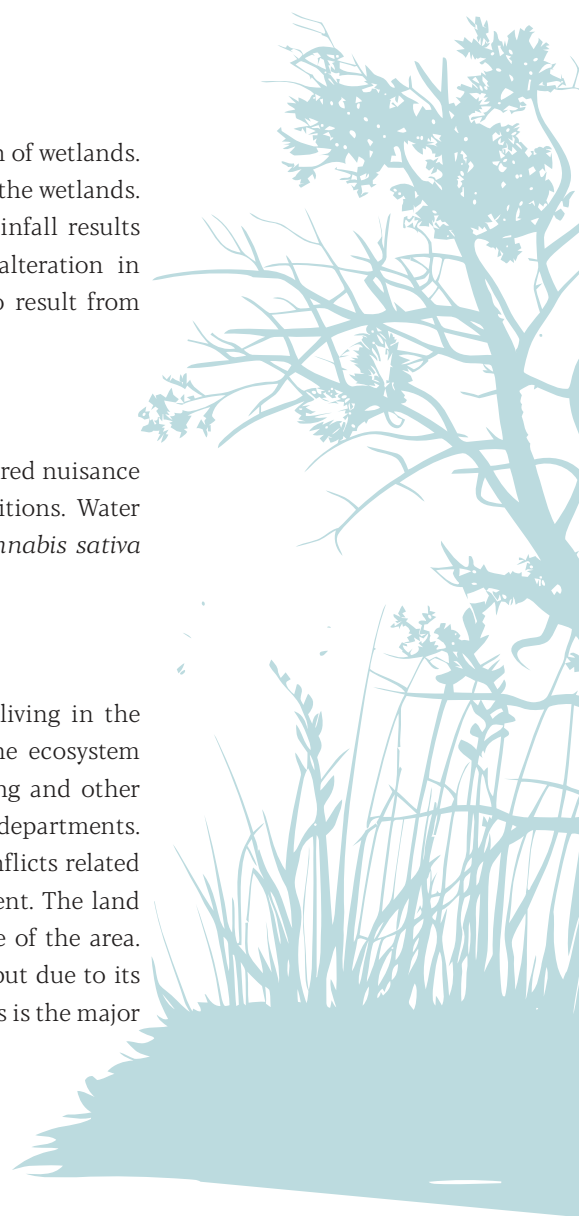
Climate change has emerged as an important driver of loss and degradation of wetlands. Erratic rainfall with increased intensity leads to run-off and soil erosion in the wetlands. As most of the wetlands have become rainfed, long dry spells or less rainfall results in wetlands without water/less water. The wetlands are at risk from alteration in hydrological regimes, eutrophication, and algal blooms that are likely to result from increasing temperatures.

6. Invasive species:

Most of the wetlands have been invaded by exotic species, which have acquired nuisance proportions considerably influencing the native biota and habitat conditions. Water hyacinth (*Eichhornia crassipes*), occurs almost in every wetland and *Cannabis sativa* has also gradually infested several wetlands.

7. Conflicts:

After the declaration of Bird or Wildlife Sanctuaries, the communities living in the adjoining villages near the wetland sites are not able to freely access the ecosystem services of the wetland. Communities are often engaging in illegal fishing and other activities which is leading to conflicts with the Forest and other related departments. Lack of proper demarcation of wetland boundaries is also resulting in conflicts related to land use. Earlier, the wetlands were under the Panchayati Raj department. The land pattas were given to farmers without taking into cognizance the land use of the area. Currently, most farmers have their land in and around the wetland area but due to its being a protected area, the farmers are denied access to their lands, etc. This is the major issue of conflict, as observed in several places.





STAKEHOLDER MAPPING



Wetland management is a multi-sectoral endeavor with many interactions, trade-offs, and implications. Therefore, it is imperative to involve all relevant sectors and stakeholders at local, national, regional, and international levels, factoring in their expertise while framing management objectives and actions (Principle 12 of the CBD Ecosystem Approach).

Stakeholder mapping was a critical step in developing an effective CEPA state strategy for wetlands in UP. It involved identifying and analyzing the diverse groups who were either positively or negatively impacting wetlands and its conservation.

The stakeholders were mapped at three levels:

- **Primary stakeholders**, who comprised of local citizens including men, women, children and youth living in the vicinity of wetlands, accessing benefits of ecosystem services for their livelihood and wellbeing and have been playing a pivotal role in management of wetlands and linked services. These people have been living with wetlands since ages and over a period of time, acquired and developed knowledge about local ecological systems, framed local rules, policies and traditions helping in management of wetlands. Primary stakeholders mainly comprise of the local communities, Panchayats, NGOs, students, NCC, NYK, Self Help Groups, Ganga Vihar Manch, Wetland champions, other community institutions and leadership that have played important role in protection and management of wetlands and its services.
- **Secondary stakeholders**, including individuals, groups, government agencies, institutions, private sector, etc. having direct or indirect interests in ecosystem generated services. Relevant government departments, elected representatives, tourists, knowledge institutions like schools, colleges having academic and educational interests, private sector, media, etc are set of secondary stakeholders.
- **Regulatory Authorities**, including the MoEF&CC who issued the Wetlands (Conservation and Management) Rules, 2017, and established a regulatory framework for wetland conservation and management. In Uttar Pradesh, the State Wetland Authority holds the supreme responsibility of conservation of wetlands and its wise use. At the district level, there are the District Wetland Committees whose task is to ensure that the Wetland Rules, 2017 are enforced and the wetlands in the district are conserved.

The primary and secondary nature of stake also changed - depending on the interest areas. Each stakeholder brought in unique perspectives, making their roles essential for a cohesive strategy. By understanding each group's interests, concerns, and capacities, CEPA strategies were tailored to promote targeted awareness, enhance community participation, and build collaborative partnerships.

Adopting a logical approach to formulating state CEPA strategy, the identification of key stakeholders (both primary and secondary) was done vis-à-vis the threats evolved in the wetlands. The principle behind this was basically to identify those stakeholders who were either positively or negatively contributing to wetland improvement/degradation. This exercise was quite meaningful in identifying specific target groups (stakeholders) for whom a tailored CEPA strategy/action needs to be devised to enhance their capacities towards wetland's wise use.

The identification of stakeholders was done through Causal Loop Diagramming (CLD) exercise followed by participatory discussions with related groups. Once the ecosystem services being provided by the wetlands was mapped in consultation with local communities, a participatory CLD exercise was done with them and the associated stakeholders to understand the causes and sub-causes of wetland degradation. Further, sub-causes of these main causes for wetland degradation were also mapped according to which the stakeholders were also identified vis-à-vis wetland degradation who are negatively contributing/ responsible for wetland degradation.

A Knowledge, Attitude, Practice (KAP) mapping exercise was done through a series of consultations with these identified stakeholders to understand their awareness, knowledge and practices they adopt while drawing out services from wetlands. The idea was also to understand their role in the identified wetland threats.

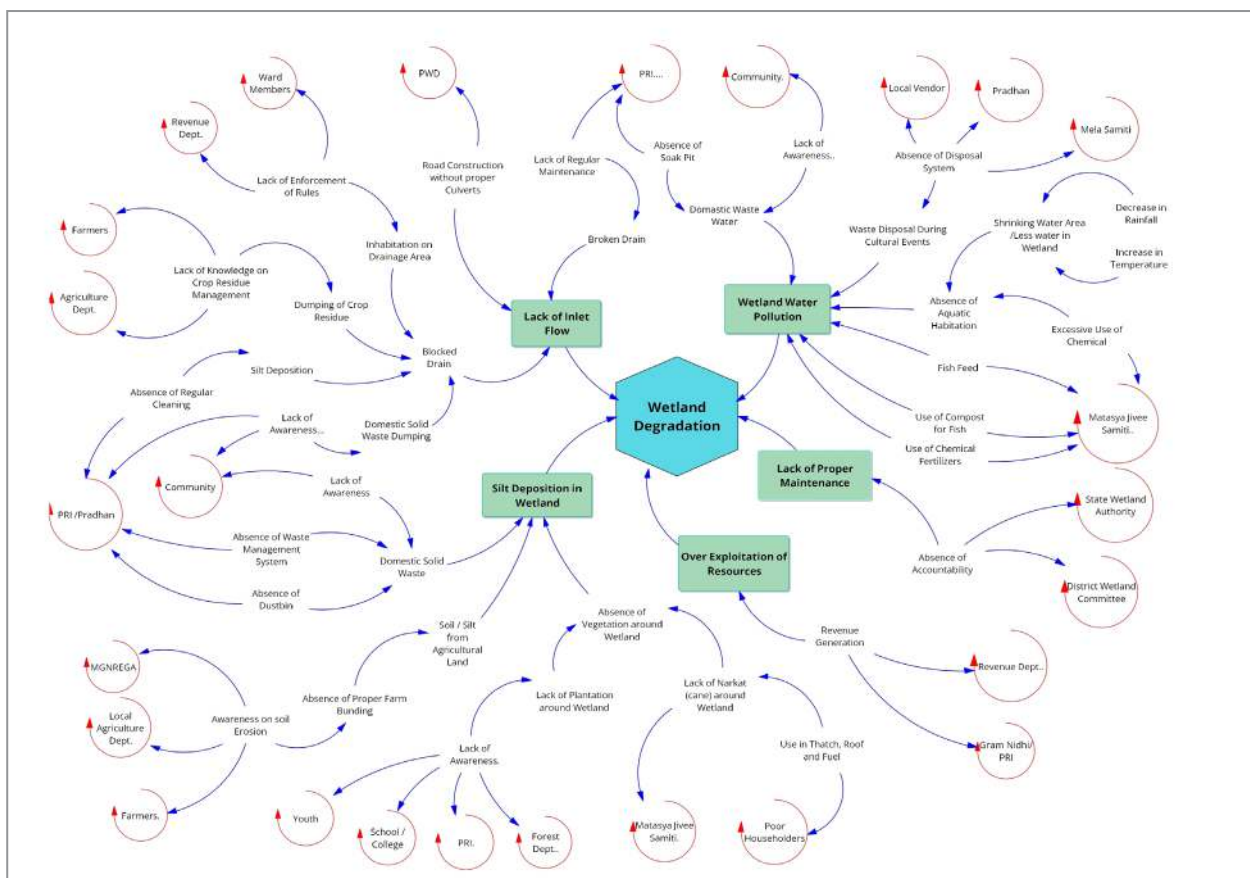


Figure-6: Causal Loop Diagramming exercise to understand causes and sub-causes of wetland degradation

Based on these analyses, the stakeholders were prioritized who have a crucial role to play in wetland degradation and also have the potential to improve the wetland conditions. Below is the list of identified stakeholders in UP:

Degradation Factors	Stakeholders	Primary / Secondary	Individual / Institutional
Siltation	Forest Department	Secondary	Institutional
	Youth	Primary	Individual
	School/College	Primary	Institutional
	PRI/Pradhan	Primary	Institutional
	Communities adjacent to wetland	Primary	Individual
	Agriculture Department	Secondary	Institutional
	Matsya Jeevi Samiti	Primary	Institutional
	Horticulture Dept.	Secondary	Institutional
	Bhumi Sudhar Dept	Secondary	Institutional
	Forest Department	Secondary	Institutional
	Temple devotees	Primary	Individual
	Temple Management Committee	Primary	Institutional
Alteration of natural hydrological regimes	Farmers living adjacent to wetland	Primary	Individual
	PRI/Pradhan	Primary	Institutional
	Ward Members	Primary	Institutional
	Revenue Department	Secondary	Institutional
	Agriculture Department	Secondary	Institutional
	Public Works Department	Secondary	Institutional
	Irrigation Department	Secondary	Institutional
	Forest Department	Secondary	Institutional
	Rural Development Department	Secondary	Institutional
Over Exploitation of Resources	Revenue Department	Secondary	Institutional
	PRI/ Ward Member	Primary	Institutional
	District Wetland Committee	Regulatory	Institutional
	Fisheries Department	Secondary	Institutional
	Agriculture and Forest Department	Secondary	Institutional
Conflicts – leading to improper management	District Wetland Committee	Regulatory	Institutional
	State Wetland Authority	Regulatory	Institutional
	Revenue Dept	Secondary	Institutional
	PRI/ Ward Member	Primary	Institutional
	Community adjacent to wetland	Primary	Individual
	Forest Department	Secondary	Institutional
	Agriculture Department	Secondary	Institutional
Pollution	Farmers adjacent to wetland (growing vegetables/cereals/tobacco/water chestnut, etc. with intensive chemical based inputs)	Primary	Individual
	Agriculture Dept.	Secondary	Institutional
	Mela Samiti	Primary	Institutional
	Local Vendors	Primary	Individual
	Matsya Jeevi Samiti (Fishing Cooperatives)	Primary	Institutional
	Adjoining community	Primary	Individual
	PRI/Ward Members	Primary	Institutional
	Pollution Control Board	Secondary	Institutional
	District Wetland Committee	Regulatory	Institutional
	Eco Development Committee	Primary	Institutional

Given the range of stakeholders involved directly or indirectly with the wetland management in UP, it was realized that a multi-stakeholder engagement approach is essential for the wise use of wetlands, where these ecosystems face challenges from rapid urbanization, agricultural encroachment, and pollution. Engaging a diverse array of stakeholders—including government bodies, local communities, farmers, environmental NGOs, researchers, and private industries—will ensure that conservation strategies are both comprehensive and sustainable. Each group offers unique insights and resources, which are crucial for addressing the ecological, social, and economic dimensions of wetland management. Coordinated efforts between these stakeholder groups will be crucial to balance development needs with ecological preservation, ensuring that wetlands continue to provide critical ecosystem services and biodiversity support.

Towards this, for each of the above stakeholders, a targeted CEPA strategy and actions were evolved in discussion with them, as detailed in the below section.





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दिनांक : 11-12

स्थान : बखिरा झील क्षेत्र

संस्थापक

पर्यावरण

बाल्य





COMMUNICATIONS, CAPACITY BUILDING, EDUCATION, PARTICIPATION AND AWARENESS (CEPA)

The relationship between wetlands and the communities living nearby, who rely on these ecosystems for essential resources like water, food, fodder, and fuel, is deep and long-standing. These communities have gained a wealth of traditional knowledge about natural resources and local ecology, which positions them to play an integral role in the sustainable management of wetlands. Their intimate connection with wetlands allows them to engage meaningfully in conservation efforts and ensure the wise use of these ecosystems without compromising their integrity. In particular, women, due to their role in resource management for their families, often have a closer bond with wetland environments, which provides them with a deeper understanding of biodiversity and the environment's intricate balance. Ensuring their participation and decision-making is vital for creating sustainable conservation strategies that reflect local realities and needs. Involving both women and men equally in decision-making processes is crucial for fostering a gender-responsive approach to wetland management, ensuring that these efforts are inclusive, effective, and sustainable for the future. Harnessing the knowledge and participation of local communities is key to achieving long-term wetland conservation, restoration, and the responsible use of these valuable ecosystems.



Communication, Capacity Building, Education, Participation and Awareness (CEPA), has a pivotal role to play in the sustainable management of wetlands. Using CEPA effectively can build support for wetland conservation by facilitating increased awareness of wetland values. However, wetland managers and related stakeholders often do not have the skills to develop complementary CEPA strategies and activities for their site plan. There is a strong synergy between communication, education, awareness and participatory management, since directly involving people in a wetland builds awareness of its broad values.

In the state of UP, the need for building an effective CEPA strategy was strongly felt as the communities, wetland managers and other stakeholders need to be engaged proactively so that the wise use of wetlands is achieved, without its further deterioration. Also, it was felt important to identify the most critical aspects of the wetland that people need to understand to gain their support for its proper management. This CEPA strategy outlines the CEPA related activities that can be done which will help in sustainable management of wetland.

PRIORITIZED STAKEHOLDERS FOR CEPA IN UTTAR PRADESH

Towards developing the State CEPA strategy for UP, identification of primary, secondary and regulatory stakeholders was done as outlined in the previous section. To formulate CEPA strategy and actions, prioritization of stakeholders was done on the below criteria:

- Stakeholders (institutions/individuals) who are most significantly contributing to wetland ecosystem services either negatively or positively
- Stakeholders who are influential in taking positive actions towards wetland management
- Stakeholders who may be able to mobilize resources for positive actions

On the basis of the above, following stakeholders were prioritized who can play a pivotal role in the sustainable management of wetlands and CEPA strategies/actions were evolved for these set of stakeholders:

PRIORITIZED STAKEHOLDERS FOR CEPA STRATEGY/ACTIONS IN UP

PRIMARY	SECONDARY	REGULATORY
Farmers (cultivating crops in and around the wetland)	Forest Department	State Wetland Authority
Communities living adjacent to wetland	Revenue Department	District Wetland Committee
Matsya Jeevi Samiti (Fishing Cooperatives)		
Panchayati Raj members (Gram Pradhan, Ward members)		
School/College Teachers and Students		
Eco Development Committee		

CEPA STRATEGY/ACTIONS FOR PRIORITIZED STAKEHOLDERS

The below section outlines key CEPA strategies/actions for targeted stakeholders to enhance their knowledge, awareness levels and build capacities on conserving and managing the wetlands through a wise use approach.

PRIMARY STAKEHOLDERS:

1. FARMING COMMUNITY:

The farming community was identified as one of the most important stakeholders who are directly benefitting as well as impacting the ecosystem services of the wetlands in UP. Basically, two categories of farmers were observed – one, who undertake farming activities inside the wetland (in the area that gets dried up and has no water) and second, those who cultivate crops around the wetland peripheral area.

Engaging farmers through a CEPA strategy was seen as the most crucial step for ensuring wise use of wetlands across Uttar Pradesh. Farmers working near wetlands like Mankotahi Taal, Parvati Arga, Sarsai Nawar, and Bakhira Wildlife Sanctuary have a profound impact on these ecosystems. The unsustainable agricultural practices—such as the overuse of chemical fertilizers, pesticides, herbicides, runoff, and improper disposal of crop residues—pose significant threats to wetland health, polluting water, degrading biodiversity, and disrupting ecosystem services. Through targeted CEPA initiatives, farmers can be educated on sustainable farming practices, such as bio-intensive methods, that support both crop yields and wetland conservation. This approach will raise awareness on the critical ecological functions that wetlands serve, including water purification, flood control, and habitat for diverse species, and also aligning farmers' livelihoods with environmental sustainability.

The unsustainable agricultural practices pose significant threats to wetland health, polluting water, degrading biodiversity, and disrupting ecosystem services.

CEPA ACTIONS

Communication

- **Raise awareness about wetland importance:** Farmers should understand the vital role wetlands play in groundwater recharge, flood control, and biodiversity conservation. Develop simple, relatable communication materials (pamphlets, posters, videos) that explain the ecological functions of the lake and how unsustainable farming practices can negatively impact it.
- **Farmer Meetings:** Organize regular meetings and discussion forums for farmers involving local resource institutions such as KVKs, etc. to talk about sustainable agriculture practices which can support in wetland conservation.
- **Develop tailored messaging:** Highlight the benefits of sustainable farming, aligning with wetland conservation goals.
- **Localized messaging:** Tailor messages to local languages (Hindi/Bhojpuri) and agricultural contexts, ensuring that farmers clearly understand the relationship between their practices and the health of the wetland and its ecosystem services.
- **Local media outreach:** Through radio, flyers, and community meetings to disseminate information on best practices.
- **Success stories and testimonials:** From farmers adopting organic/bio-intensive practices can be shared to inspire others.



Capacity Building/Education

■ Workshops on Sustainable Farming Practices:

- ✦ Train farmers on eco-friendly agricultural practices such as non-chemical farming, use of bio-fertilizers/pesticides/repellants, etc., Integrated Pest Management (IPM), and agroforestry, which reduce harmful runoff into the lake.
- ✦ Promote buffer zone cultivation by educating farmers about establishing buffer zones between their farms and the wetland. Encourage planting native vegetation in these zones to filter runoff before it reaches the lake.
- ✦ Orient farmers on rainwater harvesting and soil conservation techniques that reduce soil erosion and run-offs and also nutrient loss from agricultural fields.

■ Involving women farmers through SHGs: Orientation and training of specifically women farmers on sustainable agricultural practices.

■ Demonstration Plots: Establish demonstration plots showcasing sustainable agricultural practices that minimize negative impacts on wetlands.

■ Educational Materials: Develop and distribute educational booklets, manuals, and videos on the relationship between agriculture and wetland health.

■ Promote agro-ecological knowledge: Focus on nutrient management, crop rotation with water-tolerant species, and minimizing pollution runoff into the wetland.

■ Water Management Education: Educate farmers on efficient water use, such as drip irrigation and rain-fed agriculture, to minimize water extraction from wetlands for irrigation, thus maintaining its water balance.

Participation

■ Farmer Field Schools: Set up farmer field schools where farmers can learn through hands-on experiences and also share knowledge and best practices on sustainable agriculture and wetland conservation with other farmers.

■ Involve farmers in conservation decision-making: Encourage participation of farmers in the Eco Development Committee and involve them in decisions around conservation of wetland which will give them a sense of responsible behavior towards their agricultural practices.

■ Participation platforms: Platforms such as *Kisan Chaupal*, can be established where farmers can voice their concerns and contribute to creating locally-relevant, sustainable agricultural practices that protect wetlands.

■ Collaborative projects: Engage farmers in joint conservation projects, such as lake restoration efforts, wetland-friendly farming programs, or monitoring activities.

■ Agriculture-Environment incentive programs: Set up programs where farmers can receive incentives or payments for environment-friendly agricultural practices (such as payments for ecosystem services). This approach rewards farmers who adopt sustainable techniques that benefit the lake.

Awareness

■ Highlight the ecological value of the Ramsar Site and its significance for biodiversity, water purification, and local climate resilience.

■ Awareness Campaigns: Conduct awareness campaigns using local media, public meetings, and farm visits to highlight the importance of wetlands and sustainable farming.



■ Awareness campaigns on agricultural pollution:

- ✦ Highlight the link between chemical runoff (from fertilizers, pesticides, etc.) and water pollution in the lake. Use visual materials, field demonstrations, and farmer-to-farmer communication to show how these chemicals degrade water quality and harm biodiversity.
- ✦ Showcase successful examples of farmers who have transitioned to sustainable practices/natural farming, demonstrating how they have maintained productivity while protecting the wetland.

■ **Kisan Melas:** Organize *kisan melas* that focus on wetland conservation and sustainable farming techniques, bringing in experts to speak and providing interactive learning tools for farmers.

■ **Seasonal Campaigns:** During peak agricultural seasons, conduct targeted campaigns to remind farmers of the importance of minimizing harmful inputs and managing water resources carefully.

■ **Success Stories:** Share success stories and case studies of farmers who have successfully integrated sustainable practices and contributed to wetland conservation.

■ **Environmental Days:** Celebrate environmental days such as World Wetlands Day and World Environment Day with events focused on wetland conservation and sustainable agriculture.

2. COMMUNITIES LIVING ADJACENT TO WETLAND

Engaging communities living near wetlands in Uttar Pradesh through a CEPA strategy is vital for promoting wise use and conservation of these ecosystems. In areas surrounding wetlands like Parvati Arga, Sarsai Nawar, Makotahi Taal, Bakhira Wildlife Sanctuary, and even in other wetlands of the state, nearby villages heavily rely on wetlands for ecosystem services but also contribute to their degradation through direct waste disposal, agricultural runoff, and encroachment of water channels. These activities lead to water contamination, increased silt deposition, and blockage of natural flows, all of which disrupt wetland health and ecosystem balance. CEPA initiatives can empower these communities with awareness and sustainable practices, encouraging responsible waste management, soil conservation, and restoration of blocked water channels. Additionally, engaging local Self Help Groups in eco-tourism around wetlands could offer alternative livelihood options that reinforce conservation. In this way, CEPA strategies can align with the communities' needs with environmental stewardship, fostering a collaborative approach to safeguard the wetlands' ecological and socioeconomic value.

Engaging local Self Help Groups in eco-tourism around wetlands could offer alternative livelihood options that reinforce conservation.



CEPA ACTIONS

Communication

- **Farmer Meetings:** Engage with the communities in the adjoining villages near wetland, and sensitize them about the importance of wetlands and their direct and indirect benefits, while discussing the conservation and shifting of farming fields out of the wetlands for conservation purposes.
- **Develop community-centered messages:** Create simple, relatable messages highlighting how the wetland supports their livelihoods through fishing, agriculture, and water resources. Emphasize the role of communities in preserving the lake for future generations.

- **Use local media:** Use local media such as radio, community newsletters, puppet shows, *nukkad natak*, etc. to regularly share information about the importance of the lake, ongoing conservation efforts, and how communities can contribute.
- **Door-to-Door awareness campaigns:** Conduct door-to-door campaigns led by local volunteers, Wetland Mitras or Eco Development Committee members, where they inform residents about the environmental impact of improper waste disposal and unsustainable land use.

Education

- **Orientation on bund plantation (native species), agro-forestry** through plantation of trees like Peepal, Banyan, etc. to promote bird habitat and growing water-tolerant plants.
- **Involving women farmers through SHGs:** Exposure or Training of SHGs on livelihood enhancement through eco-tourism, establishing vending carts, shops, etc.
- **Training of Wetland Mitra:** Organise training programmes for identified Wetland Mitras and train them on sustainable wetland use, wetland health monitoring and management. These Mitras can also assist in Eco-tourism activities.
- **Educational Materials:** Develop and distribute educational booklets, manuals, and videos on the relationship between agriculture and wetland health, in local languages.
- **Training/Workshops on waste management:** Organise training of community members, especially women, on solid and liquid waste management, garbage management, bio-composting methods, establishing nutrition gardens, etc.
- **Environmental Education programs:** Introduce environmental education programs in local schools to raise awareness about wetland conservation among children, who can then influence their families. Organize field visits to the wetland to teach about its biodiversity and ecosystem services.
- **Training on sustainable agriculture:** Offer training on environment-friendly agricultural practices that reduce chemical runoff and soil erosion, such as organic farming, use of bio-fertilizers, and water-efficient irrigation techniques.

Participation

- **Formation and Training of community-based institutions:** Formation and training of community-based institutions (e.g. *Taal Talaiya Sanrakshan Manch*, *Jal Chaupal*, etc.) to encourage participatory discussions on conservation and wise use of wetlands.
- **Strengthening and involving local Temple Committee members** in conservation and wise use of wetland.
- **Involve communities in conservation activities:** Encourage active participation of community members in lake conservation initiatives, such as wetland restoration projects, tree plantation drives, and lake clean-up campaigns. Create community task forces to monitor and report on illegal encroachments or pollution.
- **Establish community-based monitoring:** Form local groups to monitor the health of the wetland, track changes in water quality, and report issues such as illegal waste disposal or blockages in water channels. This participatory monitoring will create a sense of ownership among the community.
- **Community dialogues and meetings:** Organize regular community meetings where villagers can voice concerns, share ideas, and be part of decision-making processes related to wetland management and conservation efforts.

- **Eco-Tourism Initiatives:** Involve the communities, Wetland Mitras and Eco Development Committee members in promoting eco-tourism wherever possible, where they can manage guest houses, guide nature tours, and offer local products to tourists. This will create economic incentives for wetland preservation.

Awareness

- **Awareness Campaigns:** Conduct awareness campaigns/rallies using local media, public meetings, and farm visits to highlight the importance of wetlands and sustainable farming.
- **Display Board Gallery:** Display boards with important information related to flora/fauna species, do's and don'ts in wetland, etc. can be developed and installed near the wetland for community awareness and sensitizing visitors like students, researchers and tourists.
- **Environmental Days:** Celebrate environmental days such as World Wetlands Day and World Environment Day with events focused on wetland conservation and sustainable agriculture.
- **Public campaigns on wetland protection:** Launch public campaigns using street plays, folk songs, magic shows and traditional art forms to raise awareness about the importance of wetlands and the need for their protection. These culturally resonant methods can make the message more impactful.
- **Promote household responsibility:** Educate households on reducing waste, conserving water, and preventing runoff. Encourage communities to adopt eco-friendly practices and promote the idea that every household plays a role in the health of the wetland.
- **Highlight the impact of pollution:** Use visual aids, such as infographics and videos, to show how pollution is affecting the lake's biodiversity and the livelihoods that depend on it. Connect the health of the lake to the well-being of the community.

3. MATSYA JEEVI SAMITI

The Matsya Jeevi Samiti is a community-based organization dedicated to fisheries activities for their livelihoods. The government leases out area of the wetland to the fisher community, where they conduct fish rearing operations. In Mankotahi Taal, the Samiti comprises 66 members who also motivate around 150 households (belonging to the fisher community) to participate in fisheries activities. Similarly, there are so many other fishing cooperatives in the state. This initiative also generates revenue for the Gram Panchayat and provides involved households with nutritious food, including fish, lotus roots, and ducks.

While the wetland offers significant ecosystem services, particularly provisioning services, the Matsya Jeevi Samiti's current fishing practices are causing rapid degradation of the wetland and its ecosystem services. The Samiti does not prioritize sustainable wetland use. To rear fish, they dump large amounts of cow dung, poultry and duck excreta, dead animal flesh, chemical fertilizers, and pesticides into the wetland. As a result, almost no vegetation remains within the wetland.

On the account of the above, Matsya Jeevi Samiti was prioritised as an important stakeholder/target group for which effective CEPA strategy ought to be designed. The Samiti, being the primary user of ecosystem services, significant negative contribution towards degradation of wetland and being a powerful lobby on extracting ecosystem resources, it is imperative to engage them through CEPA actions for wise use of wetland.

To rear fish, they dump large amounts of cow dung, poultry and duck excreta, dead animal flesh, chemical fertilizers, and pesticides into the wetland. As a result, almost no vegetation remains within the wetland.

CEPA ACTIONS:

Communication

- **Information Campaigns:** Awareness materials like posters, brochures, short videos to be developed to share information on the ecological and economic benefits of wetlands and sustainable fishing practices.
- **Meetings and Workshops:** Organize regular meetings and workshops for Samiti members to discuss wetland conservation issues, share knowledge, and develop action plans.

Capacity Building/Education

- **Training Programs:** Conduct training programs on Ecosystem-Based Fisheries Management, sustainable fishing techniques, impacts of pollution on wetland health, integrated fisheries management, limited use of organic manure, wetland and biodiversity management.
- **Field Visits:** Organize field visits for Samiti members to model sites where sustainable fishing practices are successfully implemented.

Participation

- **Community engagement activities:** Engage Samiti members in community-based conservation activities such as wetland clean-ups, replanting vegetation, and monitoring water quality.
- **Collaborative Networks:** Form networks with other fishing communities and conservation organizations to share knowledge, resources, and best practices.

Awareness

- **Awareness Campaigns:** Conduct awareness campaigns using local media, public meetings, and community events to highlight the importance of wetlands and sustainable fishing.
- **Success Stories:** Share success stories and case studies of communities that have successfully integrated sustainable practices and contributed to wetland conservation.
- **Environmental Days:** Celebrate environmental days such as World Wetlands Day and World Environment Day with activities focused on wetland conservation and sustainable fishing.



4. PANCHAYATI RAJ MEMBERS (GRAM PRADHAN, WARD MEMBERS)

Gram Panchayats play a crucial role in the conservation and management of wetlands at the local level. Given their proximity to these ecosystems and their direct connection to the community, the Gram Pradhans and Ward Members are well-positioned to implement effective conservation strategies. Panchayats can enforce regulations related to wetland use, ensuring that activities such as fishing, agriculture, etc. comply with environmental guidelines and they can also advocate for the inclusion of wetland conservation in local development plans and policies. Through the Gram Panchayat Development Plans (GPDP), Panchayats can include actions related to wetland conservation and allocate resources, including funds for conservation projects and maintenance activities. Their role in implementing government schemes and ensuring compliance with conservation policies is key to protecting Ramsar Sites, enhancing biodiversity, and supporting the livelihoods

of communities dependent on these wetlands. Therefore, Panchayats can significantly contribute to the conservation and sustainable management of wetlands, ensuring that these vital ecosystems continue to provide essential services to the community and the environment.

The CEPA strategy for Gram Panchayats focuses on empowering local governance bodies to take an active role in wetland conservation and sustainable development. By involving Gram Panchayats in the decision-making process and equipping them with the knowledge and tools for environmental leadership, this strategy aims to build local capacity for protecting the lake while addressing the needs of the communities that rely on its resources.

CEPA ACTIONS:

Communication

- **Signage and Boards:** Install informative boards around wetlands highlighting their significance, biodiversity, and conservation measures.
- **Community Meetings:** Hold regular community meetings to discuss wetland issues, conservation strategies, financing mechanisms, and progress.
- **Promote Transparent Communication:** Encourage Gram Panchayats to regularly communicate with local communities about wetland conservation initiatives, legal land use, and sustainable practices. Use local meetings (Gram Sabhas) and community gatherings to spread awareness.
- **Liaison with Government Agencies:** Strengthen communication channels between Gram Panchayats and government departments (e.g., Forest, Revenue, Agriculture) to ensure collaboration in enforcing regulations, addressing encroachments, and managing land use around the lake.
- **Awareness Campaigns:** Conduct locally tailored awareness campaigns on the importance of protecting wetlands, focusing on the ecological services it provides (e.g., water, fish, and biodiversity) and the role of the Panchayat in ensuring its conservation.

Capacity Building/Education

- **Workshops and Training:** Organize workshops and training sessions for Panchayat members, community leaders, Ward Members on wetland ecology and sustainable practices, solid and liquid waste management, efficient drainage systems, etc.
- **Resource Materials:** Distribute educational materials such as pamphlets, booklets, and posters that provide information on wetland conservation practices.
- **Capacity building for panchayat members:** Provide training sessions and workshops to Gram Panchayat members on wetland management, biodiversity conservation, and sustainable agricultural practices. This will enable them to make informed decisions that balance environmental protection with community needs.
- **Eco-Friendly Practices:** Promote education on chemical-free farming, sustainable water management, and waste reduction techniques, which Panchayat leaders can communicate to broader community to reduce harmful impacts on the wetland.

Participation

- **Volunteering Opportunities:** Create opportunities for community members to participate in wetland clean-up drives, tree plantation, and monitoring activities.
- **Participatory development of GPDP:** Engage the community in developing and



implementing wetland management plans and integrate it into GPDP, ensuring that the inputs and concerns of the communities are considered.

- **Engaging local communities:** Involve local communities including women in conservation initiatives by holding regular meetings and discussions to gather input on how to protect the lake while supporting livelihoods.
- **Community-led wetland protection:** Facilitate community-based monitoring and protection initiatives, such as waste management systems, tree planting, and wetland clean-up drives, led by the Panchayats.
- **Collaboration with Eco Development Committees:** Encourage Gram Panchayats to collaborate with Eco Development Committees and local conservation groups to manage activities that promote wetland health and sustainability.

Awareness

- **Awareness Campaigns:** Conduct awareness campaigns using local festivals, fairs, and cultural events to reach a broader audience.
- **Thematic Days:** Celebrate important environmental days such as World Wetlands Day, Earth Day, and World Environment Day with events focused on wetland conservation.
- **Environmental awareness in Gram Sabhas:** Regularly include wetland conservation topics in Gram Sabha meetings. Highlight the ecological importance of wetlands, its significance as a Ramsar site, and the benefits of sustainable land and water use practices for long-term community welfare.
- **Waste management campaigns:** Promote awareness campaigns that address the proper disposal of solid and liquid waste in villages to prevent pollution of the wetland.
- **Cultural and religious ties to nature:** Leverage local cultural and religious values that promote wetland conservation to develop a deeper connection between the community and the protection of wetlands.

5. SCHOOL/COLLEGE TEACHERS & STUDENTS

Schools are crucial in wetland management as they not only educate students about the ecological and economic importance of wetlands but also build a foundation for long-term environmental stewardship. Through science curricula, nature-based activities, and field trips to local wetlands, schools can develop a deep understanding of wetland ecosystems, biodiversity, and the importance of sustainable practices. This knowledge empowers young generations to become advocates for conservation in their families and communities.

Additionally, schools can serve as hubs for community awareness by organizing events such as Wetlands Day celebrations, workshops, and awareness campaigns that involve both students and local residents. By participating in these activities, children and their families gain insight into the environmental and social value of wetlands, inspiring a sense of shared responsibility.

Schools can also motivate students to take direct action in conservation efforts. Activities such as cleanup drives, native tree planting, water quality monitoring, and participation in citizen science projects encourage students to apply their learning practically. In doing so, students not only contribute to wetland preservation but also develop lifelong skills in environmental care, leadership, and community engagement. By shaping environmentally conscious, active citizens, schools play a pivotal role in ensuring the long-term sustainability of wetlands.

CEPA ACTIONS:

Communication

- **Interactive Workshops:** Conduct engaging workshops for students and teachers that explain the ecological importance of the wetlands and its surroundings.
- **Wetland Corner (Wetland Learning Centre):** Create a Wetland Corner in the school dedicated to wetland news, facts, conservation tips, photos, motivational slogans, informative wall art and so on.
- **Interactive Workshops:** Conduct engaging workshops for students and teachers that explain the ecological importance of the Ramsar wetland and its surroundings.
- **Organize activities** such as Poster Competition on Wetland Conservation and give attractive prizes to children to encourage them.
- **Host quiz competitions** to test knowledge about wetlands and their ecosystems, followed by plantation events where students can plant native species to promote biodiversity.

Capacity Building/Education

- **Incorporating lessons:** Incorporate experiences from the nearby wetlands and its ecology, biodiversity, and conservation while teaching related subjects, e.g. environmental science, geography, etc.
- **Field Trips:** Organize regular field trips to wetlands to give students hands-on learning experiences about the wetland ecosystem.
- **Educational Materials:** Distribute educational resources such as books, pamphlets, posters, and multimedia content about wetlands to enhance classroom learning.

Participation

- **Eco-Clubs:** Establish eco-clubs in schools where students can participate in conservation projects, such as planting trees, cleaning up the wetland, and monitoring water quality.
- **Citizen Science:** Engage students in citizen science projects where they can collect data on wetland health, species diversity, and water quality.
- **Competitions and Campaigns:** Organize art, essay, and science competitions focused on wetland themes to encourage creative thinking and problem-solving related to conservation.
- **Wetland Champions:** Identify active students and train them as Wetland Champions who can steer the wetland conservation agenda in the school.

Awareness

- **Awareness Campaigns:** Conduct rallies and campaigns in schools highlighting the importance of wetlands and the actions needed to protect them, using posters, slogans, etc.
- **Celebration of Environmental Days:** Mark important days like World Wetlands Day, Earth Day, and World Environment Day with special activities and events focused on wetland conservation.
- **Experts Lectures:** Invite local environmental experts, conservationists, and community leaders to speak at school about wetland conservation and inspire students with their knowledge and experiences.

6. ECO DEVELOPMENT COMMITTEE

The Eco Development Committee (EDC) plays a crucial role in the sustainable management and conservation of wetlands. The EDC was found to be active in Bakhira Wildlife Sanctuary. The EDC acts as a bridge between local communities, government agencies, and conservation organizations, ensuring that both the ecological integrity of the lake and the livelihoods of those who depend on it are protected. The EDC mediates conflicts that may arise between different stakeholders, such as farmers, fishers, and conservationists, ensuring that community interests are balanced with environmental needs. It involves local communities in decision-making processes, encouraging them to take part in conservation activities, such as wetland restoration and pollution control efforts. Further, the EDC also supports the development of eco-tourism initiatives, such as bird watching and nature tours, which can provide alternative livelihoods for local communities while promoting conservation awareness. Therefore, EDC is a crucial stakeholder and holds an important mandate of conserving wetlands.

CEPA ACTIONS:

Communication

- **Community engagement:** Regular communication with local communities, fishers, farmers, school children, and policymakers about the benefits of preserving the lake.
- **Local Media:** Collaborate with local radio stations, newspapers, and TV channels to spread awareness and educate the community on the ecological importance of Lakes and Bird Sanctuaries.

Capacity Building/Education

- **Capacity Building for EDC:** Offer training sessions for the EDC members to enhance their knowledge on wetland management and conservation strategies.
- **Organize workshops** with EDC members, representatives from the community, Panchayati Raj Department on solid waste management, low-cost composting technology promotion, drainage line treatment, water point development and biodiversity conservation.
- **School Programs:** Organize educational programs in schools focusing on the role of wetlands in the ecosystem, biodiversity conservation, and sustainable resource use.
- **Eco-Workshops:** Conduct workshops for local farmers on sustainable agricultural practices that do not harm the wetland.
- **Training for Fishers:** Provide education on sustainable fishing practices, including the use of eco-friendly nets and techniques to maintain fish stock.

Participation

- **Volunteering Programs:** Set up volunteer programs where local youth and NGOs can participate in activities like tree planting, lake cleaning drives, and bird counting during the migratory season.
- **Eco-Tourism Initiatives:** Promote sustainable eco-tourism around the wetlands, involving local communities in managing guest houses, boat rides, and nature tours.

Awareness

- **Thematic Days:** Celebrate important environmental days such as World Wetlands Day, Earth Day, and World Environment Day with events focused on wetland conservation.
- **Biodiversity Awareness Campaigns:** Conduct awareness campaigns on the flora and fauna, including migratory birds, and the ecological balance of the wetland.
- **Awareness events:** Organise local festivals, fairs, thematic puppet shows, magic shows, and cultural events to reach a broader audience.
- **Signage and Information Boards:** Install educational signboards around the lake explaining the biodiversity, threats, and the role of wetlands.



SECONDARY STAKEHOLDERS:

1. FOREST DEPARTMENT:

The Forest Department plays a pivotal role as a key stakeholder in the conservation of wetlands. Its responsibilities include enforcing environmental regulations, protecting biodiversity, and preventing illegal activities such as encroachments, poaching, and pollution. The department actively monitors the health of the lake's ecosystem, implements conservation projects, and collaborates with local communities to promote sustainable practices. By working closely with other stakeholders, such as local government bodies, NGOs, and the Eco Development Committees, the Forest Department ensures the ecological integrity of wetlands while supporting livelihoods that depend on its resources.

The CEPA strategy for Forest Department officials working in and around Ramsar wetlands need to focus on equipping them with the necessary skills, knowledge, and tools to manage the wetland effectively while engaging local communities, enhancing interdepartmental collaboration, and promoting sustainable conservation practices. The strategy aims to build their capacity for wetland management, foster community participation, and strengthen communication for effective conservation.

CEPA ACTIONS:

Communication

- **Information dissemination:** Develop targeted messaging on the ecological importance of Ramsar Wetlands and the bird sanctuary, highlighting its global significance.
- **Use of Media:** Leverage local radio, newspapers, and social media to communicate conservation efforts, regulations, and the benefits of wetland protection to the broader community.
- **Signage & Information Boards:** Install clear, engaging, and bilingual information boards at key locations within and around the wetland, educating visitors and locals about the species present, regulations, and conservation goals.
- **Regular Newsletters:** Publish periodic updates on wetland conservation efforts, challenges, and successes to engage communities, policymakers, and visitors.
- **Develop targeted communication:** Develop targeted communication to ensure clear and consistent messaging about wetland policies and conservation priorities through pamphlets, notices, posters and so on.
- **Stakeholder coordination:** Facilitate communication channels between the Forest Department, local communities, and other agencies such as the Water Resources Department, Agriculture Department, and Panchayati Raj Institutions to ensure a unified approach to wetland management.
- **Awareness campaigns for communities:** Equip officials with the necessary tools to lead or support awareness campaigns for local communities, emphasizing the ecological importance of the wetland and sustainable use practices.

Capacity Building/Education

- **Capacity building and training:** Organize regular training programs for Forest Department officials to enhance their understanding of wetland ecology, biodiversity, sustainable agriculture, water management, and eco-friendly tourism practices. This will equip them to handle complex conservation issues effectively.

- ✦ **Wetland Ecology:** Training on the specific ecological dynamics of the wetland, including its role in biodiversity support, hydrology, and local livelihoods.
- ✦ **Biodiversity Conservation:** Provide specialized training on the identification, monitoring, and protection of key species, especially migratory birds and fish, which are crucial to the wetland's ecological health.
- **School Programs:** Partner with local schools to introduce wetland conservation into the curriculum, organizing field trips, birdwatching activities, and nature-based learning at the sanctuary.
- **Workshops for Farmers:** Organize workshops for local farmers, especially those cultivating tobacco and vegetables near the wetland, focusing on sustainable agricultural practices, water conservation, and the ecological importance of wetlands.
- **Capacity building of local leaders:** Train local Panchayat members, community leaders, religious leaders/influencers on wetland management, Ramsar guidelines, and how to promote sustainable livelihoods while conserving biodiversity.
- **Legal Framework and Policies:** Educate officials on the legal frameworks and national/international policies that govern Ramsar Sites, wetlands, and environmental protection, so they can better enforce regulations and promote legal compliance within the local community.
- **Best Practices in wetland management:** Expose officials to best practices in wetland management from other regions through study tours, workshops, and knowledge-sharing platforms.
- **Promote Eco-Tourism:** Train officials to support and regulate eco-tourism initiatives that can benefit both conservation and local livelihoods. They should be equipped to work with local communities to develop and manage eco-tourism activities such as bird watching, guided nature walks, and educational tours that showcase wetland's biodiversity.

Participation

- **Community Involvement:** Involve local communities in monitoring wetland health, reporting illegal activities, and participating in eco-restoration activities such as planting native species or desilting water channels.
- **Eco-Guardians:** Form “eco-guardian” groups comprising local youth, who can act as wetland protectors, monitoring bird populations, controlling illegal fishing, and promoting eco-tourism.
- **Promote multi-stakeholder engagement:** Enable Forest Department officials to actively involve local communities, fishers, farmers, and NGOs in wetland management. This participatory approach will enable cooperation and encourage local stakeholders to take ownership of conservation efforts.
- **Collaborative decision-making:** Encourage Forest Department officials to include representatives from local villages and Eco Development Committee in decision-making processes related to wetland management.
- **Youth and community participation programs:** Facilitate programs that encourage youth, local volunteers, and community members to actively participate in conservation activities such as tree plantation drives, biodiversity monitoring, and waste clean-up campaigns around wetlands.
- **Use of Technology:** For monitoring purposes, CCTV cameras also can be installed, for real-time monitoring.

Awareness

- **Eco-Tourism Initiatives:** Promote eco-tourism in the sanctuary in collaboration with local communities/Wetland Mitras by creating nature trails, organizing guided bird-watching tours, and ensuring that tourism activities support wetland conservation rather than harm it.
- **Behavior Change Programs:** Conduct campaigns to discourage illegal fishing, hunting, and encroachment, providing alternative livelihood suggestions that are aligned with wetland conservation.
- **Outreach and Engagement:** Develop materials (brochures, posters, and digital content) to help Forest Department officials raise awareness about the importance of the wetland, ecosystem services it provides, and the need for conservation among local communities.
- **Biodiversity Days and Wetland Events:** Lead initiatives for celebrating important environmental events such as World Wetlands Day (February 2) and Biodiversity Day (May 22), engaging both officials and local communities in awareness programs that highlight the value of wetlands and biodiversity.
- **Anti-Encroachment and Anti-Pollution Awareness:** Equip officials to conduct targeted awareness programs on the negative impacts of encroachment and pollution in the wetland, educating community members about the consequences of illegal construction, waterway blockages, and waste dumping.

2. REVENUE DEPARTMENT:

The Revenue Department plays a critical role in the conservation and management of wetlands by overseeing land ownership, usage rights, and resolving land-related disputes. It ensures that the legal boundaries of the wetland are protected from encroachments and unauthorized construction, which can degrade the wetland's ecosystem. The department is also responsible for maintaining land records, identifying areas for wetland conservation, and coordinating with other departments, such as the Forest Department, to safeguard the lake's resources. By regulating land use and preventing illegal activities, the Revenue Department helps preserve the ecological balance and support sustainable development around wetlands.

The CEPA strategy for Revenue Department officials aims to enhance their role in wetland conservation, ensure effective land management, and promote collaboration with other stakeholders. This strategy will empower officials to balance legal land management responsibilities with the ecological needs of the wetland, while engaging the community and preventing harmful activities like encroachments.

CEPA ACTIONS

Communication

- **Demarcation of wetland** needs to be done to establish clear boundary of the wetland.
- **Clear messaging on land regulations:** Develop and disseminate clear, accessible information on land use regulations around the wetlands, emphasizing the legal boundaries of the wetland and the consequences of encroachments.
- **Develop signages and informative boards** to highlight biodiversity and its conservation.

- **Organise meetings with farmers** to discuss and resolve land conflict issues for proper wetland conservation.
- **Interdepartmental coordination:** Enable strong communication channels with other departments, particularly the Forest Department, Agriculture Department, and local governance bodies, to ensure coordinated efforts in wetland management and enforcement of land laws.
- **Community awareness campaigns:** Work closely with the local community, Panchayats, and Eco Development Committees to raise awareness about the importance of protecting wetland land from encroachments and ensuring its sustainable use for future generations.

Education

- **Workshops and Training:** Organize workshops with representatives from the Revenue Department, Panchayati Raj Department, community representatives, and board members on land lease rules, laws regarding illegal land, and legal validity.
- **Mobilization and Training:** Engage ward members, PRI leaders, and Revenue Department to manage wetlands as a service system and highlight its importance to the adjoining living community.
- **Organize workshops** for Revenue Department officials to understand the environmental impacts of land-use decisions and how to enforce sustainable practices effectively.
- **Training on wetland land use regulations:** Conduct workshops and training sessions for Revenue Department officials to deepen their understanding of legal frameworks governing Ramsar Sites, wetland protection laws, and the ecological significance of wetlands.
- **Capacity building for land management:** Provide specific training on sustainable land management practices, including how to balance land development and conservation needs. Officials should be trained on how to identify and act against illegal encroachments, and methods for maintaining accurate land records.

Participation

- **Establish village-level committees** that include local leaders, Wetland Mitras, farmers, and wetland users to consult on wetland protection and land management issues.
- **Collaborate** with the Forest, Agriculture, and Water Resources Departments to implement a joint action plan for wetland conservation, ensuring the participation of all stakeholders.
- **Involve local schools and NGOs** in conservation activities, such as tree planting, waste management, and water conservation projects around the wetland.
- **Organise** clean-up drives, tree plantation activities, etc.
- **Community-led monitoring:** Encourage the department to participate in community-led initiatives to monitor illegal encroachments and land misuse, creating a joint effort between officials and local residents in protecting the wetland.
- **Regular land audits:** Support the participation of Revenue Department officials in conducting regular land audits and surveys to ensure accurate documentation and identification of encroachments or illegal activities near the wetland.

Awareness

- **Develop signage** around the wetland to highlight the penalties for encroachment or environmental damage.
- **Outreach events on land conservation:** Educate the local community on the importance of preserving land around wetlands for ecological and livelihood reasons. Revenue Department officials should organize or participate in awareness programs that highlight how unsustainable land use can harm the wetland ecosystem.
- **Highlighting the impact of encroachments:** Use visual tools like maps, charts, and community meetings to show the impact of illegal encroachments on the wetland, such as habitat destruction, blocked water channels, and reduced access to ecosystem services for dependent communities.



REGULATORY BODIES:

UTTAR PRADESH STATE WETLAND AUTHORITY & DISTRICT WETLAND COMMITTEES

The UP State Wetland Authority plays a crucial role as a regulatory authority in the conservation, management, and sustainable use of wetlands. This authority is responsible for implementing national policies, coordinating with local bodies, and ensuring the protection and restoration of wetland ecosystems. The SWA is responsible for developing and implementing wetland policies and guidelines in line with national policies such as the National Plan for Conservation of Aquatic Ecosystems (NPCA) and the Wetlands (Conservation and Management) Rules, 2017. Under its regulatory functions, the SWA establishes and enforces regulations to control activities that may harm wetlands, such as pollution, encroachment, and unsustainable resource extraction. Further, it is also responsible for issuing permits for permissible activities in wetlands and ensure compliance with environmental standards and regulations.

Being an important stakeholder in the wetland conservation and management, CEPA strategy for the SWA will ensure effective implementation of wetland conservation initiatives, involving all stakeholders from government bodies to local communities.

Communication

- **Information Campaigns:** Utilize multiple media platforms such as newspapers, radio, television, and social media to spread awareness about wetland conservation.
- **Publications:** Develop and distribute informative brochures, newsletters, and reports highlighting the significance of wetlands, current threats, and conservation success stories.
- **Stakeholder Meetings:** Organize regular meetings and forums for stakeholders to discuss wetland issues, share knowledge, and coordinate conservation efforts.
- **Inter-Departmental Coordination:** Establish strong communication channels between the State Wetland Authority, District Wetland Committee, and other relevant departments (Forest, Agriculture, Revenue, and Panchayati Raj) to ensure a unified approach to wetland conservation.

Education

- **District Wetland Committees:** Organise training programmes to strengthen District Wetland Committees and provide them with clear guidelines on management and conservation of wetlands in the districts.
- **Wetland Interpretation Centres:** Establish Wetland Interpretation Centres that can provide information on the wetland through exhibits, nature trails, trainings, and other resource material. The Centre can in educating communities as well as researchers to learn about wetlands and promote its conservation
- **School Programs:** Develop educational programs for schools, including curriculum materials, teacher training workshops, and field trips to local wetlands.
- **Workshops and Seminars:** Conduct workshops and seminars for government officials, local authorities, community leaders, and NGOs on wetland management and sustainable practices.
- **Educational Materials:** Create and distribute educational booklets, manuals, and multimedia content on wetland conservation and management techniques.



Participation

- **Community Projects:** Engage local communities in hands-on conservation projects such as wetland clean-ups, tree planting, and habitat restoration.
- **Citizen Science:** Encourage citizens to participate in monitoring wetland health and biodiversity through citizen science initiatives.
- **Habitat Restoration:** Collaborate with local experts to restore native vegetation and enhance wetland ecosystems
- **Skill-Building Workshops:** Offer workshops that teach relevant skills, such as plant identification, ecological surveying, and restoration techniques.
- **Volunteering Opportunities:** Provide opportunities for volunteers to get involved in wetland conservation activities, fostering a sense of ownership and responsibility.
- **Women and marginalized group inclusion:** Ensure that women, landless farmers, and marginalized groups are included in conservation programs, providing them with roles in monitoring, decision-making, and livelihood support activities around the wetland.

Awareness

- **Awareness Campaigns:** Launch state-wide awareness campaigns using traditional and digital media to highlight the importance of wetlands and the need for their conservation.
- **Success Stories:** Share success stories of wetland conservation projects and initiatives to inspire and motivate others.
- **Environmental Days:** Celebrate important environmental days such as World Wetlands Day and World Environment Day with special events, activities, and media coverage focused on wetlands.
- **Wetland Festivals and Eco-Tourism Promotion:** Collaborate with local bodies to organize annual events or eco-festivals that celebrate the biodiversity and cultural significance of wetlands, helping to build a sense of ownership among the local community and promote eco-tourism.

The Uttar Pradesh State Wetland Authority can significantly enhance wetland conservation through a comprehensive CEPA strategy. By effectively communicating the importance of wetlands, educating stakeholders, strengthening District Wetland Committees, encouraging active participation, and raising awareness, UPSWA can foster a collaborative approach to preserving these vital ecosystems.



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ANNEXURE

WETLAND CEPA STRATEGY FOR UTTAR PRADESH

CEPA STRATEGY				
PRIORITIZED STAKEHOLDERS	COMMUNICATION	CAPACITY BUILDING / EDUCATION	PARTICIPATION	AWARENESS
FARMING COMMUNITY	■ Raise awareness about wetland importance: Farmers should understand the vital role wetlands play in groundwater recharge, flood control, and biodiversity conservation. Develop simple, relatable communication materials (pamphlets, posters, videos) that explain the ecological functions of the lake and how unsustainable farming practices can negatively impact it. ■ Farmer Meetings: Organize regular meetings and discussion forums for farmers involving local resource institutions such as KVKs, etc. to talk about sustainable agriculture practices which can support in wetland conservation. ■ Develop tailored messaging: Highlight the benefits of sustainable farming, aligning with wetland conservation goals. ■ Localized messaging: Tailor messages to local languages (Hindi/Bhojpuri) and agricultural contexts, ensuring that farmers clearly understand the relationship between their practices and the health of the wetland and its ecosystem services. ■ Local media outreach: Through radio, flyers, and community meetings to disseminate information on best practices. ■ Success stories and testimonials: From farmers adopting organic/bio-intensive practices can be shared to inspire others.	■ Workshops on Sustainable Farming Practices: • Train farmers on eco-friendly agricultural practices such as non-chemical farming, use of bio-fertilizers/pesticides/repellants, etc., Integrated Pest Management (IPM), and agroforestry, which reduce harmful runoff into the lake. • Promote buffer zone cultivation by educating farmers about establishing buffer zones between their farms and the wetland. Encourage planting native vegetation in these zones to filter runoff before it reaches the lake. • Orient farmers on rainwater harvesting and soil conservation techniques that reduce soil erosion and run-offs and also nutrient loss from agricultural fields. ■ Involving women farmers through SHGs: Orientation and training of specifically women farmers on sustainable agricultural practices. ■ Demonstration Plots: Establish demonstration plots showcasing sustainable agricultural practices that minimize negative impacts on wetlands. ■ Educational Materials: Develop and distribute educational booklets, manuals, and videos on the relationship between agriculture and wetland health. ■ Promote agro-ecological knowledge: Focus on nutrient management, crop rotation with water-tolerant species, and minimizing pollution runoff into the wetland. ■ Water Management Education: Educate farmers on efficient water use, such as drip irrigation and rain-fed agriculture, to minimize water extraction from wetlands for irrigation, thus maintaining its water balance.	■ Farmer Field Schools: Set up farmer field schools where farmers can learn through hands-on experiences and also share knowledge and best practices on for sustainable agriculture and wetland conservation with other farmers. ■ Involve farmers in conservation decision-making: Encourage participation of farmers in the Eco Development Committee and involve them in decisions around conservation of wetland which will give them a sense of responsible behavior towards their agricultural practices. ■ Participation platforms: Platforms such as Kisan Chaupal, can be established where farmers can voice their concerns and contribute to creating locally-relevant, sustainable agricultural practices that protect wetlands. ■ Collaborative projects: Engage farmers in joint conservation projects, such as lake restoration efforts, wetland-friendly farming pilot programs, or joint monitoring of water quality and biodiversity. ■ Agriculture-Environment incentive programs: Set up programs where farmers can receive incentives or payments for environment-friendly agricultural practices (such as payments for ecosystem services). This approach rewards farmers who adopt sustainable techniques that benefit the lake.	■ Highlight the ecological value of the Ramsar Site and its significance for biodiversity, water purification, and local climate resilience. ■ Awareness Campaigns: Conduct awareness campaigns using local media, public meetings, and farm visits to highlight the importance of wetlands and sustainable farming. ■ Awareness campaigns on agricultural pollution: • Highlight the link between chemical runoff (from fertilizers, pesticides, etc.) and water pollution in the lake. Use visual materials, field demonstrations, and farmer-to-farmer communication to show how these chemicals degrade water quality and harm biodiversity. • Showcase successful examples of farmers who have transitioned to sustainable practices (natural farming, demonstrating how they have maintained productivity while protecting the wetland. ■ Kisan Melas: Organize Kisan melas that focus on wetland conservation and sustainable farming techniques, bringing in experts to speak and providing interactive learning tools for farmers. ■ Seasonal Campaigns: During peak agricultural seasons, conduct targeted campaigns to remind farmers of the importance of minimizing harmful inputs and managing water resources carefully. ■ Success Stories: Share success stories and case studies of farmers who have successfully integrated sustainable practices and contributed to wetland conservation. ■ Environmental Days: Celebrate environmental days such as World Wetlands Day and World Environment Day with events focused on wetland conservation and sustainable agriculture.

PRIORITY STAKEHOLDERS	CEPA STRATEGY			
	COMMUNICATION	CAPACITY BUILDING / EDUCATION	PARTICIPATION	AWARENESS
COMMUNITIES LIVING ADJACENT TO WETLAND	■ Farmer Meetings: Engage with the communities in the adjoining villages near wetland, and sensitize them about the importance of wetlands and their direct and indirect benefits, while discussing the conservation and shifting of farming fields out of the wetlands for conservation purposes. ■ Develop community-centered messages: Create simple, relatable messages highlighting how the wetland supports their livelihoods through fishing, agriculture, and water resources. Emphasize the role of communities in preserving the lake for future generations. ■ Use local media: Use local media such as radio, community newsletters, puppet shows, nukkad natak, etc. to regularly share information about the importance of the lake, ongoing conservation efforts, and how communities can contribute. ■ Door-to-door awareness campaigns: Conduct door-to-door campaigns led by local volunteers, Wetland Mitras or Eco Development Committee members, where they inform residents about the environmental impact of improper waste disposal and unsustainable land use.	■ Orientation on bund plantation (native species), agro-forestry through plantation of trees like Peepal, Banyan, etc. to promote bird habitat and growing water-tolerant plants. ■ Involving women farmers through SHGs: Exposure or Training of SHGs on livelihood enhancement through eco-tourism, establishing vending carts, shops, etc. ■ Training of Wetland Mitra: Organise training programmes for identified Wetland Mitras and train them on sustainable wetland use, wetland health monitoring and management. These Mitras can also assist in Eco-tourism activities. ■ Educational Materials: Develop and distribute educational booklets, manuals, and videos on the relationship between agriculture and wetland health, in local languages. ■ Training/Workshops on waste management: Organise training of community members, especially women, on solid and liquid waste management, garbage management, bio-composting methods, establishing nutrition gardens, etc. ■ Environmental Education programs: Introduce environmental education programs in local schools to raise awareness about wetland conservation among children, who can then influence their families. Organize field visits to the wetland to teach about its biodiversity and ecosystem services. ■ Training on sustainable agriculture: Offer training on environment-friendly agricultural practices that reduce chemical runoff and soil erosion, such as organic farming, use of bio-fertilizers, and water-efficient irrigation techniques.	■ Formation and Training of community based institutions: Formation and training of community based institutions (e.g. Taal Talaiya Sanrakshan Manch, Jal Chaupal, etc.) to encourage participatory discussions on conservation and wise use of wetlands. ■ Strengthening and involving local Temple Committee members in conservation and wise use of wetland. ■ Involve communities in conservation activities: Encourage active participation of community members in lake conservation initiatives, such as wetland restoration projects, tree plantation drives, and lake clean-up campaigns. Create community task forces to monitor and report on illegal encroachments or pollution. ■ Establish community-based monitoring: Form local groups to monitor the health of the wetland, track changes in water quality, and report issues such as illegal waste disposal or blockages in water channels. This participatory monitoring will create a sense of ownership among the community. ■ Community dialogues and meetings: Organize regular community meetings where villagers can voice concerns, share ideas, and be part of decision-making processes related to wetland management and conservation efforts. ■ Eco-Tourism Initiatives: Involve the communities, Wetland Mitras and Eco Development Committee members in promoting eco-tourism wherever possible, where they can manage guest houses, guide nature tours, and offer local products to tourists. This will create economic incentives for wetland preservation.	■ Awareness Campaigns: Conduct awareness campaigns/rallies using local media, public meetings, and farm visits to highlight the importance of wetlands and sustainable farming. ■ Display Board Gallery: Display boards with important information related to flora/fauna species, do's and don'ts in wetland, etc. can be developed and installed near the wetland for community awareness and sensitizing visitors like students, researchers and tourists ■ Environmental Days: Celebrate environmental days such as World Wetlands Day and World Environment Day with events focused on wetland conservation and sustainable agriculture. ■ Public campaigns on wetland protection: Launch public campaigns using street plays, folk songs, magic shows and traditional art forms to raise awareness about the importance of wetlands and the need for their protection. These culturally resonant methods can make the message more impactful. ■ Promote household responsibility: Educate households on reducing waste, conserving water, and preventing runoff. Encourage communities to adopt eco-friendly practices and promote the idea that every household plays a role in the health of the wetland. ■ Highlight the impact of pollution: Use visual aids, such as infographics and videos, to show how pollution is affecting the lake's biodiversity and the livelihoods that depend on it. Connect the health of the lake to the well-being of the community.

PRIORITY STAKEHOLDERS	CEPA STRATEGY			
	COMMUNICATION	CAPACITY BUILDING / EDUCATION	PARTICIPATION	AWARENESS
MATSYA JEEVI SAMITI	■ Information Campaigns: Develop awareness materials like posters, brochures, short videos to share information on ecological and economic benefits of wetlands and sustainable fishing practices. ■ Meetings and Workshops: Organize regular meetings and workshops for Samiti members to discuss wetland conservation issues, share knowledge, and develop action plans.	■ Training Programs: Conduct training programs on Ecosystem-Based Fisheries Management, sustainable fishing techniques, impacts of pollution on wetland health, integrated fisheries management, limited use of organic manure, wetland and biodiversity management. ■ Field Visits: Organize field visits for Samiti members to model sites where sustainable fishing practices are successfully implemented.	■ Community engagement activities: Engage Samiti members in community-based conservation activities such as wetland clean-ups, replanting vegetation, and monitoring water quality. ■ Collaborative Networks: Form networks with other fishing communities and conservation organizations to share knowledge, resources, and best practices.	■ Awareness Campaigns: Conduct awareness campaigns using local media, public meetings, and community events to highlight the importance of wetlands and sustainable fishing. ■ Success Stories: Share success stories and case studies of communities that have successfully integrated sustainable practices and contributed to wetland conservation. ■ Environmental Days: Celebrate environmental days such as World Wetlands Day and World Environment Day with activities focused on wetland conservation and sustainable fishing.
PANCHAYATI RAJ MEMBERS [GRAM PRADHAN, WARD MEMBERS]	■ Signage and Boards: Install informative boards around wetlands highlighting their significance, biodiversity, and conservation measures. ■ Community Meetings: Hold regular community meetings to discuss wetland issues, conservation strategies, financing mechanisms and progress. ■ Promote Transparent Communication: Encourage Gram Panchayats to regularly communicate with local communities about wetland conservation initiatives, legal land use, and sustainable practices. Use local meetings (Gram Sabhas) and community gatherings to spread awareness. ■ Liaison with Government Agencies: Strengthen communication channels between Gram Panchayats and government departments (e.g., Forest, Revenue, Agriculture) to ensure collaboration in enforcing regulations, addressing encroachments, and managing land use around the lake. ■ Awareness Campaigns: Conduct locally tailored awareness campaigns on the importance of protecting wetlands, focusing on the ecological services it provides (e.g., water, fish, and biodiversity) and the role of the Panchayat in ensuring its conservation.	■ Workshops and Training: Organize workshops and training sessions for Panchayat members, community leaders, Ward Members on wetland ecology and sustainable practices, solid and liquid waste management, efficient drainage systems, etc. ■ Resource Materials: Distribute educational materials such as pamphlets, booklets, and posters that provide information on wetland conservation practices. ■ Capacity building for panchayat members: Provide training sessions and workshops to Gram Panchayat members on wetland management, biodiversity conservation, and sustainable agricultural practices. This will enable them to make informed decisions that balance environmental protection with community needs. ■ Eco-Friendly Practices: Promote education on chemical-free farming, sustainable water management, and waste reduction techniques, which Panchayat leaders can communicate to broader community to reduce harmful impacts on the wetland.	■ Volunteering Opportunities: Create opportunities for community members to participate in wetland clean-up drives, tree plantation, and monitoring activities. ■ Participatory development of GPDP: Engage the community in developing and implementing wetland management plans and integrate it into GPDP, ensuring that the inputs and concerns of the communities are considered. ■ Engaging local communities: Involve local communities including women in conservation initiatives by holding regular meetings and discussions to gather input on how to protect the lake while supporting livelihoods. ■ Community-led wetland protection: Facilitate community-based monitoring and protection initiatives, such as waste management systems, tree planting, and wetland clean-up drives, led by the Panchayats. ■ Collaboration with Eco Development Committees: Encourage Gram Panchayats to collaborate with Eco Development Committees and local conservation groups to manage activities that promote wetland health and sustainability.	■ Awareness Campaigns: Conduct awareness campaigns using local festivals, fairs, and cultural events to reach a broader audience. ■ Thematic Days: Celebrate important environmental days such as World Wetlands Day, Earth Day, and World Environment Day with events focused on wetland conservation. ■ Environmental awareness in Gram Sabhas: Regularly include wetland conservation topics in Gram Sabha meetings. Highlight the ecological importance of wetlands, its significance as a Ramsar Site, and the benefits of sustainable land and water use practices for long-term community welfare. ■ Waste management campaigns: Promote awareness campaigns that address the proper disposal of solid and liquid waste in villages to prevent pollution of the wetland. ■ Cultural and religious ties to nature: Leverage local cultural and religious values that promote wetland conservation to develop a deeper connection between the community and the protection of wetlands.

PRIORITY STAKEHOLDERS	CEPA STRATEGY			
	COMMUNICATION	CAPACITY BUILDING / EDUCATION	PARTICIPATION	AWARENESS
SCHOOL/COLLEGE TEACHERS & STUDENTS	■ Interactive Workshops: Conduct engaging workshops for students and teachers that explain the ecological importance of the wetlands and its surroundings. ■ Wetland Corner (Wetland Learning Centre): Create a Wetland Corner in the school dedicated to wetland news, facts, conservation tips, photos, motivational slogans, informative wall art and so on. ■ Interactive Workshops: Conduct engaging workshops for students and teachers that explain the ecological importance of the Ramsar wetland and its surroundings. ■ Organize activities such as Poster Competition on Wetland Conservation and give attractive prizes to children to encourage them. ■ Host quiz competitions to test knowledge about wetlands and their ecosystems, followed by plantation events where students can plant native species to promote biodiversity.	■ Incorporating lessons: Incorporate experiences from the nearby wetlands and its ecology, biodiversity, and conservation while teaching related subjects, e.g. environmental science, geography, etc. ■ Field Trips: Organize regular field trips to wetlands to give students hands-on learning experiences about the wetland ecosystem. ■ Educational Materials: Distribute educational resources such as books, pamphlets, posters, and multimedia content about wetlands to enhance classroom learning.	■ Eco-Clubs: Establish eco-clubs in schools where students can participate in conservation projects, such as planting trees, cleaning up the wetland, and monitoring water quality. ■ Citizen Science: Engage students in citizen science projects where they can collect data on wetland health, species diversity, and water quality. ■ Competitions and Campaigns: Organize art, essay, and science competitions focused on wetland themes to encourage creative thinking and problem-solving related to conservation. ■ Wetland Champions: Identify active students and train them as Wetland Champions who can steer the wetland conservation agenda in the school.	■ Awareness Campaigns: Conduct rallies and campaigns in schools highlighting the importance of wetlands and the actions needed to protect them, using posters, slogans, etc. ■ Celebration of Environmental Days: Mark important days like World Wetlands Day, Earth Day, and World Environment Day with special activities and events focused on wetland conservation. ■ Experts Lectures: Invite local environmental experts, conservationists, and community leaders to speak at school about wetland conservation and inspire students with their knowledge and experiences.

PRIORITY STAKEHOLDERS	CEPA STRATEGY			
	COMMUNICATION	CAPACITY BUILDING / EDUCATION	PARTICIPATION	AWARENESS
ECO DEVELOPMENT COMMITTEE	■ Community engagement: Regular communication with local communities, fishermen, farmers, school children, and policymakers about the benefits of preserving the lake. ■ Local Media: Collaborate with local radio stations, newspapers, and TV channels to spread awareness and educate the community on the ecological importance of Lakes and Bird Sanctuaries	■ Capacity Building for EDC: Offer training sessions for the EDC members to enhance their knowledge on wetland management and conservation strategies. ■ Organize workshops with EDC members, representatives from the community, Panchayati Raj Department on solid waste management, low-cost composting technology promotion, drainage line treatment, water point development and biodiversity conservation. ■ School Programs: Organize educational programs in schools focusing on the role of wetlands in the ecosystem, biodiversity conservation, and sustainable resource use. ■ Eco-Workshops: Conduct workshops for local farmers on sustainable agricultural practices that do not harm the wetland. ■ Training for Fishers: Provide education on sustainable fishing practices, including the use of eco-friendly nets and techniques to maintain fish stock.	■ Volunteering Programs: Set up volunteer programs where local youth and NGOs can participate in activities like tree planting, lake cleaning drives, and bird counting during the migratory season. ■ Eco-Tourism Initiatives: Promote sustainable eco-tourism around the wetlands, involving local communities in managing guest houses, boat rides, and nature tours.	■ Thematic Days: Celebrate important environmental days such as World Wetlands Day, Earth Day, and World Environment Day with events focused on wetland conservation. ■ Biodiversity Awareness Campaigns: Conduct awareness campaigns on the flora and fauna, including migratory birds, and the ecological balance of the wetland. ■ Awareness events: Organise local festivals, fairs, thematic puppet shows, magic shows, and cultural events to reach a broader audience. ■ Signage and Information Boards: Install educational signboards around the lake explaining the biodiversity, threats, and the role of wetlands.

PRIORITY STAKEHOLDERS	CEPA STRATEGY			
	COMMUNICATION	CAPACITY BUILDING / EDUCATION	PARTICIPATION	AWARENESS
FOREST DEPARTMENT	■ Information dissemination: Develop targeted messaging on the ecological importance of Ramsar Wetlands and the bird sanctuary, highlighting its global significance. ■ Use of Media: Leverage local radio, newspapers, and social media to communicate conservation efforts, regulations, and the benefits of wetland protection to the broader community. ■ Signage & Information Boards: Install clear, engaging, and bilingual information boards at key locations within and around the wetland, educating visitors and locals about the species present, regulations, and conservation goals. ■ Regular Newsletters: Publish periodic updates on wetland conservation efforts, challenges, and successes to engage communities, policymakers, and visitors. ■ Develop targeted communication: Develop targeted communication to ensure clear and consistent messaging about wetland policies and conservation priorities through pamphlets, notices, posters and so on. ■ Stakeholder coordination: Facilitate communication channels between the Forest Department, local communities, and other agencies such as the Water Resources Department, Agriculture Department, and Panchayati Raj Institutions to ensure a unified approach to wetland management. ■ Awareness campaigns for communities: Equip officials with the necessary tools to lead or support awareness campaigns for local communities, emphasizing the ecological importance of the wetland and sustainable use practices.	■ Capacity building and training: Organize regular training programs for Forest Department officials to enhance their understanding of wetland ecology, biodiversity, sustainable agriculture, water management, and eco-friendly tourism practices. This will equip them to handle complex conservation issues effectively. • Wetland Ecology: Training on the specific ecological dynamics of the wetland, including its role in biodiversity support, hydrology, and local livelihoods. • Biodiversity Conservation: Provide specialized training on the identification, monitoring, and protection of key species, especially migratory birds and fish, which are crucial to the wetland's ecological health. ■ School Programs: Partner with local schools to introduce wetland conservation into the curriculum, organizing field trips, birdwatching activities, and nature-based learning at the sanctuary. ■ Workshops for Farmers: Organize workshops for local farmers, especially those cultivating tobacco and vegetables near the wetland, focusing on sustainable agricultural practices, water conservation, and the ecological importance of wetlands. ■ Capacity building of local leaders: Train local Panchayat members, community leaders, religious leaders/influencers on wetland management, Ramsar guidelines, and how to promote sustainable livelihoods while conserving biodiversity. ■ Legal Framework and Policies: Educate officials on the legal frameworks and national/international policies that govern Ramsar Sites, wetlands, and environmental protection, so they can better enforce regulations and promote legal compliance within the local community. ■ Best Practices in wetland management: Expose officials to best practices in wetland management from other regions through study tours, workshops, and knowledge-sharing platforms. ■ Promote Eco-Tourism: Train officials to support and regulate eco-tourism initiatives that can benefit both conservation and local livelihoods. They should be equipped to work with local communities to develop and manage eco-tourism activities such as bird watching, guided nature walks, and educational tours that showcase wetland's biodiversity.	■ Community involvement: Involve local communities in monitoring wetland health, reporting illegal activities, and participating in eco-restoration activities such as planting native species or desilting water channels. ■ Eco-Guardians: Form "eco-guardian" groups comprising local youth, who can act as wetland protectors, monitoring bird populations, controlling illegal fishing, and promoting eco-tourism. ■ Promote multi-stakeholder engagement: Enable Forest Department officials to actively involve local communities, fishers, farmers, and NGOs in wetland management. This participatory approach will enable cooperation and encourage local stakeholders to take ownership of conservation efforts. ■ Collaborative decision-making: Encourage Forest Department officials to include representatives from local villages and Eco Development Committee in decision-making processes related to wetland management. ■ Youth and community participation programs: Facilitate programs that encourage youth, local volunteers, and community members to actively participate in conservation activities such as tree plantation drives, biodiversity monitoring, and waste clean-up campaigns around wetlands. ■ Use of Technology: For monitoring purposes, CCTV cameras also can be installed, for real-time monitoring	■ Eco-Tourism Initiatives: Promote eco-tourism in the sanctuary in collaboration with local communities/ Wetland Mitras by creating nature trails, organizing guided bird-watching tours, and ensuring that tourism activities support wetland conservation rather than harm it. ■ Behavior Change Programs: Conduct campaigns to discourage illegal fishing, hunting, and encroachment, providing alternative livelihood suggestions that are aligned with wetland conservation. ■ Outreach and Engagement: Develop materials (brochures, posters, and digital content) to help Forest Department officials raise awareness about the importance of the wetland, ecosystem services it provides, and the need for conservation among local communities. ■ Biodiversity Days and Wetland Events: Lead initiatives for celebrating important environmental events such as World Wetlands Day (February 2) and Biodiversity Day (May 22), engaging both officials and local communities in awareness programs that highlight the value of wetlands and biodiversity. ■ Anti-Encroachment and Anti-Pollution Awareness: Equip officials to conduct targeted awareness programs on the negative impacts of encroachment and pollution in the wetland, educating community members about the consequences of illegal construction, waterway blockages, and waste dumping.

PRIORITY STAKEHOLDERS	CEPA STRATEGY			
	COMMUNICATION	CAPACITY BUILDING / EDUCATION	PARTICIPATION	AWARENESS
REVENUE DEPARTMENT	■ Demarcation of wetlands need to be done to establish clear boundary of the wetland ■ Clear messaging on land regulations: Develop and disseminate clear, accessible information on land use regulations around the wetlands, emphasizing the legal boundaries of the wetland and the consequences of encroachments. ■ Develop signages and informative boards to highlight biodiversity and its conservation. ■ Organise meetings with farmers to discuss and resolve land conflict issues for proper wetland conservation. ■ Interdepartmental coordination: Enable strong communication channels with other departments, particularly the Forest Department, Agriculture Department, and local governance bodies, to ensure coordinated efforts in wetland management and enforcement of land laws. ■ Community awareness campaigns: Work closely with the local community, Panchayats, and Eco Development Committees to raise awareness about the importance of protecting wetland land from encroachments and ensuring its sustainable use for future generations.	■ Workshops and Training: Organize workshops with representatives from the Revenue Department, Panchayati Raj Department, community representatives, and board members on land lease rules, laws regarding illegal land, and legal validity. ■ Mobilization and Training: Engage ward members, PRI leaders, and Revenue Department to manage wetlands as a service system and highlight its importance to the adjoining living community. ■ Organise workshops for Revenue Department officials to understand the environmental impacts of land-use decisions and how to enforce sustainable practices effectively. ■ Training on wetland land use regulations: Conduct workshops and training sessions for Revenue Department officials to deepen their understanding of legal frameworks governing Ramsar Sites, wetland protection laws, and the ecological significance of wetlands. ■ Capacity building for land management: Provide specific training on sustainable land management practices, including how to balance land development and conservation needs. Officials should be trained on how to identify and act against illegal encroachments, and methods for maintaining accurate land records.	■ Establish village-level committees that include local leaders, Wetland Mitras, farmers, and wetland users to consult on wetland protection and land management issues. ■ Collaborate with the Forest, Agriculture, and Water Resources Departments to implement a joint action plan for wetland conservation, ensuring the participation of all stakeholders. ■ Involve local schools and NGOs in conservation activities, such as tree planting, waste management, and water conservation projects around the wetland. ■ Organise clean-up drives, tree plantation activities, etc. ■ Community-led monitoring: Encourage the department to participate in community-led initiatives to monitor illegal encroachments and land misuse, creating a joint effort between officials and local residents in protecting the wetland. ■ Regular land audits: Support the participation of Revenue Department officials in conducting regular land audits and surveys to ensure accurate documentation and identification of encroachments or illegal activities near the wetland.	■ Develop signage around the wetland to highlight its significance, biodiversity, and the penalties for encroachment or environmental damage. ■ Outreach events on land conservation: Educate the local community on the importance of preserving land around wetlands for ecological and livelihood reasons. Revenue Department officials should organize or participate in awareness programs that highlight how unsustainable land use can harm the wetland ecosystem. ■ Highlighting the impact of encroachments: Use visual tools like maps, charts, and community meetings to show the impact of illegal destruction, blocked water channels, and reduced access to ecosystem services for dependent communities.

PRIORITY STAKEHOLDERS	CEPA STRATEGY			
	COMMUNICATION	CAPACITY BUILDING / EDUCATION	PARTICIPATION	AWARENESS
UTTAR PRADESH STATE WETLAND AUTHORITY & DISTRICT WETLAND COMMITTEES	■ Information Campaigns: Utilize multiple media platforms such as newspapers, radio, television, and social media to spread awareness about wetland conservation. ■ Publications: Develop and distribute informative brochures, newsletters, and reports highlighting the significance of wetlands, current threats, and conservation success stories. ■ Stakeholder Meetings: Organize regular meetings and forums for stakeholders to discuss wetland issues, share knowledge, and coordinate conservation efforts. ■ Inter-Departmental Coordination: Establish strong communication channels between the State Wetland Authority, District Wetland Committee, and other relevant departments (Forest, Agriculture, Revenue, and Panchayati Raj) to ensure a unified approach to wetland conservation.	■ District Wetland Committees: Organise training programmes to strengthen District Wetland Committees and provide them with clear guidelines on management and conservation of wetlands in the districts. ■ Wetland Interpretation Centres: Establish Wetland Interpretation Centres that can provide information on the wetland through exhibits, nature trails, trainings, and other resource material. The Centre can in educating communities as well as researchers to learn about wetlands and promote its conservation ■ School Programs: Develop educational programs for schools, including curriculum materials, teacher training workshops, and field trips to local wetlands. ■ Workshops and Seminars: Conduct workshops and seminars for government officials, local authorities, community leaders, and NGOs on wetland management and sustainable practices. ■ Educational Materials: Create and distribute educational booklets, manuals, and multimedia content on wetland conservation and management techniques.	■ Community Projects: Engage local communities in hands-on conservation projects such as wetland clean-ups, tree planting, and habitat restoration. ■ Citizen Science: Encourage citizens to participate in monitoring wetland health and biodiversity through citizen science initiatives. ■ Habitat Restoration: Collaborate with local experts to restore native vegetation and enhance wetland ecosystems ■ Skill-Building Workshops: Offer workshops that teach relevant skills, such as plant identification, ecological surveying, and restoration techniques. ■ Volunteering Opportunities: Provide opportunities for volunteers to get involved in wetland conservation activities, fostering a sense of ownership and responsibility. ■ Women and marginalized group inclusion: Ensure that women, landless farmers, and marginalized groups are included in conservation programs, providing them with roles in monitoring, decision-making, and livelihood support activities around the wetland.	■ Awareness Campaigns: Launch state-wide awareness campaigns using traditional and digital media to highlight the importance of wetlands and the need for their conservation. ■ Success Stories: Share success stories of wetland conservation projects and initiatives to inspire and motivate others. ■ Environmental Days: Celebrate important environmental days such as World Wetlands Day and World Environment Day with special events, activities, and media coverage focused on wetlands. ■ Wetland Festivals and Eco-Tourism Promotion: Collaborate with local bodies to organize annual events or eco-festivals that celebrate the biodiversity and cultural significance of wetlands, helping to build a sense of ownership among the local community and promote eco-tourism.

ANNEXURE-2

CEPA STRATEGY ON WETLAND ECO- TOURISM FOR PARVATI ARGA, GONDA

Wetlands are amongst the most productive of the world's ecosystems, providing a diversity of ecosystem services that sustain our lives. The 'cultural' ecosystem services, such as the aesthetic, recreational, and spiritual values manifested by many wetlands, further explains the popularity of wetlands as tourist destinations attracting thousands of visitors each year.

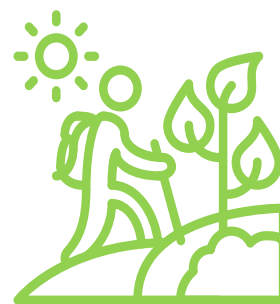
Wetlands offer significant tourism opportunities that can be a key source of income, bringing economic benefits to national and local economies and contributing to local livelihoods. There is evidence too that well-managed, sustainable tourism can contribute to wetland conservation and wise use as well. People are naturally attracted to water, to coastal wetlands and beaches, and to inland wetlands such as lakes and rivers, reflecting the strong bond between people and nature as well as the unique aesthetic appeal of wetlands. Yet, within the Ramsar Convention, the challenges of unsustainable tourism, the potential damage to wetland ecosystems and local economies through the uncontrolled development of tourism infrastructure, inappropriate tourist behaviour, and poorly conceived tourism strategies, policies and plans, are also well known.

The need for a more sustainable tourism is now widely appreciated by the tourism sector: many leading and specialist tourism businesses are committed to working towards the greater sustainability of their enterprises. Sustainable tourism – and the concepts of 'green tourism' or 'responsible tourism' which are based on sustainable tourism principles – are of growing importance to tourists themselves and therefore, for tourism marketing. Sustainability practices are key for tourism businesses since they help to protect the features that appeal to tourists – attractive and interesting landscapes, wildlife, culture and local traditions. They ensure that these features continue to generate economic benefits for both business and local communities.

Under the Ramsar Convention, wise use of wetlands is the central principle and it aligns itself with the definition of sustainable tourism adopted by the United Nations World Tourism Organisation (UNWTO) which specifically states that *“sustainable tourism should make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.”* The additional elements in UNWTO's definition are also consistent with Ramsar Resolutions and guidelines, that includes recognition of cultural values and traditional knowledge and the desirability of creating opportunities to sustain and improve peoples' livelihoods, especially for the poor.

Parvati Arga Bird Sanctuary: Eco-tourism Opportunities

Situated near Gonda district of Uttar Pradesh, Parvati and Arga are two connected water bodies comprising an area of 1,084.84 ha. They are rain-fed lakes in a deep natural depression in the Gangetic plains of the terai region. The Parvati Arga Sanctuary was established in 1997. The lake is naturally able to sustain resident birds throughout the year and migratory birds during winter season. The sanctuary is spread over an area of 693.82 ha. The sanctuary is under the administrative control of Sohelwa Wildlife Division, headquartered at Balrampur. The biggest attraction of the sanctuary is the presence of variety of avian species. At least 153 Species of avifauna belonging to 33 families have been identified in the Parvati Arga wetland. Around 136 species of flora has been identified from the Sanctuary area.



This sanctuary with its natural endowment is a potential ecotourism site in terms of providing facilities of bird conservation awareness, for education of students and public, for nature recreation and involvement of local communities in these various activities in waterbodies, birding, etc.

The Parvati Arga Ramsar Site offers a unique opportunity to integrate ecotourism with local livelihoods through a range of activities that can be undertaken. Below are few ideas and scope of promoting eco-tourism on the site:

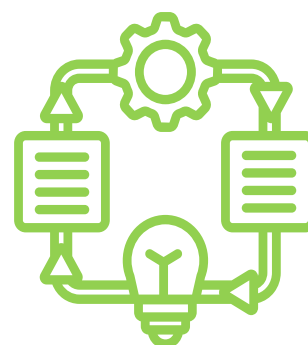
- **Promoting Homestays (living with nature models):** Homestays not only provide a sustainable income source for the local community but also enhance the tourist experience by offering authentic cultural and environmental immersion. Promoting homestays will allow the local population to benefit directly from tourism activities. By involving residents, they can generate income from hosting visitors, providing meals, and guiding them through the wetland's biodiversity and local attractions. This creates an incentive for the community to actively participate in wetland conservation and preservation of the Ramsar Site's ecological balance.



On the other hand, Homestays offer tourists a chance to live within the local culture, understand rural life, and witness firsthand the rich biodiversity of the wetland. They can experience bird watching, nature walks, and traditional agricultural practices, contributing to the wetland's conservation while enjoying a low-impact form of tourism. Homestay programs promote sustainable development by encouraging eco-friendly accommodations and tourism practices. They reduce the strain on large-scale infrastructure and ensure minimal disruption to the wetland environment.

By staying with local families, visitors can experience traditional practices, folklore, and rural crafts. This helps preserve cultural heritage and fosters pride within the community for their local customs and the Ramsar Site itself. Collaborative efforts from the Forest Department, Tourism Department, and local NGOs can support infrastructure development, training for local residents in hospitality and tourism management, and creating promotional campaigns to attract eco-conscious tourists.

- **Educational Sessions on Ecosystem Services and Biodiversity:** Raising awareness about the ecosystem services and biodiversity of the wetland for tourists is essential for promoting responsible eco-tourism. Visitors can be educated on the wetland's vital role in water purification, flood control, carbon sequestration, and providing habitat for a wide range of flora and fauna, including migratory birds. Guided tours, nature trail walks, interpretative signage, and educational programs can highlight the importance of conserving this biodiverse habitat. By understanding the ecological value of the wetland, tourists are more likely to appreciate its beauty and contribute to conservation efforts, ensuring the protection of the ecosystem.



- **Building Watch Tower:** Establishing watchtowers around the wetland in joint collaboration of community and Forest Department can enhance eco-tourism by providing visitors with an elevated view of the wetland's diverse wildlife, especially for birdwatching enthusiasts. It will offer a unique vantage point to observe the rich biodiversity without disturbing the natural habitat. The watchtower can also serve as an educational hub, raising awareness about wetland conservation while promoting responsible tourism. This initiative will boost local tourism and attract nature lovers.
- **Wetland Mitras as Tourist Guides:** Developing local residents/Wetland Mitras as tourist guides will encourage community participation in eco-tourism while promoting sustainable livelihoods. By training local individuals, their knowledge of the region's biodiversity, culture, and history can be utilized to offer visitors authentic and informative experiences. This initiative will empower residents with new skills, generate employment opportunities, and encourage the community to take ownership of wetland conservation efforts. Local guides can play a vital role in educating tourists about the ecological importance of the wetland, ensuring responsible tourism that benefits both the environment and the community.
- **Promoting Awareness on Millets:** Educating tourists about locally grown millets (*Shree Anna*) can be a vital aspect of promoting sustainable agriculture and healthy diets. By incorporating millet awareness into eco-tourism, visitors can learn about the nutritional value, climate-resilient properties, and cultural significance of these traditional grains. Interactive experiences, such as farm visits, cooking demonstrations, and tasting sessions, can highlight the importance of millets in local cuisine and their role in supporting sustainable farming practices. This initiative can also help boost local millet markets, encouraging tourists to support local farmers by purchasing these grains, thus contributing to the economic and environmental well-being of the region.



ANNEXURE-3

CEPA STRATEGY ON PROMOTING ORGANIC FARMING AROUND PARVATI ARGA, GONDA

Food production is one of main services provided by the wetlands and their catchments, especially riverine wetlands in floodplains where soils are fertile and water is plentiful. Indeed, wetlands have nurtured the development of many important cultures – but the downside is that drainage and reclamation of wetlands for agriculture has become ever more widespread. In some regions of the world more than 50% of peatlands, marshes, riparian zones, lake littoral zones and floodplains have been lost, with conversion for agricultural uses being one of the primary reasons for these ongoing wetland losses.

Wetlands provide food and other agricultural products such as fuel and fibre directly through agricultural production activities that take place within wetlands, such as in farming fields, grazing marshes, and aquaculture in large floodplains, etc. Wetlands also support agriculture indirectly, for example by providing fertile soils and reliable supplies of good quality water.

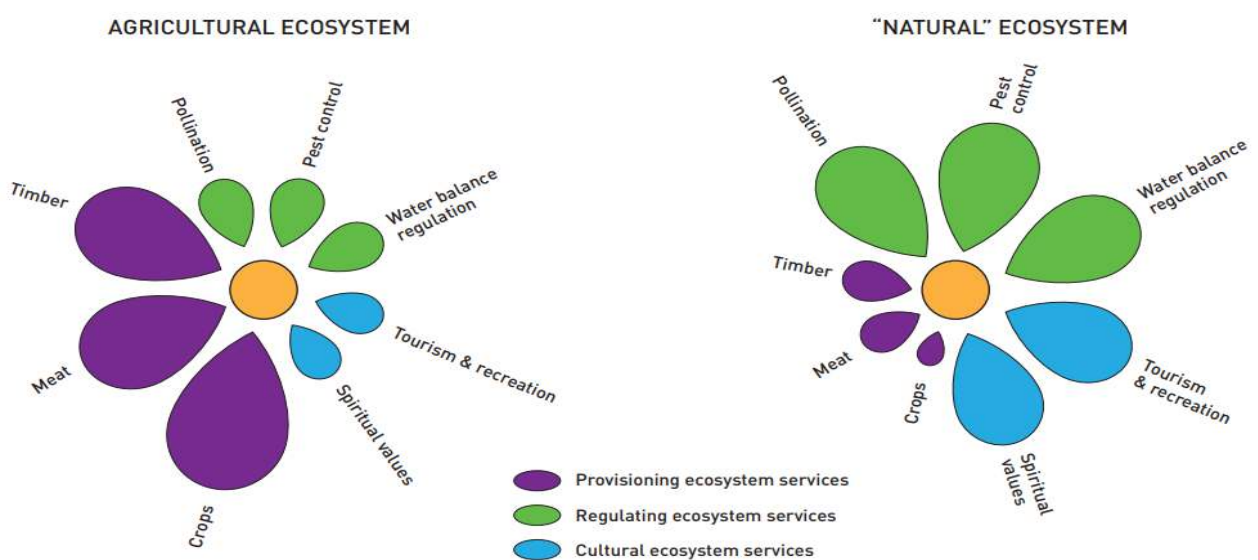
However, agricultural practices and farming in and around the wetland may also have adverse impact on the wetland ecosystem. Intensive agriculture activities often lead to increased loads of pollutants such as chemical pesticides, fertilizers, antibiotics and disinfectants. Not only do these affect the ecological character of wetlands, they also have impacts on human health and the quality of drinking water supplied from wetlands. Further, agricultural activities also disturb wetland functions and ecosystem services include the drainage and conversion of wetlands to cultivated land; the introduction of invasive plant and animal species; the introduction of human and animal disease vectors; and the disturbance of breeding, migration and feeding patterns of wetland fauna.

The wise use of wetlands and their ecosystem services is central to the purpose of the Ramsar Convention. In the agricultural context, wise use refers to managing agriculture-wetland interactions in ways that maintain essential wetland ecosystem services; it means seeking an appropriate balance between provisioning, supporting, regulating and cultural services. The need to find this balance as well as recognize the importance of wetlands to agriculture are highlighted in Ramsar's Resolution VIII.34 (2002) on agriculture, wetlands and water resources management.

There are many ways in which poorly managed agricultural practices in the catchment and adjoining areas can adversely impact wetlands. This can lead to changes in the ecological character of a wetland and the possible permanent loss of its benefits to people. Agriculture focuses on managing and enhancing provisioning ecosystem services. While we can increase agricultural production – thus increasing the provisioning services – perhaps by using more chemical fertilizers to obtain higher yields for crops grown in seasonal wetlands or by withdrawing larger amounts of water for irrigation, there is the risk that

the ecological character of the wetlands will be altered to the point where we lose essential regulating and supporting services. And this can in turn, result in the subsequent loss or degradation of those very provisioning services that were so important in the first place.

On similar lines, around the Parvati Arga Ramsar Wetland in district Gonda, Uttar Pradesh, farmers are engaged in large scale tobacco farming and vegetable cultivation. Cultivating tobacco entails intensive use of chemical fertilizers and pesticides. Also during the post-harvest drying of tobacco, the residue/waste material enters the wetland waters, thereby polluting it. Intensive vegetable cultivation is undertaken by farmers on large scale for commercial purposes which also involves high use of chemical inputs. Due to these unsustainable practices (excessive use of chemical fertilizers and pesticides, water pollution, etc.), the ecosystem services are getting disturbed in the Parvati Arga wetland. It is important that the wetland is protected from adverse impacts of agriculture practices around wetland.



Source: L.J. Gordon et. al. *Agricultural Water management* 97 [2010]: 512-519

Figure-1: Agriculture generally increases provisioning ecosystem services at the expense of regulating and cultural services

Given the above, an organic corridor can be developed in and around the Parvati Arga wetland by building capacities of the farmers on organic farming and ecological principles and handholding them to undertake such practices that are sustainable and can significantly contribute to the health of the wetland ecosystem. This can provide a win-win situation where on one hand farmers can gain good income through organic products and at the same time wetland can be protected from harmful chemicals and soil erosion.

The Organic Corridor:

Promoting chemical-free/organic farming around the Parvati Arga Ramsar Wetland is crucial for safeguarding the wetland's biodiversity and water quality. The use of chemical pesticides and fertilizers in tobacco and vegetable farming in nearby agricultural lands leads to runoff that contaminates water bodies, affecting both aquatic life and the health of communities, dependent on the wetland ecosystem. Transitioning to organic farming methods can help reduce this pollution, creating a sustainable balance between agriculture and conservation.

Developing an organic corridor around the wetland would involve encouraging local farmers to adopt sustainable practices such as organic composting, crop rotation, and the use of natural pest control methods. This shift would not only protect the wetland's ecological integrity but also create economic opportunities for farmers, as organic products often fetch higher market prices. Additionally, integrating this organic corridor with eco-tourism initiatives can enhance the appeal of the region, attracting environmentally conscious tourists and promoting local, organic products.

This initiative can be supported by training and awareness programs for farmers, financial incentives for those transitioning to organic methods, and creating local markets for organic produce. The promotion of chemical-free farming around Parvati Arga will ensure that agriculture and the environment co-exist harmoniously, fostering long-term sustainability and improving the livelihoods of local communities.

Key components of Organic Farming

- **Crop rotation:** It is a systematic arrangement for the growing of different crops in a more or less regular sequence on the same land covering a period of two years or more. The selection of optimal crop rotation is important for successful sustainable agriculture. Crop rotation is very important for soil fertility management, weed, insect and disease control. Legumes are essential in any rotation and should cover 30 to 50 percent of the land. A mixed cropping, pasture and livestock system is desirable or even essential for the success of sustainable agriculture.
- **Crop Residue:** The crop residues can be utilized as animal feed and for recycling of nutrients. Adequate care is required to use the residues after proper composting with efficient microbial inoculants.
- **Organic manure:** The organic manure is derived from biological sources like plant, animal and human residues. Organic manure act in many ways in augmenting crop growth and soil productivity. The direct effect of organic manure relates to the uptake of humic substances or its decomposition products affecting favourably the growth and yield of plants. Indirectly, it augments the beneficial soil microorganisms and their activities and thus increases the availability of major and minor plant nutrients. Organic manure like compost, vermi-compost, vermi-wash, green manure, Jeevamrit, Farm Yard Manure, etc can be promoted in crops.
- **Bio-Mulching:** It is a practice of ploughing or turning into the soil undecomposed green plant tissues for the purpose of improving physical structure as well as fertility of the soil. Mulching is the principal supplementary means of adding organic matter to the soil as well as additional nitrogen, particularly, if it is a legume crop, which has the ability to fix nitrogen from the air with the help of its root-nodule bacteria.
- **Bio-fertilizers:** Bio-fertilizer offers an economically attractive and ecologically sound means of reducing external inputs and improving the quality and quantity of internal

sources. Bio-fertilizer is microorganism's culture capable of fixing atmospheric nitrogen when suitable crops are inoculated with them. The main inputs are microorganisms, which are capable of mobilizing nutritive elements from non-usable form to usable form through biological process. These are less expensive, eco-friendly and sustainable.

- **Bio-pesticide:** Bio-pesticides and other preparations of plant origin used in agriculture seem to have a good scope especially in view of the environmental problems being faced with the synthetic agrochemical.
- **Integrated Pest Management:** This is a sustainable approach to managing pests that uses a variety of methods to minimize the use of pesticides and the risk to people, and the environment. IPM strategies include:
 - ✦ **Inter-planting:** Spreading different plants throughout the field to dilute the attractive odor of preferred plants and slow the spread of diseases
 - ✦ **Mechanical controls:** Using traps such as Pheromone, etc.
 - ✦ **Physical controls:** Using mulches to manage weeds or using screens to keep birds and insects out

Proposed Actions Towards Developing Organic Corridor:

- **Identifying boundary around wetland for organic farming:** In collaboration with Revenue Department and Agriculture Department, a boundary needs to be identified within which the farming has direct impact on wetland.
- **Capacity building of farmers:** Awareness and capacity building of farmers in the identified corridor regarding benefits of organic farming (including horticulture), processes to be followed towards organic farming, facilities available through various government and private sector schemes, standards to be followed, marketing avenues, etc. will be crucial towards mobilizing farmers to shift towards natural farming/organic farming
- **Needed Extension:** Arrangements for needed extension for helping farmers to adopt natural/organic farming like needed farm inputs, capacity building, establishing local organic input production, linkages with resource institution (like KVK, NDUAT, etc.) will be essential.
- **Establishing Linkages:** Linking farmers with relevant/supportive government and private sector schemes that provide support/subsidy for inputs, training, etc for organic farming will be required.
- **Facilitating organic certification:** Organic certification is a critical process that verifies the authenticity of organic agricultural practices and ensures that products labeled as "organic" meet specific standards set by regulatory bodies. Facilitating this certification not only enhances the credibility of organic farming but also provides farmers access to premium markets. This will be crucial for farmers to get good market prices for their produce.
- **Post-Harvest support:** Post-harvest support will be quite essential to help farmers maximize the value of their crops and reduce losses. Providing farmers with access to proper storage facilities, packaging, efficient transportation, and value-addition techniques ensures that harvested produce is preserved, protected, and marketed effectively. Training on post-harvest handling, grading, and packaging will improve product quality, while access to processing units can help farmers tap into new markets, ultimately enhancing their income and sustainability.

- **Formation of Organic Farmer Producer Organization (FPO):** With the support of NABARD, an organic Farmer Producer Organisation (FPO) may be established which will empower the small and marginal farmers by collectively addressing challenges in organic farming. Through an FPO, farmers will have access to better inputs, share knowledge on sustainable practices, and ensure adherence to organic standards. By aggregating their produce, members can gain stronger market leverage, allowing them to negotiate better prices and reach larger, organic-focused markets. Additionally, FPOs will also provide a platform for training, capacity building, and certification, which boosts the credibility of their products and increases income.
- **Sustainability and Scalability:** Organic farming offers significant sustainability and scalability opportunities. By promoting the use of natural inputs, organic farming enhances soil fertility, biodiversity, and ecosystem health. Sustainability is achieved through crop rotation, reduced chemical usage, and water conservation, ensuring long-term productivity without degrading the environment. Organic farming supports carbon sequestration and reduces greenhouse gas emissions, contributing to climate resilience.

Scalability opportunities lie in the growing demand for organic products. With proper support, smallholder farmers can adopt organic practices, benefiting from certification and premium prices. Technology and knowledge sharing also enable scalable solutions, like efficient organic pest management and digital platforms that connect farmers to organic markets. By fostering partnerships, investing in organic value chains, and promoting community-driven approaches, organic farming can expand while maintaining ecological balance.

ANNEXURE-4:

CASE STUDIES FROM CEPA PILOT EVENTS

Empowering Communities: Enhancing Capacities on Ecosystem-Based Fisheries Management

Mankotahi Taal, covering approximately 41.7 hectares along Kaptanganj-Naurangia Road in Kushinagar district, is a significant and shallow eutrophic lake with historical importance to the local *Nishad* community. Despite its cultural and ecological value, the lake has been degrading, marked by biodiversity loss and water pollution, due to unsustainable fishing and agricultural practices.

Community consultations highlighted that Mankotahi Taal is suffering from serious pollution issues, with only one-third of its original water capacity remaining. The lake, leased to the local Matsya Jeevi Samiti for fish farming, has seen detrimental practices over the past 20 years. To increase fish yields, the Samiti has been adding chemical fertilizers, pesticides, and large amounts of dung into the lake, which has led to pollution, increased siltation, and the wiping off the aquatic plants that naturally clean the lake. Additionally, nearby agricultural activities contribute to pollution through runoff laden with chemicals.

Recognizing that Matsya Jeevi Samiti members are key stakeholders directly impacting the lake, a capacity-building training program was organized for them on ecosystem-based fisheries management. This program aimed to educate committee members on sustainable practices, particularly through Integrated Fish Farming (IFF), as well as the importance of lake ecosystem services. Key training topics included:

Importance of Aquatic Plants, such as lotus root, purain leaf, duckweed, water hyacinth, reeds, common waterweed, phytoplankton, commonly known as algae etc. that create dissolved oxygen in the lake waters and act as food for fish and other aquatic organisms.

Water conservation techniques to ensure that the water level is maintained throughout the year. Cleaning and repairing drains coming from the catchment area from time to time, cleaning of silt from the pond, etc. need to be ensured from time to time to ensure free flow of water in the wetland.

Integrated Fish Farming, that gives additional income or supplementary income to the farmer. In this system, all the sub-systems such as fish, crops, and livestock are interlinked in such a way that by-products/wastes from one sub-system become valuable inputs for the other sub-system thus ensuring total utilization of farmland and water resources, resulting in maximum and diversified agricultural production with minimum financial and labour costs. Integration of fish farming with livestock and poultry birds in a design allows waste from one system to be used as inputs in another. There are several methods of integrated fish farming, such as:

- **Fish-poultry farming:** Fish waste provides nutrients for pond plants and invertebrates, while poultry faeces serve as supplementary feed for fish.

- **Fish-Rice Farming (Paddy-Cum-Fish Culture):** Fish benefit from nutrient-rich water, and fish waste contributes to the fertility of the rice fields.
- **Fish-Horticulture Farming:** Fish waste provides nutrients for plants, and plants help maintain water quality by absorbing excess nutrients.
- **Fish-Livestock Farming:** Fish ponds are integrated with small livestock such as goats or cows. Livestock graze in the areas surrounding the ponds, and their waste contributes to the nutrient content of the water.

Participants learned about the importance of aquatic plants, which naturally enhance dissolved oxygen and absorb pollutants. They were also educated on the need for stable water levels for ecosystem sustainability, particularly through rainwater conservation measures. The significance of food chains within lake ecosystems was covered, stressing the interdependence of organisms.



Matsya Jeevi Samiti members expressed their appreciation for the insights gained, especially the practical integration of ducks and poultry in the lake ecosystem. They noted that ducks help aerate water by stirring it, benefiting fish health. Through this training, Samiti members recognized that sustainable practices allow for productive fish farming without harming natural resources, and they committed to preserving the ecosystem services through wise use of wetland for their livelihoods.

Guardians of the Wetland: Inspiring Young Minds to Protect Sarsai Nawar Jheel

The Sarsai Nawar Wetland, a Ramsar Site since 2019, is a critical ecological and cultural landmark located in Etawah district, Uttar Pradesh. This 161.27-hectare wetland, nourished by monsoon rains, forms part of the Indo-Gangetic floodplain and supports a range of flora and fauna, including endangered species like the Sarus crane, white-rumped vulture, and woolly-necked stork. The wetland also serves as a key stop for migratory birds along the Central Asian flyway. Beyond its ecological value, the site holds cultural significance, housing the Hazari Mahadev Temple, a revered destination for local festivals. Recognizing its multifaceted importance, conservation efforts have been intensified to safeguard this unique ecosystem from threats like pollution, chemical runoff, and encroachment.

Sensitizing school children on issues concerning the Sarsai Nawar Jheel was chosen as a CEPA pilot activity. Children, with their curiosity and adaptability, are quick to grasp environmental concepts and understand the importance of biodiversity. Educating them about the role of wetland ecosystems—such as supporting diverse species, improving

water quality, and mitigating climate impacts—instills a sense of responsibility towards nature. By engaging children, the idea was to empower them to influence their families and communities, spreading awareness and promoting eco-friendly practices.

A series of CEPA activities were conducted to engage children through different means in creating awareness and sensitization on the importance of wise use of wetlands. Local community members and farmers were also engaged in the CEPA actions and discussions:

- **Wetland Conservation Awareness Rally:** Around 80 students and teachers from the Sainik School led a rally around the Sarsai Nawar Wetland, joined by various local departments. Inaugurated by Ms Shweta Mishra, SDM, Etawah, the rally aimed to inspire community awareness and discourage activities harming the wetland. The students spread awareness on avoiding waste disposal, adopting sustainable farming, and protecting wildlife habitats. The rally fostered a collective commitment among community members to safeguard the wetland

- **Poster, Craft, and Quiz Competitions:** Following the rally, students participated in creative competitions to express their understanding of wetland conservation. Their entries illustrated their appreciation of the ecosystem, and the top performers were awarded by dignitaries. This activity not only educated the students but also emphasized the importance of conservation to the broader community.

- **Tree Plantation Drive:** A tree plantation initiative involved students, local leaders, and Wetland Mitras in planting water-tolerant trees around the wetland. The drive, led by community members, reinforced the message of environment conservation and highlighted the role of trees in maintaining ecological balance.

- **Signature Campaign:** A signature campaign was conducted at the Sarsai Nawar Wetland Eco Centre, gathering pledges from students, farmers, and community members to protect the wetland. This campaign instilled a sense of ownership, with participants committing to actions that support the wetland's preservation.

- **Farmers' Meeting on Sustainable Practices:** Local experts held a workshop with farmers to introduce eco-friendly farming methods, highlighting alternatives to chemical fertilizers and pesticides. Techniques like vermicomposting and bio-pesticides were discussed to minimize environmental impact. Farmers left with practical knowledge for adopting sustainable practices that benefit both their livelihoods and the wetland ecosystem.

- **Online Registration of Wetland Mitras:** Sixteen community members registered as Wetland Mitras on the Wetlands of India Portal, pledging to



support conservation activities, monitor the wetland, and engage in cleanup and awareness efforts.

These events and actions with the involvement of students underscored the potential for youth to influence community attitudes and take proactive steps in conservation. The participants identified issues such as encroachment, chemical farming, and waste disposal for continuous education and action. The campaign also demonstrated the strength of a united approach, with multiple groups working together to protect the wetland.

This initiative at Sarsai Nawar Wetland is a testament to the effectiveness of community-centered conservation efforts, with shared commitment to safeguarding a vital ecosystem for future generations.

Wetland Champion: Dr. Tilak Singh

A committed local conservationist, Dr. Tilak Singh has played a crucial role in protecting Sarsai Nawar Wetland. His efforts have included working with local authorities to prevent illegal encroachment and reducing harmful farming practices. Dr. Singh's activism has inspired community pride in the Ramsar status of the wetland, motivating others to participate in conservation efforts.

Multi-Stakeholder Engagement - Key to Wise Use of Wetlands

Parvati Arga Bird Sanctuary is a permanent freshwater environment consisting of two oxbow lakes. These wetlands are characteristic of Uttar Pradesh and offer exceptional habitats for waterbirds, providing both roosting and breeding sites with over 100,000 birds documented in annual counts. The Sanctuary is a refuge for some of India's threatened vulture species: the critically endangered white-rumped vulture (*Gyps bengalensis*) and Indian vulture (*Gyps indicus*), and the endangered Egyptian vulture (*Neophron percnopterus*) have all been recorded. It is also critical in the maintenance of hydrological regimes, ensuring groundwater recharge and discharge. Meanwhile ancient temples around the lakes provide religious significance and encourage tourism. Invasive species such as the common water hyacinth (*Eichhornia crassipes*) along with the development of roads and railways present significant threats. The Sanctuary is located in Tarabganj Tehsil, at a distance of about 40 km from Gonda District at Mankapur-Nawabganj Road in UP.

The current conditions in the Parvati and Arga wetlands differ significantly, with water levels in the Arga wetland being sufficient, while the Parvati has water levels that fluctuate from one to four feet and is drying up. Community discussions revealed that Parvati wetland previously contained nine natural vents and one outlet, directing excess water toward the nearby river. Over time, however, these natural water channels have been obstructed due to road construction and encroachment of farmland, leading to the wetlands' decline. Furthermore, agricultural runoff and wastewater from nearby villages pollute the wetland, negatively impacting its biodiversity.

Upon probing the key reasons for the wetland degradation in Parvati Arga, it was seen that there is a lack of coordinated efforts between different stakeholders involved in the wetland use and management. This called for a CEPA action on engaging with different stakeholders who are directly or indirectly connected to the wetland to evolve actionable points for its sustainable management.

The multi-stakeholder engagement CEPA event brought together various stakeholders, including Central Minister, MoEFCC, Govt of India, DFO, Gonda, District Magistrate, Gonda, representatives from FRI, Dehradun, WWF, GIZ India, IIT Kanpur, local residents, farmers, youth groups, and other organizations.

The event aimed to bridge the gap among stakeholders by organizing informative sessions, poster and banner campaigns, and exhibitions. These activities were held at the Regional

Forestry Office with participation from dignitaries, including government officials and other stakeholders.

Community outreach programs were also conducted across the villages surrounding the Parvati and Arga wetlands, engaging approximately 250-300 people in discussions on wetland conservation. Posters and banners were set up to communicate key messages on the importance of wetland conservation, eco-friendly agricultural practices, and water management. About 40% of the attendees were women, who also contributed suggestions to become “wetland champions.” The outreach programmes focussed on - importance of eco-friendly farming, ways to protect water quality, responsible disposal of household waste, benefits of eco-tourism and steps for safeguarding local ecosystem services.

The multi-stakeholder engagement approach proved to be a powerful tool in fostering community participation in wetland conservation. Participants expressed a sense of shared responsibility, with many individuals coming forward to volunteer as “Wetland Mitras.” The collaboration extended from local to national levels, ensuring comprehensive support and raising awareness through CEPA-based initiatives.



The CEPA Strategy highlighted the effectiveness of educating communities about wetland conservation and engaging them in activities that align with both local and global conservation goals. This initiative laid the groundwork for long-term, sustainable engagement, allowing the Parvati and Arga wetlands to serve as vital resources for future generations.

Safeguarding Bakhira Wildlife Sanctuary through Community Sensitization

Bakhira Lake, part of the Bakhira Wildlife Sanctuary in Uttar Pradesh, is India’s largest natural floodplain wetland, covering over 2,800 hectares during the monsoon. This ecologically significant wetland supports diverse flora and fauna, including migratory birds along the Central Asian Flyway. Surrounded by agricultural lands, the lake has faced pollution from unsustainable practices, including chemical farming and waste dumping, jeopardizing its ecosystem services.

Community activities such as fishing, grazing, bathing, and agricultural runoff have significantly impacted Bakhira Lake. Unsustainable practices like using chemical fertilizers, pesticide application, and waste disposal have led to water pollution and habitat degradation.

Recognizing the critical role of local communities in conservation, an awareness campaign was organized in three villages—Jaswal Bharwalia, Mahala, and Jhungiya—to promote sustainable practices and highlight the ecological and cultural significance of Bakhira Lake.

Some of the key activities carried out during the campaign were as follows:

- 1. Puppet Show:** A creatively designed puppet show illustrated harmful practices such as bathing and washing with detergents, littering, and grazing. Characters like “Jokhim Chacha” explained the lake’s ecosystem services, while other puppets depicted pollution impacts and solutions. The narrative concluded with a positive transformation, showing a clean lake and harmonious human interaction, encouraging responsible behavior.
- 2. Drawing Competition for school children:** Engaging 50 students from local schools, the drawing competition fostered awareness about wetlands. Through creative expression, children showcased their understanding of conservation, spreading the message to their families and communities.
- 3. Slogan Writing Campaign:** Villagers and students participated in a slogan-writing event, creating impactful messages such as:

*“Jab Tak Hai Jal Surakshit,
Tab Tak Hai Kal Surakshit”*

(The future is secure only as long as the water is secure).

*“Pakshi Hamare Mehman Hain,
Unko Bachana Hamara Kaam Hai”*

(Birds are our guests; protecting them is our duty).

These slogans inspired a collective sense of responsibility for conserving the lake.

- 4. Farmers’ Orientation on Sustainable Agriculture:** Experts from the Agriculture Department held an orientation with farmers to introduce eco-friendly farming methods. They highlighted alternatives to chemical fertilizers and pesticides, such as vermicomposting and bio-pesticides, to minimize



environmental impact. Farmers were left with practical knowledge for adopting sustainable practices that benefit their livelihoods and the wetland ecosystem.

5. **Exhibition:** A community exhibition showcased information on lake conservation, bird protection, and sustainable practices. Farmers were educated on preparing organic fertilizers and pesticides using locally available materials. Motivational sessions on tree plantation and lake cleaning emphasized individual contributions to conservation.

The campaign influenced the communities and instilled a feeling of ownership towards the lake for its conservation. The sensitization campaign demonstrated the power of community-driven conservation efforts. By engaging local stakeholders through creative and educational initiatives, the campaign laid the foundation for sustainable wetland management, ensuring this vital ecosystem is preserved for future generations.





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