

Wetlands for LiFE



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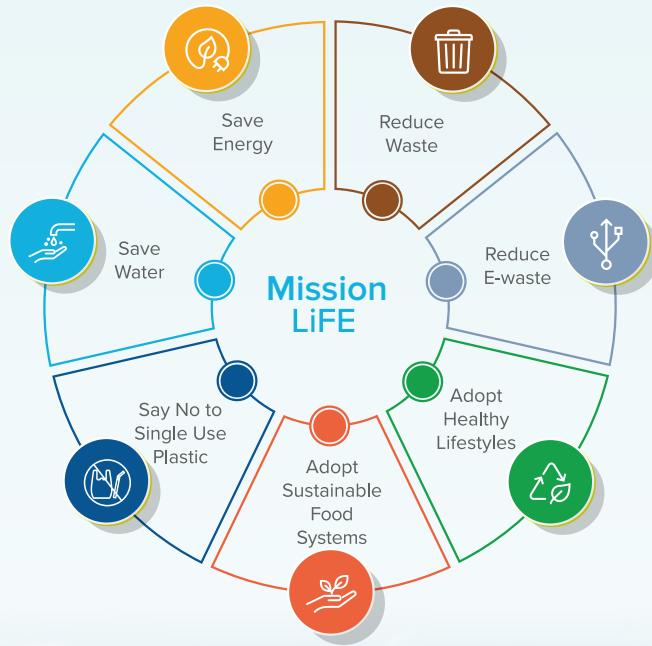
SAVE
WETLANDS
CAMPAIGN

Wetlands for LiFE



India boasts a remarkable diversity of wetlands, encompassing a wide range of ecosystems from high-altitude lakes in the Himalayas to coastal mangroves and estuaries. **Wetlands comprise of approximately 4.8% of the total geographical area of the country¹.**





This rich diversity of wetlands offers numerous essential ecosystem services vital for environmental sustainability. They support a wide array of flora and fauna while also providing livelihoods for millions of people. It is estimated that **at least 6% of India's population** relies directly on wetlands for their livelihood².

Therefore, the conservation and sustainable management of these wetlands is crucial, as it can enhance the resilience of both ecosystems and human livelihoods against the impacts of climate change, while also delivering various **social, economic, and environmental co-benefits**. This respect for wetlands is deeply embedded in the cultural ethos of India, where communities have long revered and protected these ecosystems through traditional practices and norms. From sacred ponds to the sustainable harvesting of wetland resources, India's cultural heritage reflects a natural synergy with the principles of conservation and sustainable use.



One of the ways to ensure this is through initiatives like **Mission Lifestyle for Environment (LiFE)**, an initiative introduced by the Hon'ble Prime Minister of India at the Statue of Unity in Gujarat in 2022. It is a global mass movement aimed at encouraging individuals and communities to adopt sustainable lifestyles that prioritise environmental conservation and combat climate change. The core philosophy of Mission LiFE revolves around the principles of mindful and deliberate utilisation, urging people to move away from destructive consumption patterns and instead, embrace practices that are in harmony with nature³.

Wetlands offer a wide range of ecosystem services that directly align with Mission LiFE's core themes of **water conservation, climate resilience, and biodiversity protection**. They also support sustainable livelihoods through activities such as agriculture, fishing, and ecotourism, reinforcing Mission LiFE's commitment to promoting eco-friendly ways of living. Moreover, wetlands are significant carbon sinks, capturing and storing carbon dioxide, which helps mitigate climate change.

The principle of wise use of wetlands, which is pivotal to their conservation and management, not only preserves ecological balance but also **empowers communities to coexist harmoniously with nature**. In doing so, wetlands play a vital role in advancing the overarching goals of Mission LiFE, fostering environmentally conscious and sustainable lifestyles.

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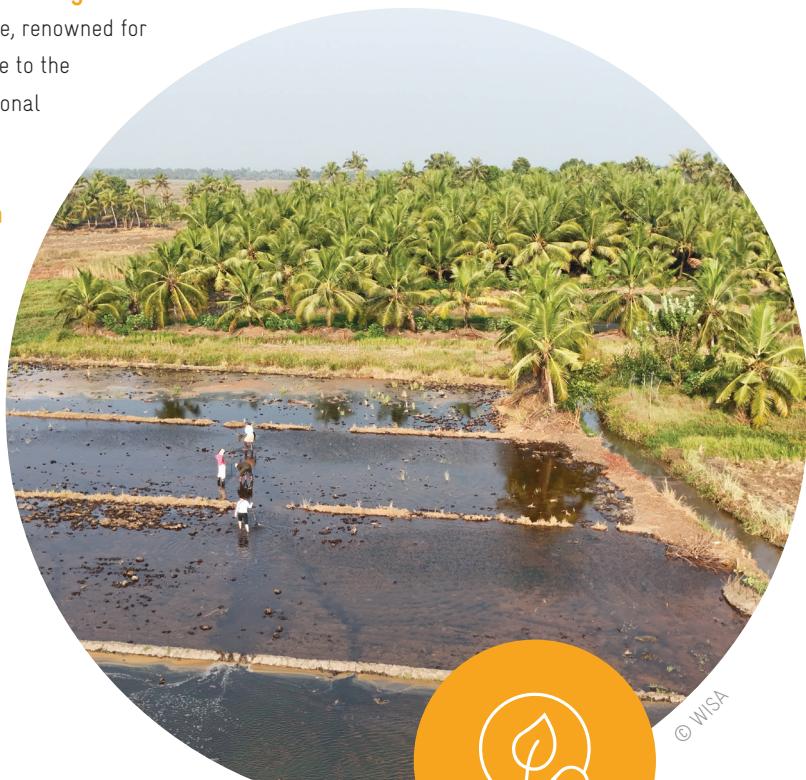
Prime Minister Shri Narendra Modi launching Mission LiFE in presence of the UN Secretary General António Guterres





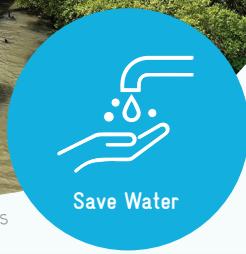
Bridging Mission LiFE and Wetland ecosystem Services

By naturally regulating water flow, wetlands reduce the need for energy-intensive flood control and water purification infrastructure. While mangroves protect coastlines from storm surges, minimising the energy and resources required for rebuilding infrastructure, healthy wetlands support sustainable agriculture, reducing the need for energy-driven irrigation systems. Additionally, by relying on these systems for irrigation and nutrient cycling, the communities reduce their dependence on chemical fertilisers and energy-intensive irrigation methods. For instance, **Pokkali rice farming** in the state of Kerala stands as a symbol of resilience, renowned for its nutritional value and its resilience to the impacts of climate change. This traditional farming system, practiced in coastal wetlands, helps mitigate climate challenges through **efficient carbon sequestration** and **reduced methane emissions**. As rising sea levels threaten more wetlands, the sustainable management of coastal ecosystems for protection and livelihood support becomes increasingly urgent⁴. Climate-adaptive systems like this minimize energy-intensive agricultural practices and promote eco-friendly, nature-based solutions for sustainable living⁵.





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Acting as natural reservoirs, wetlands facilitate the percolation of water into the ground, **replenishing aquifers** and **maintaining water availability** during dry periods. In arid and semi-arid regions of India, wetlands such as the **Sambhar Lake in Rajasthan** and the **Banni grasslands in Gujarat** contribute significantly to groundwater recharge, which is essential for water security in these regions. In urban centres like Bhopal and Indore, **wetlands such as the Bhoj and Sirpur** play a vital role in recharging the **city's groundwater**, helping to mitigate the effects of rapid urbanisation and decreasing reliance on energy-intensive methods of water extraction. By naturally replenishing groundwater resources, wetlands help conserve water, promoting efficient water use and sustainability, especially in regions facing water stress.

Acting as natural filters, wetlands trap sediments and **absorb pollutants such as heavy metals and nutrients**, significantly improving water quality. For instance, the **East Kolkata Wetlands** effectively treat approximately 600 million litres of wastewater daily, utilising a combination of plants and microorganisms that naturally break down harmful substances. This ecological process not only purifies the water but also recycles it for irrigation and sustainable fisheries, **providing vital resources for local communities**. Through this integrated approach, the wetlands enhance water quality while supporting livelihoods, demonstrating their crucial role in promoting both environmental health and sustainable resource management. This natural purification process reduces the need for energy-intensive treatment facilities, highlighting how wetlands contribute to cleaner water and support Mission LiFE's goal of waste reduction and sustainable resource management.



Reduce Waste

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Several communities across the country rely on wetlands for their livelihoods through sustainable fishing, agriculture, and ecotourism, which not only support economic stability but also foster a deeper connection to nature. Traditional practices, such as using organic farming techniques in wetland areas, exemplify how local knowledge contributes to conserving these ecosystems while **enhancing food security**. From engaging in traditional sustainable aquaculture and crafting intricate handicrafts to cultivating paddy fields, communities around wetlands participate in a diverse array of activities that highlight the importance of these ecosystems. For instance, in places like Kerala, Assam, Arunachal Pradesh, and parts of West Bengal, farmers practice **integrated rice-fish farming**, cultivating rice while raising fish in the same ecosystem⁶. This method not only provides nutritious food but also leverages the natural fertility of wetlands. On the other hand, Wetlands offer significant **recreational benefits, fostering physical well-being, mental health**, and a deeper connection to nature. These ecosystems provide serene spaces for activities such as birdwatching, boating, and nature trails that promote outdoor recreation and environmental awareness. By integrating these practices into daily life, wetlands **promote healthier lifestyles** and underscore the importance of preserving these vital ecosystems for future generations.



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Adopt Healthy
Lifestyle



The Apatani tribe of Ziro Valley, Arunachal Pradesh, practice an innovative rice-fish culture that integrates wet rice cultivation with aquaculture in terrace fields, alongside growing finger millets. This system thrives without chemical fertilizers, relying on organic waste, animal excreta, and naturally occurring microorganisms to sustain both the fish and rice crops. Streams from surrounding hills provide irrigation through a traditional network of channels. This system not only ensures food security by providing rice and fish but also conserves soil, reduces weed growth, and recycles nutrients. This traditional practice promotes biodiversity and provides livelihoods while complementing Mission LiFE objectives of promoting sustainable agriculture, water conservation, and eco-friendly livelihoods. (Source: Parampara: India's Culture of Climate Friendly Sustainable Practices, 2015).



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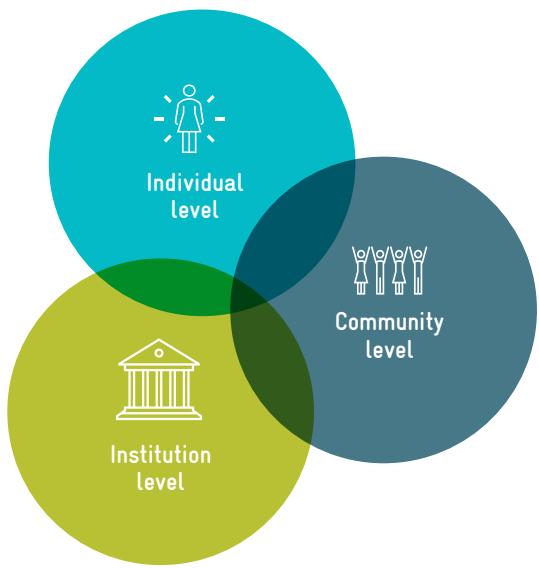
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Communities living around wetlands in India harvest a variety of flora and fauna, for **sustaining both their diets and cultural practices.** For example, in Manipur, the stems and roots of the lotus plant are used in traditional dishes like Thambou Singju, a spicy salad made from lotus roots, celebrating the connection between wetlands and local food heritage. Similarly, water chestnuts (Singhara) are widely consumed in northern India, especially during fasting periods, and are used in traditional snacks like Singhada Laddu. Makhana (foxnuts), cultivated largely in the wetlands of Bihar, is another example. It is known for its nutritional value and widely used in both savory and sweet preparations across the world. Additionally, various fish species, such as the Karimeen in Kerala, and Koi and Mourala in West Bengal and many more thrive in wetland environments and are integral to traditional meals in these regions. These traditional food practices, rooted in wetland ecosystems, not only **promote sustainable harvesting methods**, but also hold **testament to the rich culinary heritage.** By fostering these sustainable food systems, wetlands contribute directly to the Mission LiFE goal of encouraging environmentally friendly and health-conscious consumption, while preserving cultural heritage and promoting resilience against environmental challenges.

As you can see, **the crucial wetlands ecosystem services highlight the urgent need for targeted initiatives that not only conserve these ecosystems but also harness their potential to drive sustainable development and community well-being.**

These initiatives can be implemented across multiple levels: **individual**, by embracing sustainable practices in daily life; **community**, through collective action and local stewardship that empower grassroots efforts; and **institutional**, via robust policies, strategic programs, and large-scale interventions aimed at ensuring the long-term conservation and wise use of wetlands. Together, these multi-tiered efforts form the scaffolding for advancing the objectives of Mission LiFE, while safeguarding the critical ecosystem services that wetlands provide.

Several of these initiatives are already being implemented, showcasing practical strategies and impactful outcomes in wetlands conservation and livelihood enhancement. The following sections will highlight how efforts at individual, community, and institutional levels are contributing to addressing key environmental challenges while supporting wetlands conservation.





Individual level

Individual level actions

Champions of Wetlands: Inspiring Stories of Conservation



Mr Darwin Annadurai is an inspiring environmental scientist from Chitlapakkam, Chennai, whose passion for nature and wetland biodiversity led him to take action against the degradation of local lakes caused by rapid urbanization and pollution. Mr Darwin founded Eco Society India, a grassroots organization dedicated to the restoration of lakes, ponds, and mangroves in Chennai. His efforts have mobilized over 5,000 volunteers for cleanup, restoration, and awareness campaigns, particularly in and around Selaiyur and Agaramthen Lakes. Darwin's work not only safeguards wetlands but also empowers communities to embrace sustainable lifestyles.



Volunteers engaged in wetlands restoration

© Eco Society India



Kowsalya Devi with organic products from her farm

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Ms Kowsalya Devi, a certified organic farmer and entrepreneur from Erode, Tamil Nadu, exemplifies the successful transition to sustainable agriculture. In response to the threat posed by chemical fertilizers to Periyakulam Lake near Vellore Bird Sanctuary, a project supported by GIZ was launched to train local farmers in sustainable and organic farming. This initiative aimed to not only increase farmers' incomes but also to preserve the region's biodiversity by promoting the production of organic, certified spices. Kowsalya was one of over 300 farmers who joined this project. Armed with the knowledge gained from trainings and workshops, she now not only cultivates organic turmeric but also adds value by processing and selling her own brand. As one of the 32 Master Trainers, Kowsalya has embraced the role of mentor, sharing her expertise with other farmers and agricultural students. Her work promotes sustainable farming practices and fosters a community-driven approach of knowledge sharing for adopting eco-friendly lifestyles.





Ms. Sandhyarani and Mr. Chandrashekhar Manna, organic farmers from Odisha, made a conscious decision to support preservation of mangroves while enhancing their livelihood. In Bhitarkanika, Odisha, awareness and training sessions were conducted by Action for Protection of Wild Animals (APOWA) and GIZ. These sessions aimed to educate the pandemic-affected residents of Bhitarkanika on the vital role that mangroves play in biodiversity conservation, coastal protection, and the sustainability of local livelihoods in the face of climate change. Equipped with the techniques learned during these trainings, Mr. Chandrashekhar and Ms. Sandhyarani have taken a pro-planet approach. They have adopted alternative sustainable practices such as poultry and fish farming. They now sell duck eggs, catch and sell fish from their pond, compost organic waste, and produce their own organic fertilizers.



Sandhyarani and
Chandrasekhar Manna
in their organic farm
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Community level actions



Showcasing handcrafted water hyacinth products created by artisans from Chandrapur, Maharashtra

In Chandrapur, Maharashtra, **Ms. Swati Dhotkar**, President, Ajay Multipurpose Organisation, with the help of hundreds of women from the local community successfully tackled the challenge of managing water hyacinth, an invasive weed that threatens wetlands, and created a remarkable opportunity for sustainable livelihoods. By actively engaging women from the community, Ajay Multipurpose Organisation launched a project focused on training them to create a variety of products from water hyacinth, including mats, bags, and home decor items. This initiative not only aided in controlling the proliferation of this invasive plant but also ensured employment of more than 300 women. Such efforts exemplify the principles of Mission LiFE, which advocates for effective resource management, and a 'Change in Demand -Change in Supply -Change in Policy' approach.



Renuka Wetland, as a Ramsar Site in Himachal Pradesh, is a natural lake and holds immense cultural significance. Each year it hosts a week-long Renuka Ji International Fair, attracting over 100,000 daily visitors and involving large number of temporary shops or commercial establishments. This large influx presents significant waste management challenges in and around the lake. To mitigate this challenge, GIZ in collaboration with Government of Himachal Pradesh and Waste Warriors, launched a pre-fair awareness campaign on waste management and sensitised over 500 individuals including Mahila Mandals, local panchayats, teachers and frontline staffs. With support from on-ground volunteers, the women of Mahila Mandals led efforts to sensitize

Sensitisation workshop with Mahila Mandal members at Renuka Ji



shopkeepers, tourists, and community members, while actively participating in cleanup drives and on-site waste segregation during the Renuka Ji International Fair. Their collective efforts ensured a "Zero Burning-Zero Dumping" Green Fair, with over 4,500 kg of mixed dry waste collected and processed at a Material Recovery Facility, exemplifying the power of community-led sustainable practices.

There are many such community-level initiatives that form the backbone of effective conservation for achieving long-term sustainability. These efforts not only protect biodiversity and maintain vital ecosystem services but also promotes harmonizing human activities with environmental well-being.





Institution level actions

Promoting Mission LiFE through Wetland conservation: Government Initiatives

The Ministry of Environment, Forest, and Climate Change (MoEF&CC) has launched several pivotal initiatives that emphasize wetlands conservation while aligning with the core objectives of Mission LiFE (Lifestyle for Environment). These initiatives recognize the vital ecosystem services that wetlands provide, including water purification, flood regulation, groundwater recharge, and supporting biodiversity. **These services directly complement Mission LiFE's broader themes of environmental stewardship, climate resilience, and sustainable living.**

Mission Sahbhagita



Mission Sahbhagita, launched in 2022, emphasizes community-driven conservation efforts by adopting a **whole-of-society** approach. It aims to ensure the participation of local communities, civil society organizations, and government bodies while integrating traditional knowledge systems into wetland conservation and management. Through the engagement of Wetland Mitras and Amrit Dharohar Prabharis, communities are involved in wetland health assessments, biodiversity monitoring, and citizen science programs. Thus, it promotes Mission LiFE's emphasis on **empowering communities to become custodians of their natural environment.**



Save Wetlands Campaign



Aligning with the philosophy of Sahbhagita and Mission LiFE, Save Wetlands Campaign was launched by MoEF&CC in 2023. It is a nationwide initiative focused on the **wise use of wetlands through active community participation**. It aims to create mass awareness about the importance of wetland conservation and management while actively involving local communities in the integrated management and monitoring of wetlands across the country and getting community-based organisations, line departments, and knowledge partners to join hands to save the degrading wetlands. By engaging more than **2 million people** including students, administrators, practitioners, traditional knowledge holders, Wetland Mitras, women and youth through educational programs, hands-on restoration efforts, and more than **8500 awareness events**, this initiative is promoting sustainable practices that protect these fragile ecosystems. This campaign exemplifies Mission LiFE's focus on **individual and collective action for environmental sustainability**.



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Amrit Dharohar Initiative



Amrit Dharohar Initiative, launched in 2023, focuses on promoting the unique conservation values of Ramsar Sites (wetlands of international importance). This initiative aligns with Mission LiFE by emphasizing on water conservation, sustainable livelihoods, traditional agriculture, and nature tourism around these wetlands which contribute to both ecological balance and economic resilience. It is being implemented with four key components – **Species and Habitat Conservation, Nature-tourism, Wetlands Livelihoods, and Wetlands Carbon.**



Amrit Dharohar also plays a key role in India's climate action goals by focusing on enhancing the carbon sequestration potential of wetlands, which act as critical carbon sinks. This initiative directly aligns with Mission LiFE's goal of fostering climate-resilient communities by linking environmental sustainability with economic development.



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All these initiatives reflect India's commitment to conserving wetlands while empowering communities to adopt sustainable practices, as championed by Mission LiFE. By integrating traditional knowledge, promoting eco-friendly livelihoods, and fostering public engagement, MoEF&CC is working to uphold the principles of sustainability, climate resilience, and the wise use of wetlands.





Way Forward

Strengthening Wetland Conservation in Support of Mission LiFE

1 Encouraging the integration of traditional knowledge systems into modern conservation strategies—This can be achieved by involving local communities in decision-making processes and ensuring that traditional wetland management practices are preserved and utilized. Citizen science initiatives like biodiversity monitoring and bird census can be instrumental in actively involving citizens in wetlands conservation efforts.

2 Promoting sustainable livelihood opportunities such as nature tourism, sustainable agriculture, and fishing practices among wetland-dependent communities. At the same time fostering multi-stakeholder partnerships by strengthening collaborations with businesses to ensure a robust market-linkage for supporting eco-friendly economic activities.

3 Engaging local communities, Wetland Mitras, and educational institutions to strengthen the monitoring framework for wetlands to regularly assess wetland health and ecosystem services.

Endnotes

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4 Developing sectoral guidelines to ensure wetland conservation is mainstreamed across different government departments such as agriculture, tourism, water management, and urban development. Strengthen coordination mechanisms at national and local levels to align wetlands conservation efforts with sectoral policies.

5 Developing and implementing state-specific Communication and capacity building, education, participation and awareness (CEPA) Strategies in consonance with the Resolution XIV.8 of CoP 14 of Ramsar Convention, to emphasize the importance of wetlands in biodiversity conservation and climate resilience.

6 Promoting wetlands as critical carbon sinks by launching initiatives that quantify and enhance the carbon sequestration potential of wetlands. Consequently, integrating these findings into climate mitigation and adaptation strategies to contribute to global climate goals.

This publication is developed by Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India under the Wetlands Management for Biodiversity and Climate Protection project, implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) under the International Climate Initiative (IKI). The content, including case studies, photographs, and contributions, has been sourced from various collaborators, with appropriate citations provided where possible. The views and opinions expressed in this publication do not necessarily represent those of GIZ, MoEF&CC, or other partner institutions mentioned. The team acknowledges support provided by the Wetlands Division of the Ministry of Environment, Forest and Climate Change, Government of India, in the development of this publication.

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Cover page: Shivali Bhardwaj (Class VIII), Delhi Public School, Noida (*Selected through painting competition of the National Museum of Natural History*)



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