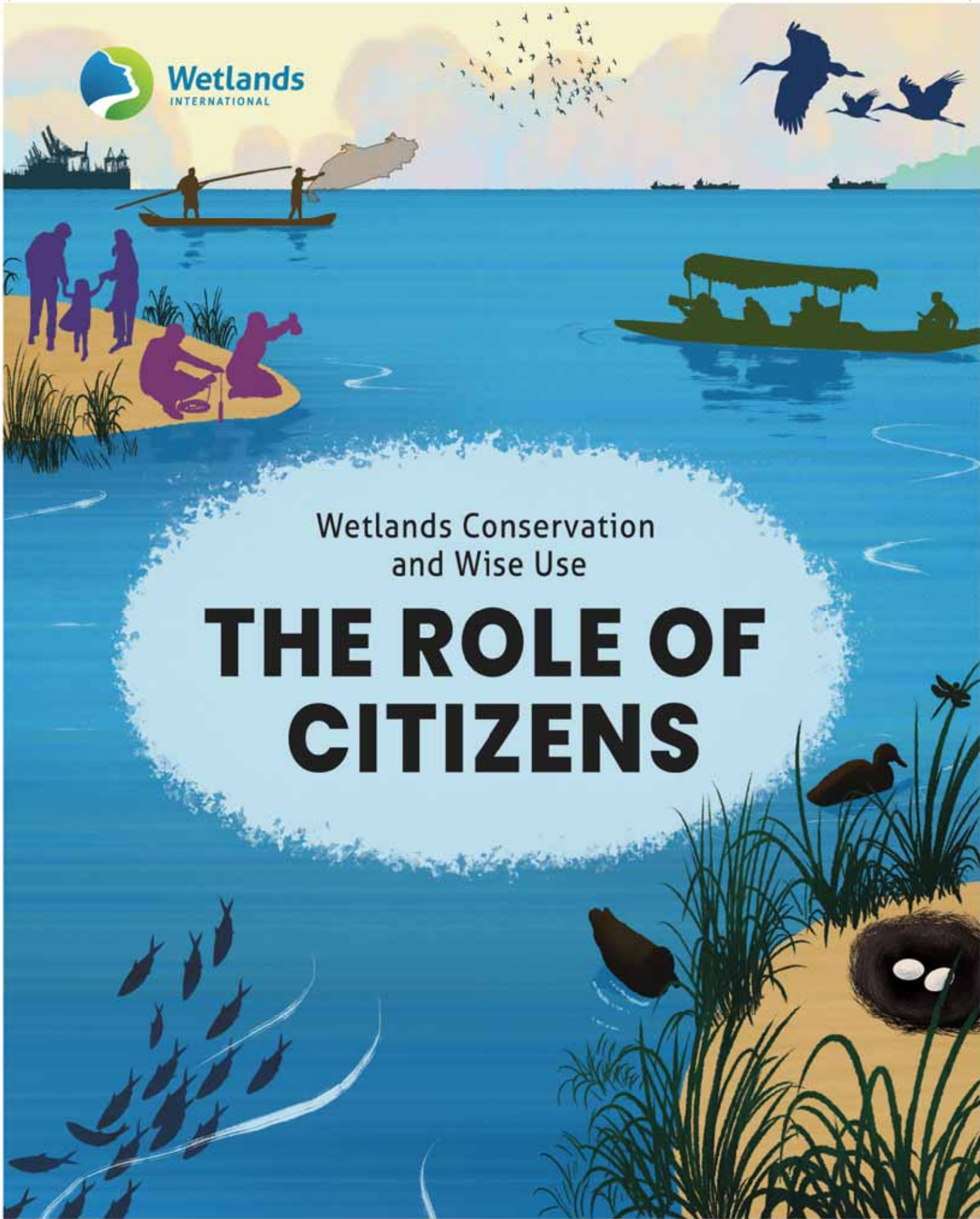




Wetlands
INTERNATIONAL

Wetlands Conservation
and Wise Use

THE ROLE OF CITIZENS



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and Wise Use

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FOREWORD

As you are aware, wetlands are transitional ecosystems between land and water. The biotic community in wetlands changes over time from aquatic or marshy types to mesophytic forms. The abundance of water, at least for a part of year, is the single dominant factor in defining wetlands. They provide various ecosystem services which are essential for human welfare.

Water is life, and wetlands are the life support systems that ensure the functioning of the water cycle. India is endowed with a rich diversity of wetlands ranging from high-altitude wetlands of the Himalayas, floodplains of mighty rivers Ganga and Brahmaputra, the marshes and swamps of the northeast and the Terai, lagoons and mangrove marshes on the coastline and reefs in the marine environments.

Despite their role in storing water, wetlands have been drained and converted for alternate uses. With all their benefits provided to society at large, they are being constantly degraded and destroyed due to various anthropogenic and developmental pressures. This results in flooding and waterlogging. We have seen floods in Delhi, Kashmir and Bangalore. Despite all these



hindrances, we all, as responsible citizens of the nation, have to do our bit to save these wetlands from further degradation. Citizens being custodians and stakeholders of wetlands, must contribute to conserving them in one way or the other.

The 'wise use' approach of the Ramsar Convention is globally recognised as the central tenet of wetland management. The approach recognises that stemming wetland loss and degradation requires the incorporation of linkages between people and wetlands and thereby emphasises that human use of these ecosystems on a sustainable basis is compatible with conservation. Through an emphasis on sustainable development, wise use calls for resource use patterns which can ensure that human dependence on wetlands can be maintained in the present and future.

Implementing wise use requires an "all-of-society" approach, wherein affirmative behaviour of all stakeholders forms the building block for halting and reversing wetland loss and degradation. This book is an effort by Wetlands International South Asia to showcase the critical role of common citizens in conserving these kidneys of landscape

Dr. Sidharth Kaul
President

Wetlands

Critical Societal Assets

Wetlands are ecosystems at the interface of water and land. These ecosystems are parts of landscapes that are saturated with water, permanently or seasonally, giving them a character distinct from adjoining drylands. Water is the key governing factor of plant and animal life within wetlands.

Wetlands can be distinguished by several indicators, such as:

1. Presence of water, throughout the year or during parts of the year
2. Presence of plants adapted to wet conditions also known as hydrophytes (such as water lily)
3. Presence of soils that are saturated or flooded long enough, favouring anaerobic conditions (hydric soils)

The Ramsar Convention on Wetlands, an intergovernmental treaty of which India is a signatory, 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'. The Convention also recommends that in order to conserve continuous areas, wetlands may also include adjacent riparian and coastal zones, and islands or bodies of marine water deeper than six meters at low tide lying within the wetlands.



Wetlands thus cover a large number of inland aquatic systems (such as swamps, marshes, lakes and peatlands) coastal and near shore marine wetlands (such as coral reefs, mangroves, seagrass beds and estuaries) and human-made wetlands (such as rice-paddies, reservoirs, impoundments, tanks and fish ponds). In India, wetlands are known by several colloquial terms such as *Sarovar, Taal, Jheel, Chaur, Maun, Pat, Beel, Cheruvu* and many others.



Glacial Wetland



Tectonic Wetland



Floodplain



Ox-Bow



Tank



Crater Wetland



Reservoir



Salt Pan



Mangrove Swamp



Estuary



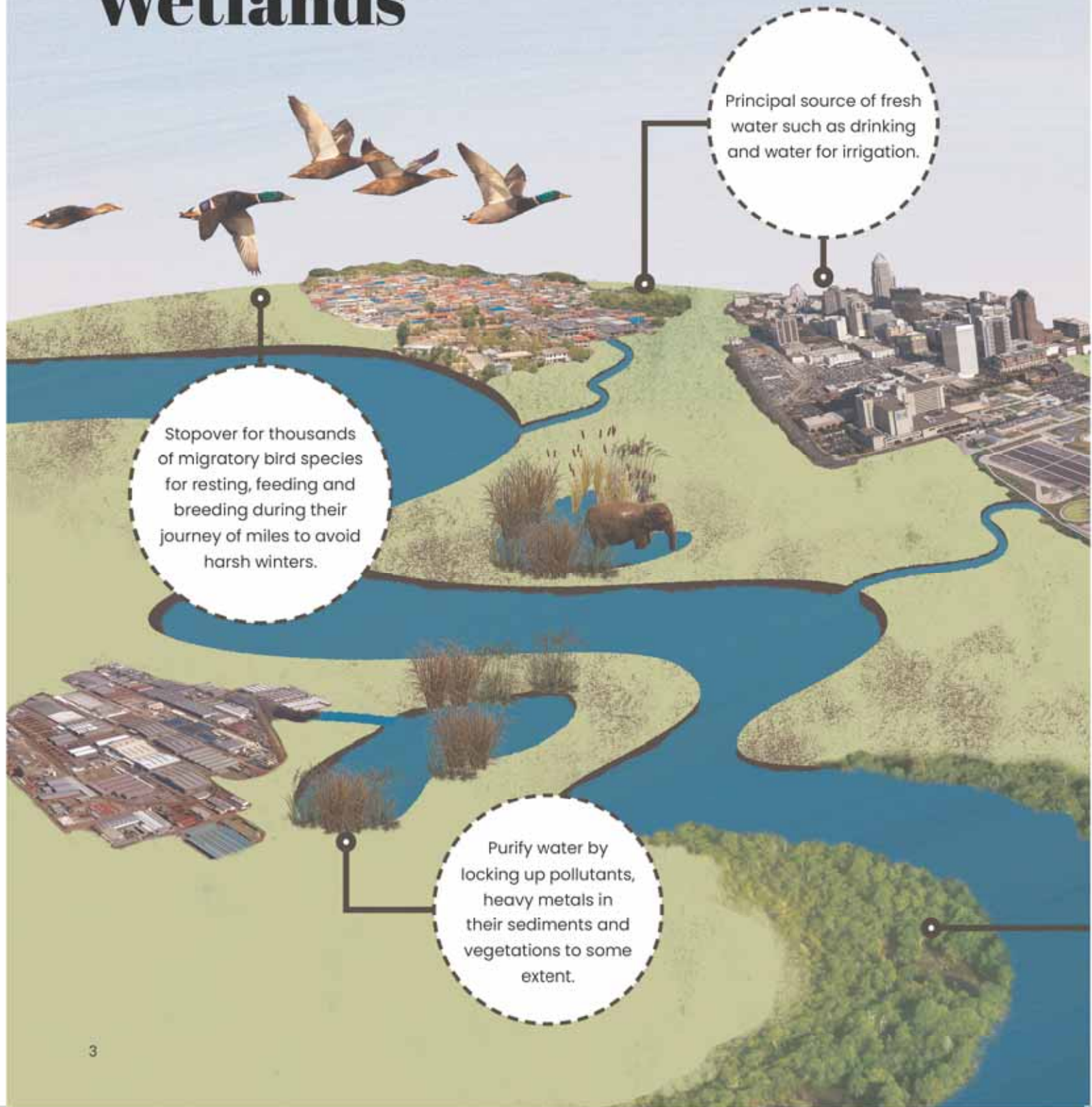
Sandy Beach



Coral reef



Significance Of Wetlands




Principal source of fresh water such as drinking and water for irrigation.

Stopover for thousands of migratory bird species for resting, feeding and breeding during their journey of miles to avoid harsh winters.


Purify water by locking up pollutants, heavy metals in their sediments and vegetations to some extent.

Wetlands are important societal assets providing a range of benefits to the society. These ecosystems provide a myriad of resources and ecosystem services, such as food, water, fiber, groundwater recharge, water purification, flood buffering, erosion control and climate regulation. In addition, wetlands have special attributes as cultural


heritage of humanity and have deep connections with our beliefs and practices. They are indeed an important part of our natural wealth. The benefits wetlands provide to human society are called their 'ecosystem services'. Some of the ways in which wetlands support individual and societal well-being are:




'Natural storage reservoirs' enabling excess water to spread out over a wide area and reducing its impact, its depth and speed.



Habitats of a number of endemics, highly threatened, near threatened species.




Provide a range of plants, animal and minerals. Nearly two thirds of fish come from wetlands. Three fourth of rice in Asia is produced in wetlands. Mangroves produced honey is one of the major livelihoods in Sundarbans.




Mangroves and salt marshes act as natural carbon sinks by storing atmospheric greenhouse gases and help in mitigating climate changes impacts.

Threats To Wetlands


Wetlands are one of the most fragile ecosystems and are degrading at a rapid pace. Some of the major threats on wetlands are:




Changes in natural water inflow and outflow patterns




Conversion into other land use, such as housing




Unregulated tourism




Unsustainable harvest of wetland resources such as fish and fiber



Siltation from degrading catchments




Proliferation of invasive species



Pollution due to discharge of sewage and solid waste

Impacts of Wetland Degradation

As wetlands degrade, societies become more vulnerable due to:



Increased risk of floods and droughts

Reduced local climate moderation

Loss of livelihoods in the form of wetland fisheries, agriculture and others

Reduced groundwater recharge and pollution filtering

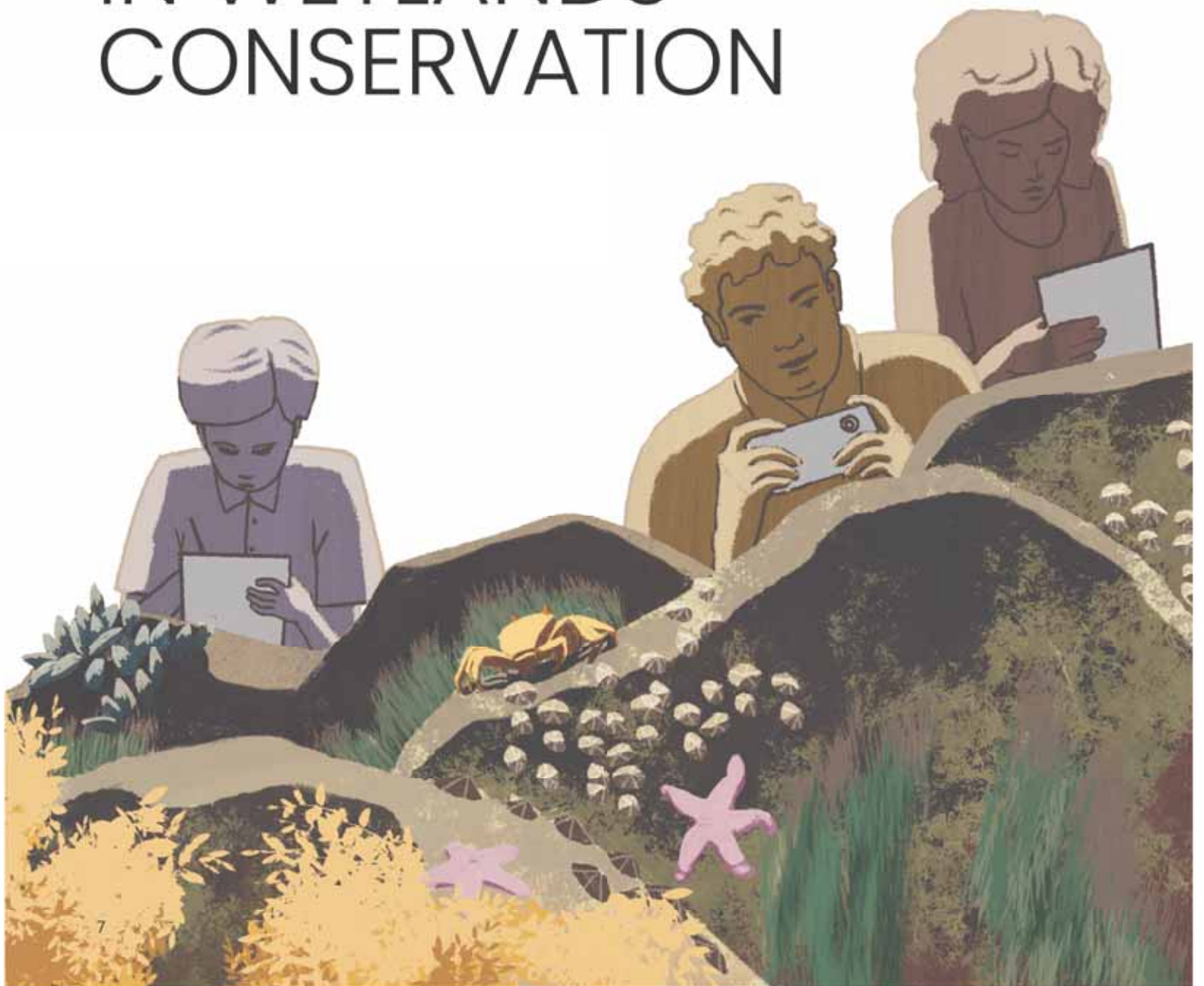
Loss of cultural heritage

Reduced habitats for wetland dependent species

Loss of spaces for recreation and tourism

Citizen Participation

IN WETLANDS CONSERVATION



Wetlands conservation entails taking actions that ensure that its natural character is not altered, and ability to provide a wide range of benefits to society (their ecosystem services) and sustain habitats for species and various life forms is not compromised. Yet, this does not mean that wetlands are touch-me-not places. In fact, wetlands have been sustainably used for various usages such as growing food and storing water since ages. Some human disturbance, such as harvesting wetland resources, within the range of natural variation of the ecosystem is necessary to ensure their productivity and health. Thus, wetlands are managed for wise use - use which ensures that the natural character of the ecosystem is preserved.

Wetlands are open systems. With water being the master variable governing these ecosystems, the activities taking place within the catchments in which wetlands are located have huge impacts on their condition. In particular, developmental activities which influence land and water use within wetland catchments, also tend to determine the health of these ecosystems. Wise use of wetlands thus calls for integrating the full range of ecosystem services and biodiversity values

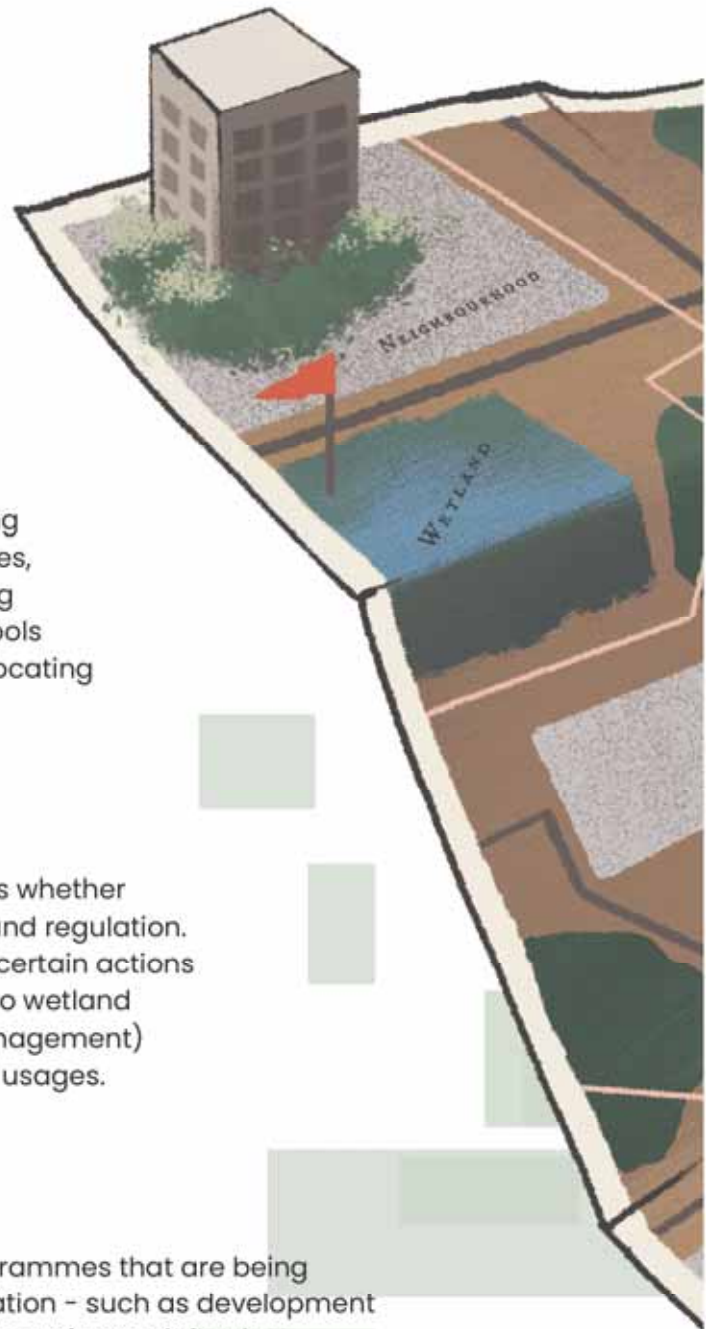
naturally provided by wetlands in development plans, programmes and investments taking place within wetlands catchments.

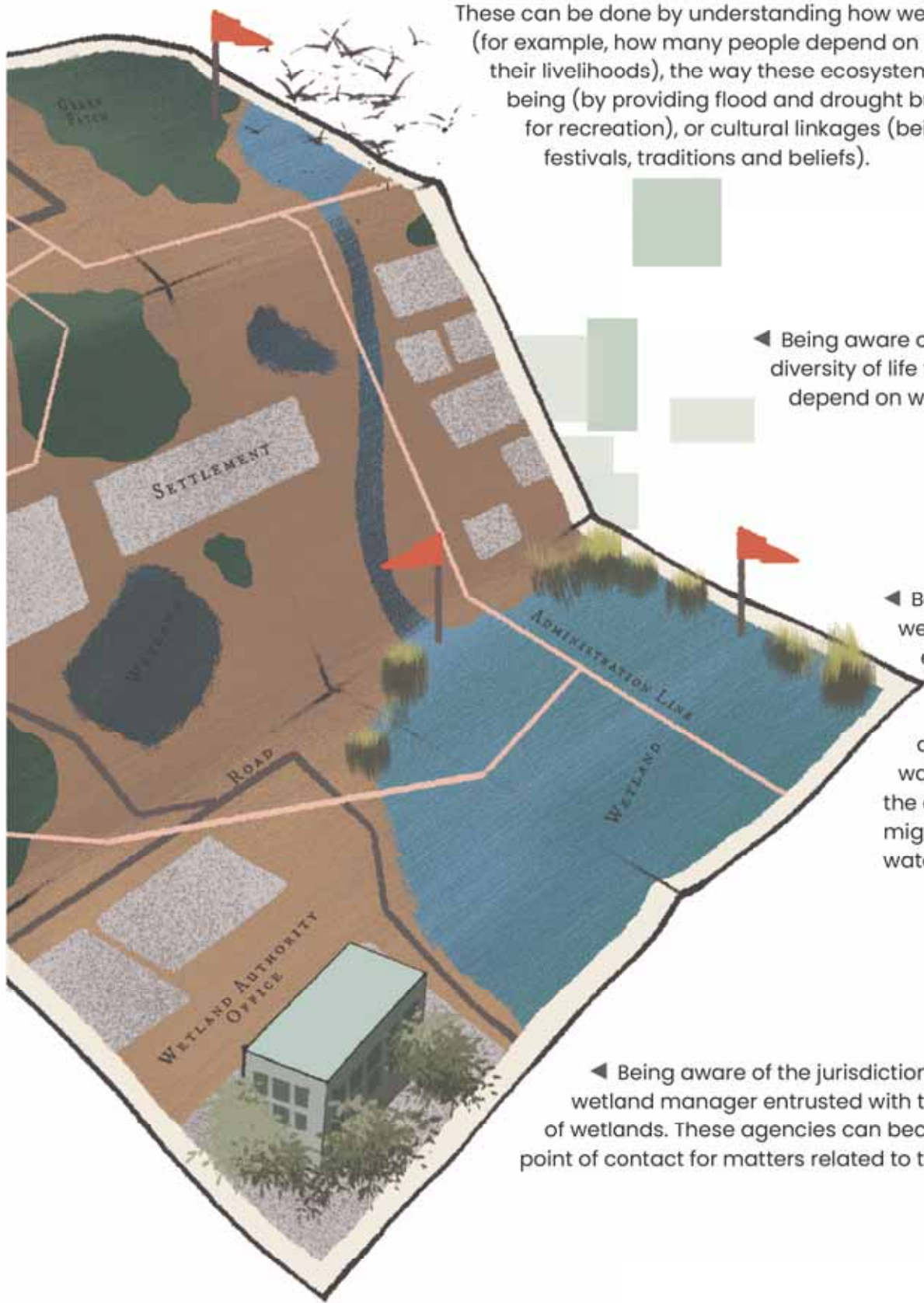
Active citizen partnership is at the heart of wetlands conservation and wise use. India has a long-standing tradition of citizens being at the forefront of nature conservation, including wetlands. However, in recent times, wetlands conservation is seen as the responsibility of the government alone, and citizens have been relegated to marginal roles, such as taking part in nature camps, or citizen science programmes such as waterbird census. Effective wetlands conservation calls for citizens being engaged in all aspects of wetlands conservation, including planning, implementing management actions, or monitoring the condition of wetland ecosystems. After all, wetlands are assets of the society, and the role of governments is that of a trustee. Secondly, given the wide diversity of wetlands in the country, conservation can only be achieved through 'all-of-society' approaches, with every part of the society playing an affirmative role.

1. BEING AWARE

Citizens engagement in wetlands conservation begins with self-awareness on where wetlands are, the way these ecosystems contribute to individual and societal well-being and ecological security, and the changes taking place within wetlands and their surroundings. Following can be done to increase awareness on wetlands:

- ▶ Being aware of where wetlands are in the neighbourhood. This could be done by accessing published information such as wetlands atlases, regional maps and reports, and even seeking information from district administration. Tools such as Google Earth are also handy in locating wetlands.
- ▶ Being aware of the legal status of wetlands -such as whether these are notified under any national or state rules and regulation. Notification of wetlands also means that there are certain actions that are prohibited and regulated. For example, no wetland notified under Wetlands (Conservation and Management) Rules, 2017 can be converted for non-wetland usages.
- ▶ Being aware of the plans and programmes that are being implemented for wetlands conservation - such as development of management plans, improvement of water inflowing channels, pollution abatement and others. Sometimes, development plans of different sectors are major causative factors of wetlands degradation (such as building of roads through wetlands or diverting water away from wetlands).





▼ Being aware of uniqueness and significance of the wetland. These can be done by understanding how wetlands are used (for example, how many people depend on the wetland for their livelihoods), the way these ecosystems support well-being (by providing flood and drought buffers, or places for recreation), or cultural linkages (being part of local festivals, traditions and beliefs).

◀ Being aware of the diversity of life forms that depend on wetlands.

◀ Being aware of how wetlands function. For example, information can be sought on where the source and destination of water from wetlands, or the countries from which migratory species, such as waterbirds come from.

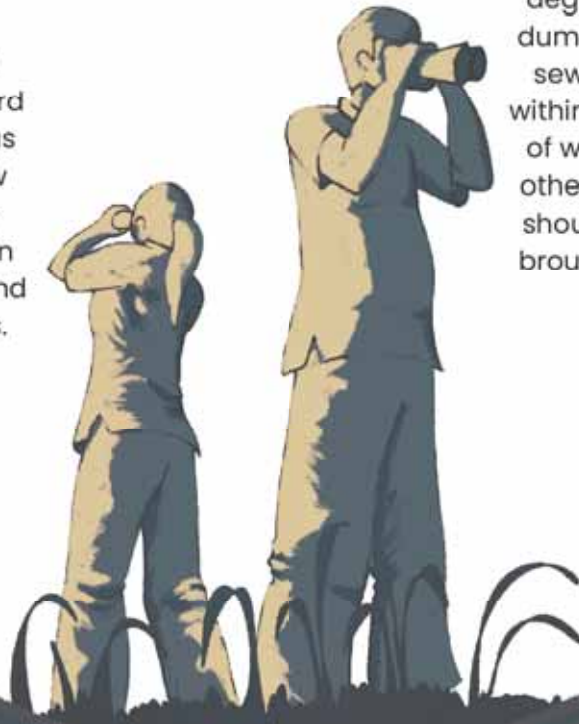
◀ Being aware of the jurisdictional agency and wetland manager entrusted with the management of wetlands. These agencies can become the first point of contact for matters related to the wetland.

2. KEEPING A WATCH

An important role citizens can play is that of a watchdog to ensure that activities that degrade wetlands are flagged and brought to the notice of authorities. This role can be fulfilled by:

► Keeping a regular watch on wetlands and maintaining a record of changes, such as occurrence of new species, invasive species, changes in water availability and quality and others.

◀ Keeping an eye for activities leading to wetlands degradation – such as dumping of solid waste, sewage, construction within wetlands, blocking of water channels and others. This information should be immediately brought to the notice of authorities.

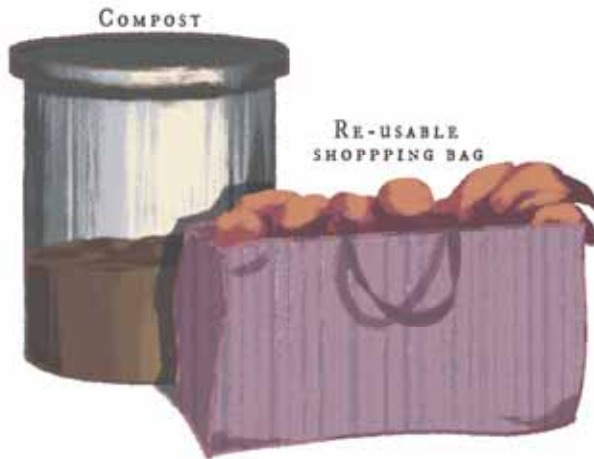


3. REDUCING FOOTPRINTS

Citizens can make significant contribution to the wetlands by reducing their individual as well as collective footprint on wetlands. Some ways to achieve this is through:

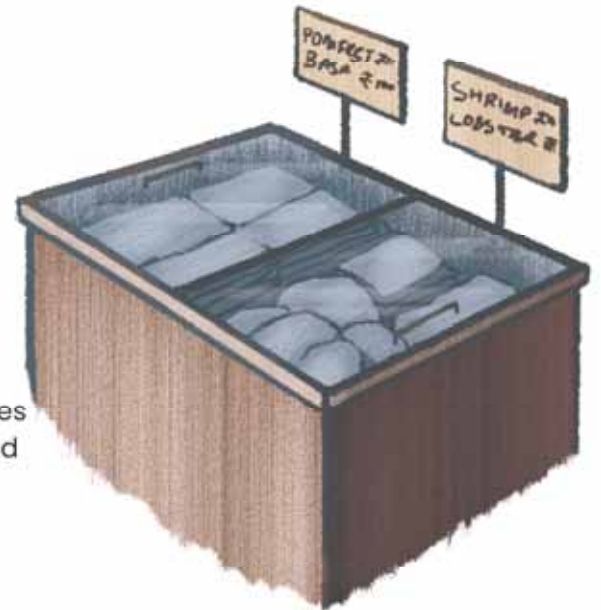


▲ Reducing water consumption, as this also reduces the pressure on wetlands for water extraction.



▲ Reducing waste generation, as most of the sewage and solid waste ultimately ends up polluting wetlands.

▶ Not consuming or promoting consumption of commodities produced by wetlands degradation or destruction. This could include, for example, not consuming shrimp raised on farms that have been converted from natural wetlands.



▼ Not buying or building houses or property inside wetlands.



4. ENGAGING IN WETLAND CONSERVATION ACTIONS

Citizens can contribute to wetlands conservation by partnering with governments and wetlands managers in formulating and implementing wetland management plans, as well as monitoring impacts. Some ways in which citizens can contribute are:


► Engaging in wetlands conservation planning processes. This could be through participation in stakeholder consultations, or even contributing professional expertise. For example, those experienced in cartography can support wetlands mapping. All forms of knowledge, whether in the form of scientific or indigenous and local knowledge is relevant for planning for wetlands conservation.



◀ Creating, in consultation with wetlands managers, stakeholders and local communities, do's and don't's for wetlands, and ensuring that these are implemented.

◀ Protecting species living in and around wetlands and their habitats. For example, birds such as Sarus build their nests on ground, and are often at the risk of egg-predation by dogs. One can contribute by protecting these nests and eggs.



An illustration of two hands holding a small green sapling with soil. The background is a dark teal color with a decorative border of white leaves at the bottom.

Participating in programmes such as afforestation in wetlands catchments, desilting wetlands inflowing channels or conducting clean up drives around wetlands. ►

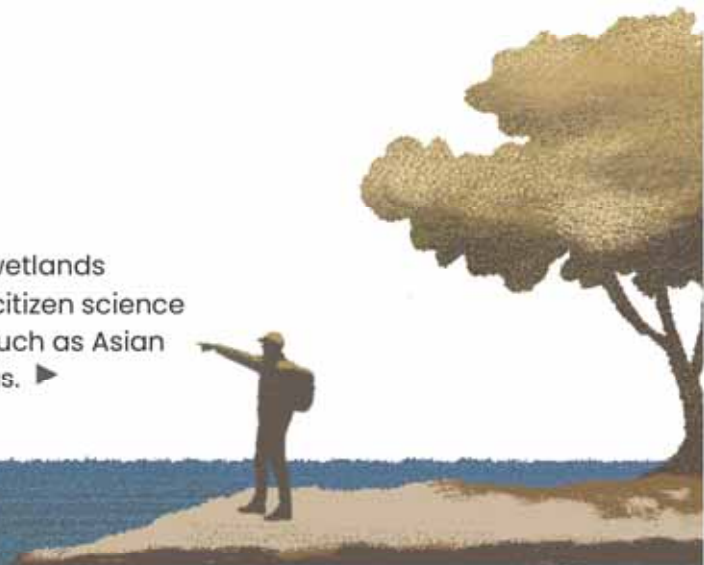


◀ Becoming a Wetland Mitra. Wetland Mitra is an informal, voluntary and non-statutory network of concerned citizens constituted by the Ministry of Environment, Forest and Climate Change together with State Governments to promote and foster community engagement in wetlands management.

By involving themselves within the wetland mitra network, citizens gain an opportunity of shaping wetlands management by bringing onboard indigenous and local knowledge, and views of diverse stakeholder groups. As wetland mitra network member, the communities also build their capacity on various dimensions of wetlands management.



Participating in wetlands monitoring and citizen science programmes - such as Asian Waterbird Census. ►



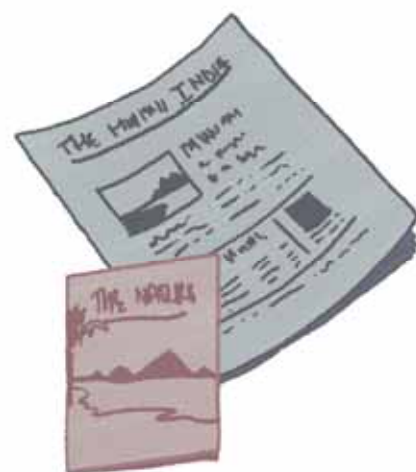
5. BUILDING A CONSTITUENCY

Citizens can help build a constituency for wetlands conservation by engaging with policy and decision-makers, planners, and those who can influence individual and societal behaviour in favour of conservation and wise use of these ecosystems. Following are some ways in which this could be done:

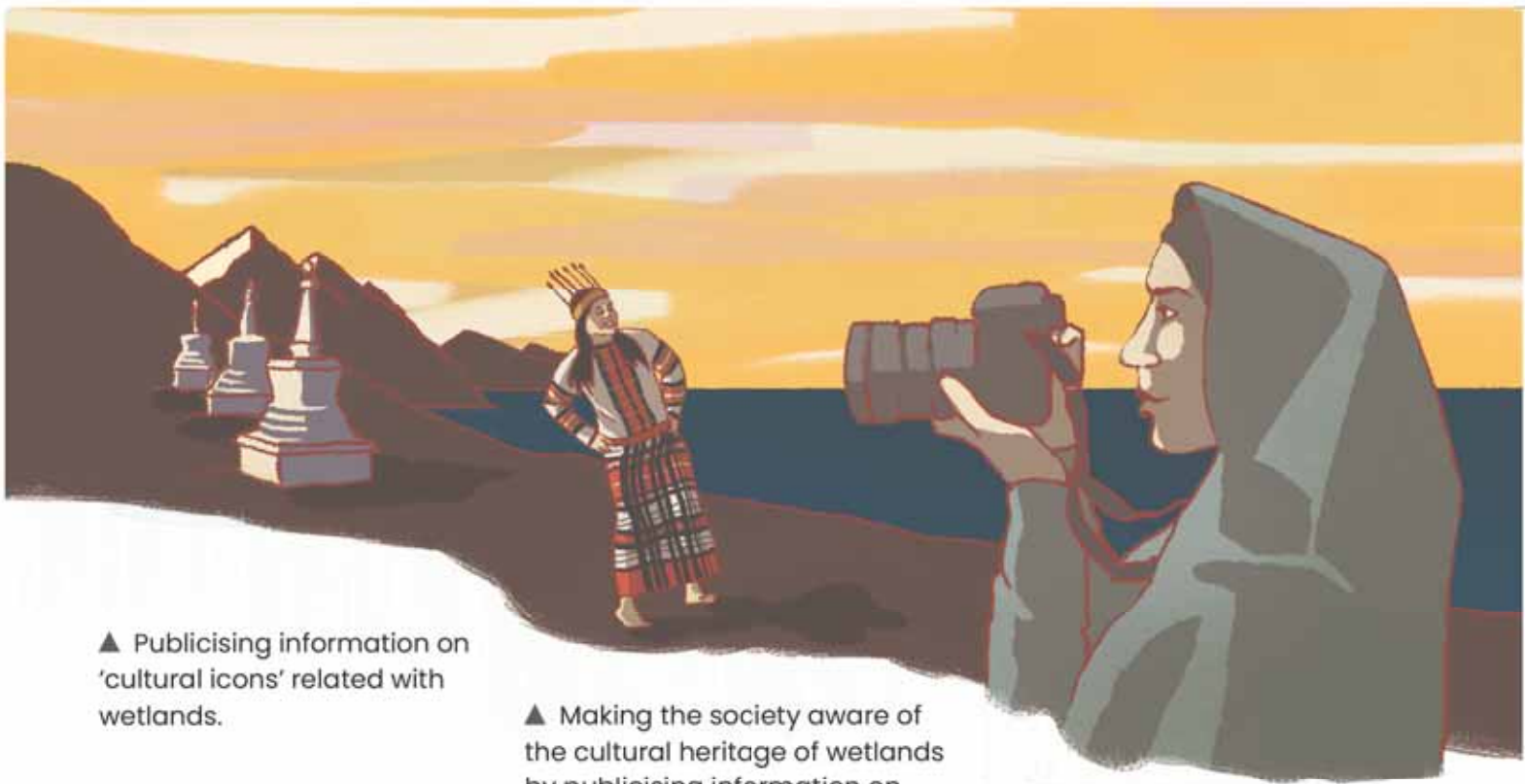
▼ Engaging with Panchayat and Urban Local Bodies for inclusion of wetlands conservation actions within their plans and programmes.

▼ Engaging with political representatives to ensure that wetlands conservation actions figure in local development agendas.

▼ Engaging with District administration to make wetlands conservation part of the district plans for environment, development, disaster risk reduction and others.



▲ Engaging with media and writing about wetlands in local newspapers, magazines and others.

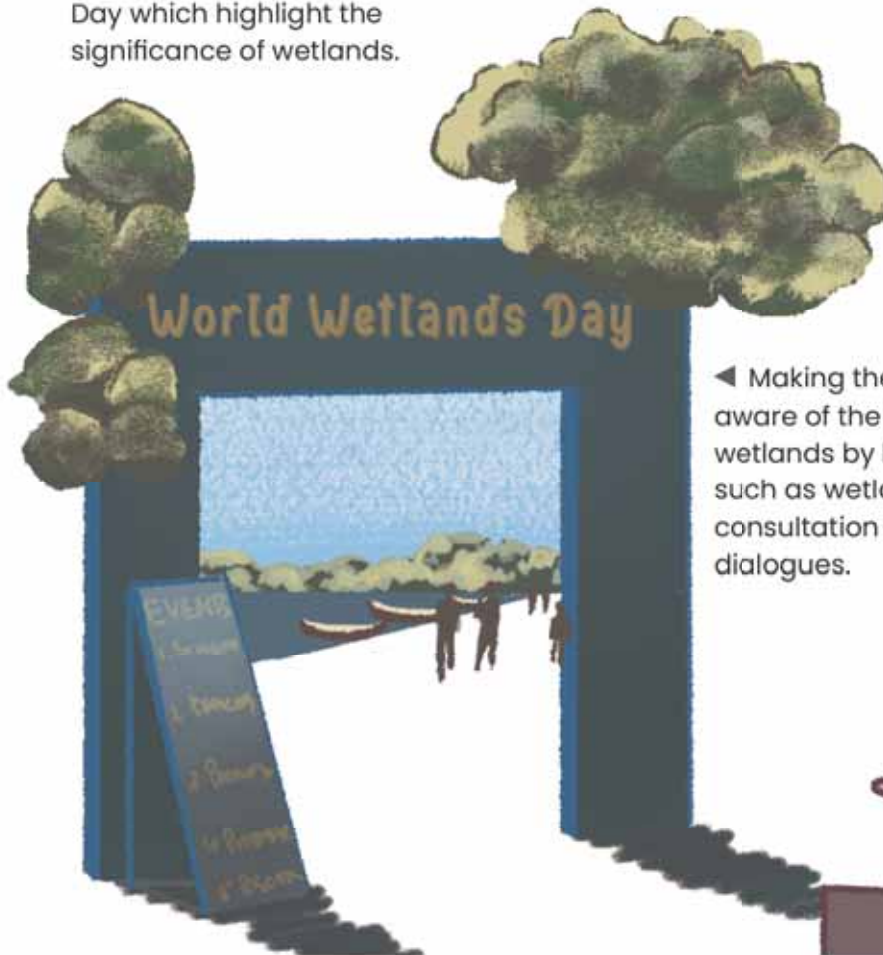


▲ Publicising information on 'cultural icons' related with wetlands.

▲ Making the society aware of the cultural heritage of wetlands by publicising information on wetlands related festivals and traditions.

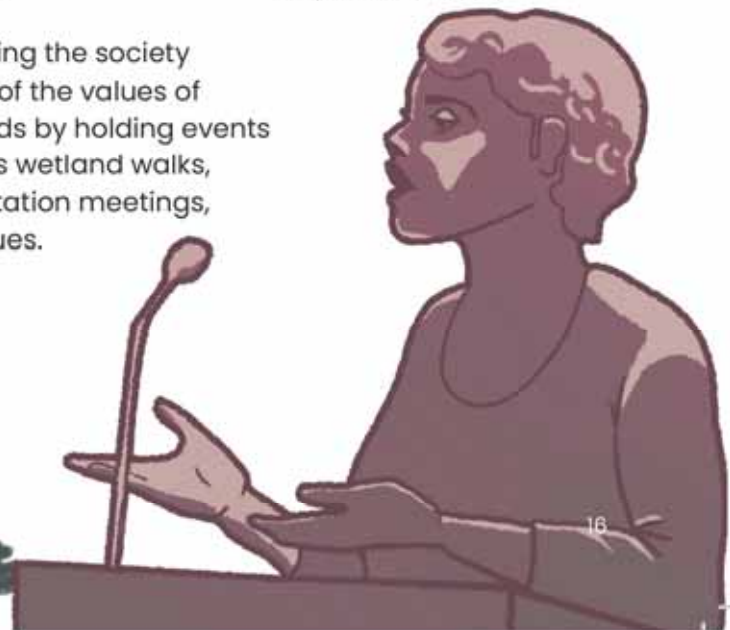
▲ Showcasing the beauty of wetlands through photographs, paintings and other visual media.

▼ Celebrating and participating in events such as World Wetlands Day which highlight the significance of wetlands.



◀ Making the society aware of the values of wetlands by holding events such as wetland walks, consultation meetings, dialogues.

▼ Talking about wetlands and wetlands related issues in public forums.



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