Wetlands International South Asia
Strategy 2015-2025
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Strategy 2015-2025

Wetlands International South Asia

Wetlands International South Asia is a nongovernment organization working for sustaining and restoring wetlands, their resources and biodiversity in the South Asia region. Its office in New Delhi (India) was established in 1996 as a part of Wetlands International network. Wetlands International is a global, independent, non-profit organization dedicated to conservation and restoration of wetlands, and presently works in over 100 countries through a network of 18 regional and national offices and expert networks, with a headquarter in The Netherlands. Wetlands International is also one of the five International Organization Partners (IOPs) of the Convention on Wetlands (Ramsar Convention). In 2005, Wetlands International South Asia was registered under the Societies Registration Act of Government of India (retaining remit of South Asia region), consequently gaining an Indian legal entity while subscribing to the goals and targets of the Wetlands International network.

Setting organization priorities for South Asia

The work of Wetlands International network is guided by a Global Strategic Intent which sets out the organization’s vision, mission, goal and thematic priorities. Strategic thrust in different regions are set through Regional Strategies, which are developed with reference to regional needs and opportunities and in conformity with Global Strategic Intent. Formulated with an outlook of 10 years, the Strategic Intent is reviewed every five years to enable incorporation of changes in the external environment as well as internalization of lessons, experiences and best practices.

The South Asia Regional Strategy 2015-2025 is a guide to work of Wetlands International South Asia, setting its geographical and thematic priorities and partnerships in terms of regional targets. The document also describes organizational development needs in order to meet the envisioned targets. The priorities reflected in the strategy form the organization’s basis of communication with donors, partners and collaborators. The General Body of Wetlands International South Asia guides and adopts the regional strategy as a strategic programmatic direction for the organization. Outcomes and milestones achieved against the targets are reported and analysed annually to track and measure implementation success.

Wetlands International South Asia works for wetland conservation in ways which relate to the nature of wetlands as ecosystems, and the wider biophysical and social contexts in which they are placed and function. The organization, since its inception, has focused on promoting conservation and wise use of wetlands based on diagnostic assessment of wetland features and their influencing factors. The organization endeavours to use a mix of approaches including technical knowledge, policy dialogue and field demonstrations for addressing various issues related to wetland management. To leverage change, the organization works with national and state governments, knowledge centers, civil society as well as private sector, often acting as catalysts to enable joined up actions. Specific knowledge, tools and pilot projects help us achieve change. Given that securing positive change in status of wetlands and linked livelihoods takes considerable time, the organization works for long term engagement, forging strategic and innovative partnerships. The organization places specific emphasis on capacity development of wetland managers in applying integrated approaches.
A multidisciplinary team established within the organization and expert network enable providing evidence-based scientific and technical advice to central and state governments, wetland authorities, and civil society on various aspects of wetland management. The projects implemented have covered the following wide ranging elements, designed and delivered in partnership with central government ministries, state government departments and agencies, wetland management authorities, civil society and research organizations:

- **management planning** for ecosystem restoration and wise use
- **design and establishment of integrated inventory, assessment and monitoring system** for supporting adaptive management
- **valuation of ecosystem services and biodiversity** to support mainstreaming in developmental programming
- **environmental flow assessment** for maintaining ecosystem functioning while allocating water for developmental purposes
- **conservation of critical habitats** of wetland dependent species, particularly migratory waterbirds and fish
- **capacity building** for integrated wetland management
- **institutional development** for cross sectoral governance
- **policy formulation support and advocacy** for conservation and wise use
- **community led ecosystem-based approaches** for disaster risk reduction
- **communication, education and public awareness**

**Implementing South Asia Regional Targets 2011-2015: Progress and Lessons**

The Wetlands International South Asia Regional Strategy 2011-2020, adopted by WISA Society General Body for implementation in September 2011 set 6 regional targets for 2011-2015 addressing the following objectives related to the four thematic areas of water, climate change, biodiversity and greening the economy:

- Conserve and restore wetlands as critical elements of natural water infrastructure;
- Halt and reverse the loss and degradation of wetlands and their biodiversity;
- Promote the positive contributions that wetlands can play in delivering ecosystem services; and,
- Conserve and restore wetlands to increase resilience to climate change

In response to targets set under the objectives, projects aimed at improving site management were developed for 6 wetlandsii, whereas work at wetlands wherein organization has long term presence (Loktak and Chilika) were upscaled (Refer Annex I for a summary of targets and implementation of projects thereunder). Partnerships with disaster risk reduction and WASH (Water, Sanitation and Hygiene) networks were forged to promote the role of wetlands in developmental aspects. Engagement with TII (The Economics of Ecosystems and Biodiversity – India Initiative) assisted in framing the loss of wetland biodiversity and ecosystem services in economic terms to enable more targeted and informed policy responses. In collaboration with Ministry of Environment, Forests and Climate Change, capacity development and training centers as Indira Gandhi National Forest Academy and Geer Foundation, and select state governments, training courses were organized to officials entrusted with management of wetlands ecosystems.

Wetlands International South Asia worked with the Ministry of Environment, Forest and Climate Change to improve the national programming on wetlands, bringing to fore the need to pay
specific attention to conservation of urban wetlands, improving regulatory framework, and strengthening management effectiveness of Ramsar Sites. A revision to existing national regulation on wetlands has been enabled. Through publications as “Waterlogged Wealth” and network newsletter “Sarovar”, the organization has strived to create awareness on wetlands and place wetland related issues in wider society. By the first half of 2015, national scale projects on targeting improved management of wetlands and cross sectoral integration were developed in order to upscale experiences and best practices towards realization of organization's vision, mission and goals in an effective way.

A review of projects implemented under the framework of 2011-2015 regional targets indicate several lessons. First and foremost, realizing the optimal outcome for integrated management planning interventions requires investment in capacity development of wetland managers and strengthening institutional arrangements. Without such efforts, management plans are likely to remain paper exercises with limited on-ground impacts. Secondly, in order to bring positive outcomes for wetlands, ecosystem service values (as assessed under TEEB) need to be linked with specific actions to transform values into investments. For projects operating in the domain of development (eg. Partners for Resilience and WASH), it is important to seek convergence with ongoing developmental programming. Ample opportunities exist for leveraging existing development sector interventions for implementing catchment scale interventions for improving status of wetlands. Benefitting from such interventions require building capacities of implementing CSO partners, particularly on modalities of developmental schemes. Most importantly, clear articulation and evidence building is required for consideration of role of wetlands in such endeavours.

Regional strategy implementation during the last 5 years have enabled establishing knowledgebase, partnerships, and financing to realize the desired impacts. The work, though is right direction, is far from over. There is a need to continue work on these geographic locations and priority areas to scale up the gains using a connected science-policy-practice approach. At the same time, emerging challenges related to water and food security, deepening impacts of climate change, increasing disaster risks and urbanization will need to be factored in for the regional strategy to remain relevant and effective. Review of strategy implementation has also indicated the need to broaden geographical and sectoral engagement to achieve the desired impact. Efforts on advocacy, communications and outreach need to be significantly enhanced to ensure that project outcomes and recommendations are translated into action. The need to widen national donor base was also indicated as an important recommendation towards achieving financial security.

The 5 yearly review of Wetlands International Global Strategic Intent conducted in 2014 indicated that while the global goal, mission and vision of the network remained relevant, the organization needs to endeavour to increase its reach and impact so as to address the continuing loss of wetland habitats and species, and growing vulnerability due to pressure on water resources for food and energy production within a changing climate. Greater focus and cohesion across the Wetlands International network is required to ensure that global priorities as being set by United Nation’s Sustainable Development Goals (SDGs), Sendai Framework for Disaster Risk Reduction (2015-2030) and Aichi Biodiversity Targets (2011-2020) take into account the role of wetlands as ‘natural infrastructure’. The need to factor in collaborations with private sector in establishing policies and mechanisms that account for environmental impacts and promote environmental stewardship was also highlighted.

The Global Strategic Intent 2015-2020 that has resulted from the 5 yearly review process envisions organizing priorities into four workstreams: healthy wetland nature, vibrant coasts and deltas, blue lifelines of desert, replenished stores from mountain to sea and peatland treasurers safeguarded and restored. For each of these, landscape scale vision and a high level goal have been described, alongwith intervention strategies needed to achieve the desired outcomes leading to realization of
goal. The first stream, “Healthy Wetland Nature” drives the work of network towards safeguarding and restoring natural capital of wetlands. The other four streams are defined by wetland landscape types, the threats they face and their values for nature and people.

The Strategic Intent for 2015-2025 is a continuum of the 2011-2020 strategy. It builds on all elements of the previous strategy, however, brings a geographical focus and landscape vision as compared with the previous version, which was thematically organized. Strategy formulation also takes into account organizational brand visioning exercise, which was completed in 2014. The science, policy, practice focused implementation strategy as contained in the 2015-2020 strategy helps bringing focus on the nature of interventions required to achieve the targets.

Wetlands International South Asia has formulated Regional Strategy taking into account the Global Strategy, review of implementation of previous strategy, and changes in external environment. In line with the advice of the General Body, the regional targets, as far as possible, build on the implementation of the ongoing projects, partnerships, and lessons learnt. Work under the thematic priorities of water, biodiversity, livelihoods and climate change has been recasted into geographical priorities and landscape scale interventions. This can be seen in the statement of regional targets, which explains the linkages with ongoing projects, and clearly identifies areas of new programming.

Factors affecting strategy choices and focus

Wetlands in South Asia

Wetlands within South Asia exhibit enormous diversity owing to differences in their genesis, geographical location, hydrological regimes and climatic factors. The Himalayas and Hindu Kush mountain ranges in the north are the source of 10 largest Asian rivers and harbor a range of high altitude wetlands which play an important role in regulating the hydrological regimes and supporting biodiversity. The alpine climate favours creation of a vast frozen soil layer leading to formation of lakes, marshes, and swampy meadows, of which prominent are Rara and Phoksundo in Nepal; Pangong Tso, Tso Moriri, Tso Kar in India; the wetland complex within the Jigme Dorji Wildlife Sanctuary in Bhutan; and Tarbela and Mangla in Pakistan. Several of these wetlands act as stopover habitats for avian species migrating from the East and Southeast Asia as well as Palearctic species from the west.

To the south of the Himalayan ranges are the extensive floodplains and deltas of the mighty South Asian Rivers namely the Ganges, Indus, Irrawaddy and Brahmaputra which flow into India, Pakistan, Bangladesh and Myanmar. These regions have been the cornerstone of an agrarian economy, and rice had its origin here. The enormous diversity of fin and shrimp fisheries together with a large diversity of aquatic organisms are an important source of food and nutritional security for the region. The floodplains of Ganges and Brahmaputra hold the germplasm of the Indian Major Carps, which are central to regional food and livelihood security.

The deltas of Indus, Ganges, Brahmaputra and Irrawaddy Rivers as well as the island countries, Sri Lanka and Maldives have a rich diversity of mangroves which are one of the most spectacular colonizers of intertidal habitats and a source of a range of ecosystem services, important being shore line protection and coastal defence. Sunderbans, spanning across India and Bangladesh is the world’s largest single chunk of mangroves. Maldives, Lakshadweep, and Andaman Nicobar islands support significant areas under coral reefs which are one of the rarest coastal wetland types. Though considerably underestimated, the extent of wetlands in South Asian countries have been known to range from <1% of national geographical area in Nepal and Bhutan, 1 - 5% in India, Pakistan and Sri Lanka, ~ 8% in Myanmar and over 40% for Bangladeshii.
Key trends, management challenges and role of the organization

The complex development dynamics in the region, coupled with limited awareness on the contribution wetlands make to societal wellbeing, has led to severe pressure on these ecosystems. Though comprehensive information on wetland status and trends are not available, the rapid degradation of wetland ecosystems is evident through several studies and assessments. Assessments carried on Indian natural wetlands indicate that at least one third of natural wetlands have been lost in the last three decades alone. In Sri Lanka, 28% of the mangroves were lost during 1980-2000, conversion to shrimp farms accounting for more than 30% of the change. Construction of hydraulic structures has been one of the key reasons for fragmentation of the floodplain systems in the Ganges and the Indus river basins in Pakistan, India and Bangladesh. Reduced freshwater flows and changes in hydrological regimes are key causative factors for changes in composition of mangrove species composition in Sindh Delta, Sunderbans and Pitchavaram. Plant and animal invasives introduced in these ecosystems are implicated for loss of native biological diversity, as well as creation of adverse impacts on their functioning.

Wetland conservation in South Asia has its roots in protected area approaches driven by biodiversity values, particularly centered on migratory waterbirds. Such approaches have been found to be of limited value in ensuring landscape scale hydrological connectivity and promoting land use practices harmonized with wetland functioning. National policy frameworks (developed in Nepal and Sri Lanka and drafted in Pakistan and Bangladesh) have also not been able to stimulate the desired level of cross sectoral planning required for mainstreaming wetlands in developmental programming. Implementation of regulatory regimes (as developed by India in the form of Wetland (Conservation and Management) Rules, 2010) has been limited due to lack of participation and enforcement by states.

While most of the countries in the region are signatories to the Ramsar Convention (barring Maldives), implementation of wise use approaches has been limited due to lack of capacities and financial resources. The National Biodiversity Strategy and Action Plans (NBSAPs) and national biodiversity targets of all regional countries make explicit reference to wetlands, challenges associated with direct and indirect drivers of degradation are yet to be comprehensively addressed. At the same time, restoration initiatives as demonstrated in Lake Chilika (India), Ghodaghodi Lake Area (Nepal) and Tanguar Haor (Bangladesh) embellish the significance of community driven and adaptive management of wetlands, as pathways for realization of wise use principles for wetlands in South Asia.

Effective targeting of wetland restoration needs comprehensive knowledgebase on status and trends in wetland biodiversity and ecosystem service values. There has been a considerable improvement in national inventories in all countries, enabled through use of modern remote sensing technologies. However, limited efforts are being made to assess the drivers of change in relationship with change in status and extent of wetlands. Knowledgebase on status and trends in wetland dependent species remain patchy, and limited to waterbirds and freshwater fish. Improving knowledge base on wetland status and trends, ecosystem services and biodiversity values and management needs remains a priority for Wetlands International South Asia. Regional biodiversity monitoring programmes as Asian Waterbird Census also need to be strengthened and made more robust.

Some of the most significant trends in this region, which have an implication for state of wetlands relate to increasing water and food insecurity, climate risks, disaster risks, urbanization and declining public finances for wetland restoration. These are discussed in the following paragraphs as an external environment context for Wetlands International South Asia’s regional targets planned for the coming decade. Each of these sections closes with reference to the role Wetlands International South Asia can play in addressing the adverse trends.
**Increasing water and food insecurity**

South Asia is home to nearly one-fourth of world’s population with just 3% of world’s land area and 5% of world’s renewable freshwater resources. Irrigated agriculture supplies 60-80% of region’s staple food and accounts for over 90% of water use. Nearly three fifths of the region’s irrigation water is sourced from groundwater tapped from its 25-27 million shallow tubewells. Water, once considered abundant, is becoming increasingly scarce, with rapid declines in per capita availability. Unsustainable extraction of groundwater has led to falling water tables in several regions in India and Pakistan. With 35% of the world’s malnourished population in the region, increasing food and water security is indeed alarming.

Wetland functioning is predicated on availability of water of right quantity, timing and quality to these ecosystems within wider basin and coastal zone level planning. Historically, infrastructure led planning adopted for agriculture development in the region has proven counterproductive for natural ecosystems as wetlands. Experiences from WISA’s projects in Kanwar Jheel (Bihar), Vembanad-Kol wetlands (Kerala) and Loktak Lake (Manipur) indicate that changing natural water regimes to support agriculture development, without taking into account the role of wetlands in food and water security, often entails losses in capacity to regulate water regimes and support biodiversity. Ecosystem water requirements are still seen as competing demands of water. Integrating wetlands within water management through cooperative planning and management processes within the two sectors is a logical pathway for deriving co-benefits.

Poor access to water, sanitation and hygiene facilities furthers deepens physical water scarcity. Around 20 per cent of the population in South Asia region lacks access to improved water supplies and only a minority are connected to piped sewer systems, even in urban areas. Inadequate water supply and sanitation increase disease burden on the society. While nations have prioritized WASH services within the development agenda (as India’s Swacch Bharat Mission), the role of wetlands as sources of water and, in certain circumstances as ultimate sinks of municipal waste is hardly recognized. There is an urgent need to embed the role of wetlands and concomitant basin scale thinking in planning and implementation of WASH programmes.

The Hindu Kush Himalayan mountain system is often termed as ‘water tower of Asia’ as it contains the largest freshwater resource, in the form of glaciers and permafrost, outside the North and the South Pole. The role high altitude wetlands play in providing water security to the region, through buffering glacier melt and proving stable flow during the lean seasons is immense. There has been recognition, within regional forums as SAARC, ASEAN, for the need for regional cooperation in the management and development of water as means to support growth and regional stability. Conservation of High Altitude Wetlands of Hindu Kush Himalayan Region, which form water sources for 10 largest rivers of Asia, needs to be accorded high priority in the regional cooperation agenda.

In 2015, the Heads of States have adopted the 17 Sustainable Development Goals (SDGs) in the form of 2030 Agenda for Sustainable Development as an overarching framework for poverty eradication and ensuring human wellbeing. The inclusion of water related SDG6 (ensuring availability and sustainable management of water and sanitation for all) and indicator 6.6 (By 2020, protect and restore water related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes) is an important entry point to bring the issue of water and wetlands to the fore of policy and programming for sustainable development. For the South Asia Region, it is pertinent that nations explicitly consider wetlands and development interlinkages while developing implementation strategies and monitoring systems.

In the region’s increasingly water and food insecure economy, wetlands need to be repositioned as ‘natural infrastructure’ considering their role in ensuring food, water and energy security. Fundamental to this is recognition of the inextricable linkages between wetland wise use and water management within sectoral policy and decision making processes. As various projects implemented
by Wetlands International South Asia indicate, building just an allocation for wetlands in water resources planning is not sufficient. Integration can be meaningfully achieved only when wetland restoration and wise use is considered and more importantly invested upon as options for meeting water management objectives (for example reviving floodplains as a solution for buffering flood risk, or wetland restoration for enhancing groundwater recharge). The cross scale disconnect between resource users and policy making institutional structures needs to be addressed appropriately by creating opportunities for adaptive governance systems incentivizing multi-functional ecosystem use and stewardship.

An important challenge for Wetlands International South Asia is to align policies across agriculture, water resources and related sectors to transform the way water risks are managed within landscapes, including the improved management and restoration of wetlands as networks of networks of natural water infrastructure.

Increasing climate risks

Existing as well as emerging evidence-base on impacts of climate change indicates increasing spatial and temporal variability in water availability in South Asia. Trends of increasing and intensifying monsoon rainfall and decreasing non-monsoon rainfall are projected for major river basins. The IPCC Assessment Report 5 attached high confidence to increasing sea levels, intensity of weather and climate related disasters, and exposure to diseases in the region. These changes, coupled with increasing water scarcity, have several direct as well indirect implications for wetlands. Several wetland types, particularly river floodplains and deltas are likely to undergo adverse changes in hydrological regimes. Investments in water storage and flood defence infrastructure will further affect water availability for wetlands. At the same time, the effectiveness of climate responses can be greatly enhanced if the role of wetlands in climate change adaptation and mitigation are comprehensively built in policy making and programing. Most importantly, the risk of maladaptation resulting from policy and programming choices that adversely impact wetlands would need to be addressed.

There is increasing evidence that a mix of climatic and anthropogenic pressures will render deltaic landscapes highly vulnerable in the South Asia region. Climate induced sea level rise, increasing sea surface temperatures, and increasing frequency of tropical cyclones put the highly dense population and economic assets in the deltaic landscapes at high risk. Reduced sediment fluxes, as in the case of Indus and Mahanadi Delta, further add to the vulnerability by slowing delta build upii and increasing risk of coastal erosion, flooding and salt water intrusion. Coastal wetlands as mangroves, coral reefs, lagoons and estuaries provide natural buffer to the extreme events, and are key to adaptation in a changing climate, however, continue to be stressed due to anthropogenic activities. Globally, approaches as building with nature and integrated coastal zone management are being used as best practices for addressing deltaic vulnerability.

Increasing risks of disasters

The frequency of natural disasters in South Asia is increasingly showing an upward trend. As per the Global Risk Analysis Report, 49.43% of the total South Asian population are at ‘relatively high mortality risk’ from natural disasters. Water related disasters are frequent, intense and damaging. Severe flooding along the Ganges and Brahmaputra rivers in 2007 affected over 13 million people in Bangladesh, while flooding in the Indus in 2010 severely affected more than 20 million people in Pakistan. The economic cost of these floods was over US$1 billion in 2007 and nearly US$10 billion in 2010. In Uttarakhand (India, 2013), more than 100,000 people were rescued following floods and landslides and over 3500 were officially confirmed as missing. When floods hit Chennai, a South Indian urban and industrial agglomerate, losses were pegged at US$ 1.2 billion. The 2016 drought, having widespread impact on 10 Indian states is slated
to set the economy by about US$ 100 billion, enhancing food insecurity by several orders. A majority of the most devastating water related disasters in the South Asian region have had their genesis in mismanaged wetlands and congested water conveying channels. Lopsided development has adversely impacted the inherent buffering capacity of these ecosystems. Evidences from Mumbai Deluge (2005), Indus floods (2010), Kashmir floods (2014) and Chennai floods (2015) underline the need to consider wetland restoration as one of the key ingredients for disaster management.

The science and practice of disaster management in the last two decades has progressively evolved towards a focus on disaster risk rather than disaster per se. Increasing importance is being placed on prospective and preventive approach to reducing risk as against a reactive approach. The Sendai Framework for Disaster Risk Reduction 2015-2030 (rising out of the deliberations at the Third UN Conference on Disaster Risk Reduction) places emphasis on recognition of underlying social causes of hazard, exposure and vulnerability. The domain of such choices includes the ways societies choose to manage natural resources as wetlands. Ecosystem based disaster risk reduction approaches, based on recognition of the benefits of healthy and functioning ecosystems as wetlands towards disaster risk reduction are emerging as ‘no-regrets’ options.

**Refocusing on urban wetlands**

While South Asia is the least urbanized regions of the world with only a third population living in the cities, the region has the fastest rate of urbanization. Annual population growth in the region is around 1.5 per cent and is projected to increase from around 1.6 billion to over 2.0 billion by 2050viii. This growth combined with the movement of people from rural areas to cities and towns will see urban populations grow from around 30 per cent of the total (currently) to between 40 and 50 per cent of the total. The urban population is unevenly distributed, being concentrated in few large cities, creating significant infrastructural, sociospatial and ecological overloads, and particularly on wetland ecosystems. It is not surprising to note that the expansion of major urban centres, as Bengaluru, Delhi, Kolkata, Chennai, Colombo, Dhaka, and Karachi have been associated with concomitant decline in wetlands, and increasing water insecurity. Studies on increasing urban flooding risks in Bangalore and Chennaiix have identified wetland encroachment as one of the main causative factors.

Strategies for urban governance, adopted thus far in the region, are yet to factor consistent and comprehensive solutions for wetland conservation within rapidly urbanizing landscapes. Regulatory frameworks for wetlands, as developed in India and Sri Lanka, have been largely ineffective in securing wetlands from direct and indirect impacts of urbanization. Experiences from management of urban wetlands as East Kolkata Wetlands, Bhoj Wetlands indicate that if well-managed, ecosystem services and biodiversity values derived from urban wetlands can improve environmental sustainability in urban spaces.

**Changing trends in wetland conservation financing**

Wetland conservation is viewed as public good, and is therefore financed through the national budgetary allocations for environment conservation. These resources have increasingly been stressed due to economic crisis, competing development needs and ambitious economic development trajectories relegating wetland conservation to a lower priority. New financing approaches, built on principles of convergence with developmental programming, will therefore need to be pursued to support wetland conservation as a contribution to developmental goals. Such approaches have been worked upon at local scales by Wetlands International South Asia under Partners for Resilience Project, and can be replicated and upscaled.

The silver lining is the revision of Indian Companies Act in 2013 which makes investment in Corporate Social Responsibility mandatory for companies making profits beyond a given threshold.
This is an opportunity for the organization to promote wetland restoration as a befitting investment. Outcomes of TEEB India Initiative (an initiative of the Ministry of Environment, Forest and Climate Change to highlight the economic consequences of loss of ecosystem services and biodiversity values of wetlands, forests and coastal and marine ecosystems) can be strategically used to build economic case for investment in wetlands as ‘natural capital’, and in particular developing opportunities for incentivizing wise use.

Responding to the external environment

The analysis of external environment signifies the enormity of challenges faced by wetlands in the region, as well as the catalytic role Wetlands International South Asia can play through its interventions aimed at improving science, policy and practice of wetland management in the region. It is also apparent that the organization would need to continue working with a range of stakeholders on the aforementioned issues, including government ministries and departments, wetland authorities, knowledge centres, civil society and corporates. The following science, policy and practice priorities emerge for the organization:

• Improve the overarching policy and governance environment for wetland conservation and wise use in South Asia
• Promote integration of wetlands in landscape scale sectoral developmental programming for water, food and climate security
• Demonstrate innovative wetland solutions to meeting water management challenges. In select basins and in collaboration with national and state governments, civil society and corporate sector, Wetlands International South Asia can endeavour developing replicable and upscalable wetland restoration initiatives which contribute to enhanced water and food security.
• Continue to improve knowledgebase on status and trends in wetlands, ecosystem services and biodiversity values, particularly addressing the consequences of increasing water and climate risks
• Build capacity of wetland managers to engage with water resources planners in order to improve recognition of wetlands as natural capital
• Work with WASH sector partners to demonstrate replicable models of sustainable WASH which takes into account wetlands as sources of water and sinks of waste
• Improve replication and adoption of integrated management planning approaches for wetlands which take into account water and food security objectives within the wider basin and coastal zone.
• Strengthening development sector interface to ensure that wetland based solutions are considered in cross-sectoral programming across the region. Such approaches, models, lessons and best practices can be regionally disseminated through regional forums (as South Asia Water Initiative (SAWI) and SAARC) and proactive engagement with national governments.
• Promote integration of wetlands ecosystem services and biodiversity within climate change programing by working at three levels:
  • Within strategic deltaic landscapes, wetland restoration can be distinctly linked as an adaptation measure for consequences of changing climate. This would require building the evidence base as well as addressing capacity gaps of wetland managers in addressing climate risks within management planning processes.
• At national scale, the organization will aim to work on increasing visibility and consideration of wetlands in climate policies and programming. This would require effective networking and advocacy with national governments, policy centers and knowledge institutions.

• At regional scale, forging strategic partnership with regional and international institutions as IUCN, ICIMOD, IWMI and GWP would help draw increased attention to the role of wetlands in climate change.

• Enhance attention to the needs of urban wetlands by building on synergistic opportunities between urban planning and wetland management.

• Promote ecosystem based approaches to disaster risk reduction (as against reactive disaster management approaches), particularly highlighting the role of wetlands and water management in building resilient communities and landscapes. An important aspect of engagement will be working towards building capacity of a large number of disaster risk reduction practitioners in the region, for building and applying wetland mediated solutions for disaster risk reduction.

• Work towards diversification of funding sources and arrangements for wetland management, including inter alia, opportunities for private sector engagement.

**South Asia regional targets 2015-2025**

The Strategic Intent 2015-2025, adopted for implementation by Wetlands International Supervisory Council in September 2014 is built around the following vision, mission and goal:

**Vision:** A world where wetlands are treasured and nurtured by their beauty, the life they support and resources they provide

**Mission:** To sustain and restore wetlands, their resources and biodiversity

**Goal:** Wetlands are wisely used and restored for the role they play in improving human well-being and local livelihoods, conserving biodiversity, sustaining the water cycle and reducing climate change and its impacts.

The strategic focus of Wetlands International is encapsulated around following four interdependent and overlapping work streams (the fifth work stream being targeted at Sahelian wetlands has been excluded from regional strategy). These work streams and intended objectives are as follows:

**Healthy wetland nature** aimed at promoting conservation and wise of wetlands and achieving cross-sectoral action for wetland conservation, with alacrity and at a scale needed to redress the loss and degradation of wetlands.

**Vibrant coasts and deltas** aimed at sustaining wetlands along rapidly developing coasts, and ensuring that communities are buffered from the vulnerabilities induced by changing climate.

**Replenished water stores** aimed at aligning policies across multiple sectors to transform the way water risks are managed in the landscape, including the improved management and restoration of wetlands as networks of natural infrastructure Peatland treasures safeguarded and restored.

The strategy recognizes that achieving the set objectives requires collective action with a range of stakeholders and actors and sets out the following pathways for synergistic working for the network:
## Global work streams and intended goals

<table>
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<tr>
<th>Healthy Wetland Nature</th>
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<tbody>
<tr>
<td>Halt and reverse loss of wetland habitats, sites and species</td>
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</tbody>
</table>

### Regional targets 2016-2020

1.1 Improved status of wetland biodiversity in 8 sites in South Asia (including 2 sites located in urban landscapes)

### Proposed interventions

- Establish baselines on status and trends on wetland ecosystem services and biodiversity
- Conduct valuations (monetary and nonmonetary) to assess full range of biodiversity and ecosystem service values, and impacts of sectoral development
- Formulate integrated management plans addressing drivers of adverse change in ecological character
- Ensure implementation of integrated management plans through convergence with developmental planning
- Identify opportunities for private sector engagement in wetland management
- Periodically assess effectiveness of management plan implementation, and undertake measures for mid-course correction
- Identify lessons and best practices, and feed the same into national programmes
- Disseminate best practices and lessons to wider stakeholders

### Geographical focus and opportunities

- **Gangetic Floodplains (Kanwar Jheel), Periyar and Kallada Basin (Sasthamcotta and Ashtamudi), and Sutlej-Beas Basin (Harike and Kanjli).**
- **Urban wetlands – Yamuna floodplains (Delhi), East Kolkata Wetlands (Kolkata, West Bengal) and Pallikarnai Marshes (Chennai, Tamil Nadu)**
- **Bangladesh – Southern Bangladesh (khal and bhery systems)**

### Ongoing projects and additional activities proposed

Implementation would build on the outcomes of management planning projects being implemented during 2014-2016 on Kanwar Jheel (Bihar) and Sasthamcotta and Ashtamudi Lakes (Kerala). Wetlands International South Asia assisting Government of Bihar in inventorying wetlands for regulation and management. Work on these sites will be upscaled through the GEF project on ‘Integrated Management of Wetland Biodiversity and Ecosystem Services’ approved for implementation during 2016-2020.

The work on wetlands of Southern Bangladesh is proposed to be implemented under Wetlands International supported Strategic Partnership project aimed at improving water governance in the region.

New initiatives are proposed to be launched during strategy implementation period on two urban wetlands systems, namely a) Pallikarnai Marsh, Chennai and b) Yamuna floodplains, Delhi. Work on the latter would build on the results of ecological characterization and biodiversity assessments carried out in 2004-06.

### Partnerships

- State Wetland Authorities
- MoEFCC
- Private sector
<table>
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<th>Global work streams and intended goals</th>
<th>Regional targets 2016-2020</th>
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| 1.2 One national scale capacity building programme for wetland managers established | 2016 will mark the 30th year of AWC Counts. In partnership with the WI network, following activities will be taken to strengthen information base on status of migratory birds, and use of information for conservation of priority sites: | • Undertake a training needs assessment of wetland managers  
• Develop a course curriculum, based on the outcomes of training needs assessment  
• Implement training curriculum in partnership with capacity building centers  
• Liaise with training centers for formalization of curriculum  
• Periodically update course based on feedback and availability of new course materials | National | A model training programme for IFS Probationers was conducted for IGNFA in 2016. It is envisaged to work towards formalization of the course and institutionalization within the formal curriculum within the institute. This is a built in activity under the UNEP-GEF Project. Wetlands International South Asia will also endeavour to establish a national capacity development center on wetland management. | Capacity building centres – IGNFA, Uttarakhand; WRTC, Odisha; CEER Foundation, Gujarat; CWRDM, Kerala |
| 1.3 Asian Waterbird Census (AWC) strengthened as an information base on status of migratory waterbirds within Central Asian Flyway | 2016 will mark the 30th year of AWC Counts. In partnership with the WI network, following activities will be taken to strengthen information base on status of migratory birds, and use of information for conservation of priority sites: | • Improve coverage of the sites  
• Publish an overview report on status of migratory birds in South Asia  
• Liaise with MoEFCC and state governments to prioritize wetlands of high waterbird conservation value for restoration and integrated management  
• Work towards implementation of Central Asian Flyway Action Plan | Central Asian Flyway | Wetlands International South Asia has been coordinating AWC with internal resources. Part fund-raising for improving data collection and strengthening coordinator network has been received for work during 2016-17. | AWC: national and state coordinators, private sector willing to provide financial and technical engage and support. Partial funding for implementing the work has been received under CSR engagement |
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| 1.4 Implementation of national targets and international commitments related to wetland restoration tracked for 2 countries in South Asia to promote improved national policy making and governance | | • Develop baseline and status of national biodiversity targets related to wetlands  
• Collate information on wetland status and trends, and national policy commitments for Bangladesh  
• Communicate outcomes of tracking to the concerned Ministries to seek integration in national programming  
• In partnership with international and regional organizations, strengthen implementation of Ramsar Convention, CBD, CMS to improve status of wetlands and wetland dependent species.  
Work closely with FFSG to improve conservation status of freshwater fish.  
Work on improving information base on status and trends in wetlands area, biodiversity and ecosystem services values, and use it as a basis for communication and outreach at multiple levels, sectors and stakeholders to create awareness on wetland values, status and trends. | India and Bangladesh | Work on tracking national targets in India is approved as a component under UNEP-GEF project. Wetlands International South Asia will develop collaborative work with IUCN – India and Bangladesh to replicate Indian experiences in Bangladesh. | MoEFCC, MoWRRRD, State wetland authorities Bangladesh: IUCN National organizations: IUCN-India, BNHS, SACON |
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<td>Vibrant Coasts and Deltas Conserve and restore mangroves and other wetland ecosystems along the coast as an integral part of resilient and productive coastal landscapes</td>
<td>2.1 In 3 deltas and coastal landscapes of South Asia, wetland restoration is linked in coastal zone planning leading to improved livelihood resilience of dependent communities.</td>
<td>• Promote integrated management of coastal wetlands  • Promote increased recognition of the status, trends and values of coral reefs, with particular reference to their sensitivity to increasing sea-surface temperature and pollution.  • In prioritized delta regions, work with government and civil society organizations to promote integrated risk management approaches to build community resilience while securing functioning of deltaic wetlands, within the framework of coastal zone management.</td>
<td>Mahanadi Delta, Odisha  Coastal zone of Kerala (covering catchments of Vembnad-Kol, Sasthamcotta and Ashtamudi)  Coastal zone of Gujarat (covering catchments of Mokersagar-Gosabara complex, and Khijadiya wetlands)  Implementation of second phase of Partners of Resilience may be an opportunity for promoting integrated risk management approaches for building community resilience.</td>
<td>Experience of implementation of Partners for Resilience in Mahandi Delta will be upscaled to enable integrated management of coastal wetlands in the deltaic region, by providing technical support to Odisha Wetland Development Authority. Wetlands International South Asia will also endeavour to seek implementation of management plan for Hirakud Reservoir (prepared in 2016 in collaboration with Chilika Development Authority). Work in coastal zone of Gujarat would be upsaling of the ongoing management planning processes for wetlands in Jamnagar District (being implemented with support of GIZ).</td>
<td>National Disaster Management Agency, National Institute of Disaster Management  State Coastal Zone Management Authorities, State Wetland Authorities  Civil society network operational in the two deltaic landscapes</td>
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<td>Replenished Water Stores from Mountains to Sea</td>
<td>3.1 In 3 basins, implementation of water resources plans and projects safeguard and restore wetland functioning to reduce water risks</td>
<td>• In collaboration with wetland authorities and state governments, secure implementation of wetland management plans, and integrate wetland conservation within river basin management in Mahanadi River Basin, Gandak Kosi floodplains and Manipur River Basin. • Endeavour to develop management effectiveness indicators promote management effectiveness assessment as a tool to assess impact of management and support implementation of necessary mid-course correction measures. Working with ICIMOD and regional partners, work towards increased regional cooperation for conservation of high altitude wetlands as a means of addressing regional water security and livelihoods within downstream communities.</td>
<td>Mahanadi River Basin (through improved management of Hirakud reservoir enabling integration of functioning of downstream ecosystems) Manipur River Basin (upscaling management of Loktak Lake to entire wetland complex) High altitude wetlands of Hindu Kush Himalayas</td>
<td>Work under this target would build on implementation of Partners for Resilience project in Mahanadi Delta (Odisha) and Gandak-Kosi floodplains (Bihar). Implementation of management plan of Loktak and associated wetlands (Manipur River Basin) will also be sought. New collaborative proposal for high altitude wetlands of Hindu Kush Himalayan wetlands would be developed in 2016. The proposal would build on the outcomes of EU-Asia Eco Pro funded project on application of Asian Wetlands Inventory models to improve catchment scale management of high altitude wetlands of Hindu Kush Himalayas implemented in partnership with Wetlands International-China and International Center for Integrated Mountain Development (ICIMOD), Nepal in 2005-2006.</td>
<td>State wetland authorities of Odisha, Manipur and Bihar ICIMOD</td>
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<td>Peatland Treasures Safeguarded and Restored</td>
<td>3.2 In 2 landscapes WASH planning and governance takes into account role of wetlands resulting in enhanced access to environmentally sustainable water and sanitation solutions.</td>
<td>In Mahanadi Basin and Gandak Kosi Basin WISA will work towards empowering civil society partners with knowledge and skills to integrate role of wetlands in WASH programming and policy making, resulting in enhanced access to environmentally sustainable water and sanitation, and improved health of wetlands.</td>
<td>Mahanadi Basin, Odisha Gandak-Kosi Floodplains, Bihar</td>
<td>Implementation would be under the Wetlands International supported strategic partnership project on water governance.</td>
<td>NGO networks working within the landscapes National WASH NGO and NGO networks</td>
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<td>Conserve and restore peatlands as part of integrated landscape management contributing to sustainable development, climate change adaptation and mitigation and biodiversity</td>
<td>4.1 Knowledge base on status and trends in peatland resources in South Asia is compiled and made available to planners and decision makers.</td>
<td>WISA, in collaboration with knowledge centers, compile the available information base on peatland resources in Hindu-Kush Himalayan region. The information will feed on the global campaign for restoration of peatlands as a contribution towards climate change mitigation.</td>
<td>Hindu-Kush Himalayan region; Western Ghats</td>
<td>This is proposed to be a new work area, proposal for which would be developed in 2016.</td>
<td>ICIMOD, IPS (International Peat Society), Ramsar Convention</td>
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• Adopt a system-wide and integrated socioecological approach to conserve and restore wetlands taking into account full range of biodiversity and ecosystem services values within a landscape

• Implement demonstration projects to elucidate practical application of concepts and building technical knowhow

• Stimulate governments to develop and implement effective policies and programmes for wetland restoration based through issue based advocacy and bridging science-policy-practice divide

• Build capacity of wetland managers to enable application of integrated solutions

• Empower wetland dependent communities by working with civil society and local network

• Engage in strategic partnerships with government, private sector, civil society and knowledge institutions to enable joint and collaborative actions for safeguarding wetlands

• Engage with wetland restoration on long term investing in national and local relationships and forging innovative and strategic partnerships.

In this section, each of the four work streams have been translated into regional targets, which set the ambition for Wetlands International South Asia office. For each of these work streams, the contributions South Asia programme implementation can make have been stated, which have been further translated into regional targets, geographical focus, known opportunities and partnerships required for achieving the same.

The proposed regional targets and geographical priorities seek to consolidate the gains made through implementation of 2011-2015 strategy, building on the outcomes to achieve long term impacts.

Figure 1: Geographic priorities for South Asia Regional Strategy (Locations and regions indicated in grey shade)
for people and nature. In addition, work on urban wetlands has been included to respond to the needs of securing these ecosystems from pressures resulting from increased urbanization. A new work programme related to peatlands has been proposed to address knowledge gaps existing on this wetland type in South Asia region, and to promote peatland conservation as a climate adaptation strategy.

Building on the experiences of previous strategy, increased emphasis will be placed on proactive engagement with government sector to ensure that management recommendations and best practices are implemented. A key element of the strategy delivery would be mainstreaming wetland biodiversity and ecosystem service values in developmental programming. Methods promoted for integrated wetland management planning will focus on increasing convergence with ongoing development sector investments (eg. for rural development, sanitation, rural livelihoods, urban development and others). WISA will also seek to promote cross sectoral governance arrangements for wetland management (eg. representation of multiple sectors in wetland authorities). The organization will also endeavour to promote increased recognition of wetland biodiversity and ecosystem service values in sectoral planning and decision making.

Greater emphasis will also be placed on improving overall policy environment for wetlands and mainstreaming in sectoral development programming. Efforts will also be made to diversify donor base to support strategy implementation, and seek private sector partnerships in addition to existing government funding sources, for implementation of management plan recommendations.

An important component of the strategy will be to strengthen the Asian Waterbird Census Programme, a citizen science initiative promoted by Wetlands International, which since the last three decades has been providing a snapshot of status of waterbirds and wetlands in the region. The initiative provides crucial information for prioritization of wetlands, particularly for designation of wetlands as Ramsar Sites.

WISA will also endeavour to capitalize on the amendment of Indian Companies Act in 2013 to raise resources for implementation of regional targets. The corporate sector engagement strategy will include:

- Engagement with private sector entities having operational areas within or in proximity of wetland sites and basins and coastal zones for implementation of site management plans
- Participation in existing conservation business platforms as Leaders for Nature (coordinated by IUCN) and India Business Biodiversity Initiative
- Developing and proactively promoting communication materials on ‘role of private sector in wetland conservation and wise use’
- Proactively reaching out to companies for support to communication and outreach programmes, and wetland monitoring
- Linking site managers with private sector for implementation of management plans

**Monitoring and evaluation**

Annual outcome based reporting to the board of Wetlands International South Asia and wider Wetlands International network would be the key means of assessing progress in achieving the stipulated targets. An indicator system will be used to report implementation progress. A consolidated review is proposed at the end of three years to undertake mid-course correction as may be required. External and internal project appraisals would also constitute an important component of review process.
Human and financial resourcing

Implementation of the strategy would be the main objective of the Wetlands International South Asia office which will ensure that necessary human and financial resources are made available. Apart from the technical and administration staff within the office, Wetlands International South Asia will also strive to create an external pool of experts which would provide the necessary strategic advice and guidance to strategy implementation.

The organization will also strive to diversify the current mix of donors, in particular, secure resources from developmental sector and corporate sector to implement new ideas and approaches which have greater relevance to mainstreaming wetlands in development. A strategic analysis of current CSR investments of major companies, in relationship with existing and proposed project portfolios would be conducted to identify engagement opportunities. A corporate outreach strategy will be developed based on this analysis.

An adequate balance would be made between field demonstration, creating and communicating knowledge, policy and advocacy as well as continued investment into state of the art technologies in the field of wetland management.

The current network of partner NGOs and CBOs would be further developed to implement field projects. Additionally, WISA would also seek collaborations and partnerships with various agencies to achieve its cross cutting targets, in particular within Water, Sanitation and Hygiene and Disaster Risk Reduction sectors.

Organizational development

Implementing the above outlined strategy would require reorganization and augmentation of the current capacities and capabilities. The key strategies are:

Augmenting staff capacities: Over the period of the strategy, the organization will endeavour to build and augment staff capacity through mentoring and coaching so that core competencies required to implement the regional targets are developed. We also aim to increase staff strength by recruiting additional technical expertise in water management and communications. The organization will also strive to engage with expert networks and knowledge institutions in building knowledgebase on wetlands and developing projects.

Communications: As a part of strategy implementation, a communication plan will be drawn and implemented to enhance visibility and impact of organization’s work. This is needed so that the organization can better connect with policymakers, corporates, civil society and local communities on the urgency to take action for conservation and wise use of wetlands.

Within India, successful delivery of the strategy will require deepening engagement with central and state governments. Wetlands International South Asia will endeavour to strengthening work with the MoEFCC, while also cultivating working relationship with Ministry of Water Resources and Ministry of Agriculture. It is envisaged to hold a biannual ‘policy-sciencepractise’ conference to ensure that wetland related issues are accorded required priority within policies and programmes of national government. The organization will also support a wetland managers’ network through which tools and best practices will be communicated, as well as site scale issues transmitted into programming processes of national government.

Deepening and extending partnerships: The organization will consolidate and build its partner networks, extending from wetland managers, to regional institutions, national and state level policy makers, key civil society actors and corporate sector. The organization will proactively engage with national governments to promote cross sectoral action for wetland conservation and establish regulations that help define and maintain sustainability limits.
i. The Ramsar Convention, in its 7th Conference of Parties held in 1999, conferred the status of ‘International Organization Partners (IOPs)’ to Wetlands International, IUCN, WWFInternational and Birdlife International. These institutions played a significant role in Convention’s inception and provide extensive support to its implementation. Subsequently, in 2005, International Water Management Institute (IWMI) was admitted to the list of IOPs, and became the fifth organization to be conferred this status.

ii. Gandak-Kosi floodplains (Kanwar Jheel), Mahanadi Basin (Hirakud Reservoir), Gujarat (Khijadiya and Gosabara-Mokarsagar Complex) and Ramsar Sites of Kerala (Ashtamudi and Sasthamcotta).


v. FAO (2015) and Shah(2007)


vii. As per Giosan et al (2014), one fifth of Indus Delta Plain has been eroded since the river was first dammed in 1932. IPCC AR5 indicates that 96% of tiger habitat in Sunderbans is projected to decline with a 28 cm sea level rise, if sedimentation does not increase surface elevation. Gupta et al (2012) record a significant 67% reduction in sediments reaching Mahanadi Delta, leading to overall deltaic shrinkage and subsidence.

viii. Data from United Nations Population Division

ix. Gupta and Nair (2011) present a temporal mapping of loss of wetlands in Bangalore and Chennai and increasing flood risks