

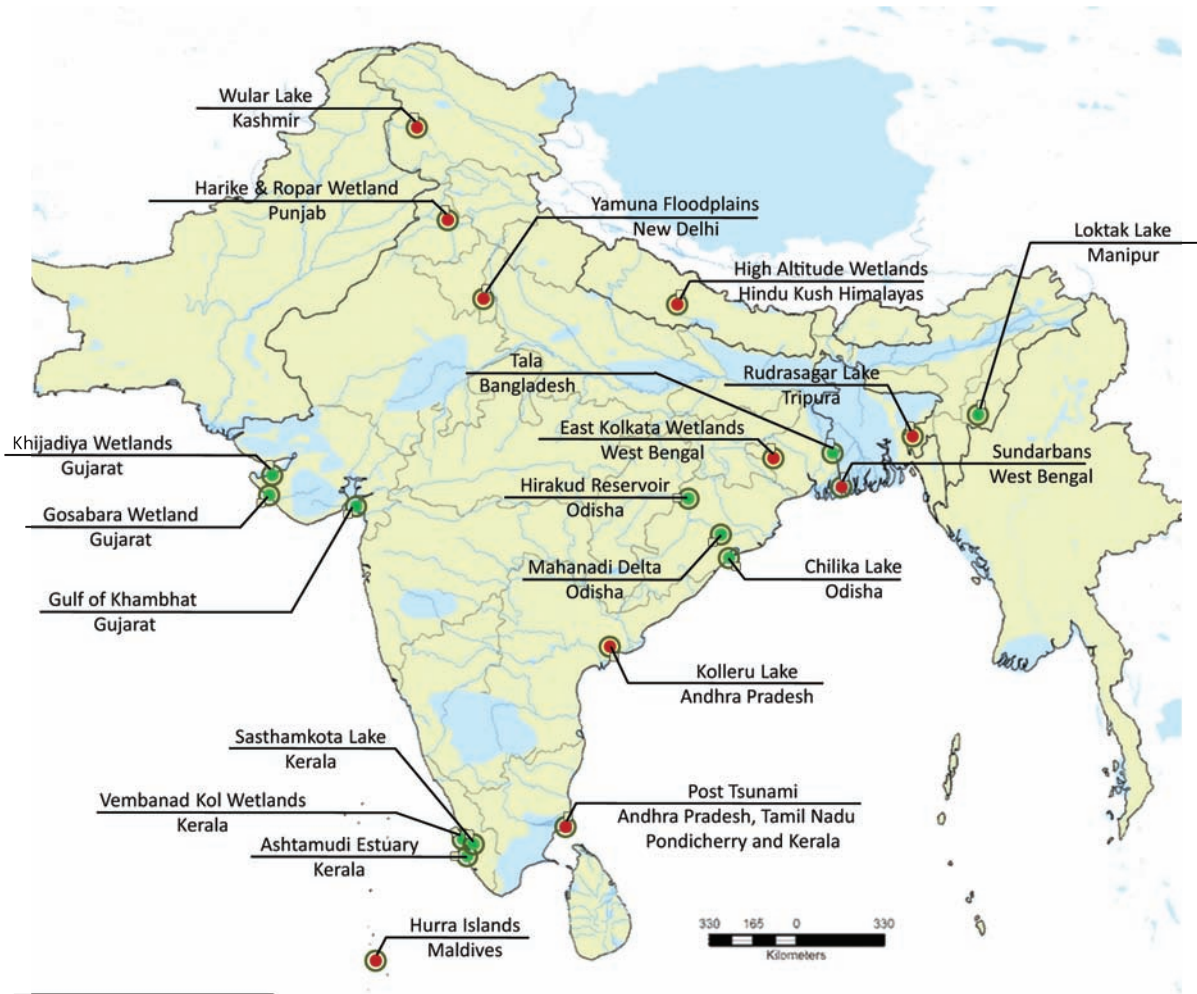


Wetlands International South Asia

Annual Report 2015 - 16



Wetlands
INTERNATIONAL



References

- Ongoing Projects
- Completed Projects

Wetlands International South Asia

Wetlands International South Asia is a non-government 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.

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. 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 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

Presently, Dr. Ashok K. Kundra (former Secretary to the ministries of Mines and Special Secretary Environment and Forests, Government of India) is the President of the Society. Mr. Sudhir K. Pande (Former Director General, Forests and Special Secretary, Government of India) is the Vice-President. Dr. Ajit Pattnaik (Principal Chief Conservation of Forests, Forest and Environment Department, Government of Odisha) is the Treasurer. Ms. Jane Madgwick (Chief Executive Officer, Wetlands International) represents the Wetlands International headquarters on the Governing Body. Dr. Siddharth Kaul (formerly Advisor, Ministry of Environment and Forests, Government of India) serves as a nominated member of the General Body.



President's Message

It gives me a great pleasure in placing before the General Body the Annual Report of Wetlands International South Asia Society for the period 2015-16.

During the year, we have continued to work on the 6 regional targets related to thematic areas of biodiversity, water, climate change and greening the economy. Efforts have been made to upscale impact of integrated wetland management projects implemented in Mahanadi Delta (Odisha) and Gandak-Kosi floodplains (Bihar). We worked closely with the State Wetland Authority of the Government of Bihar to reach an agreement on restoration of hydrological regimes of Kanwar Jheel, as recommended in the management plan drafted by us in 2014. We are also assisting the Authority in systematic prioritization of wetlands for regulation and integrated management. In Mahanadi Delta, Odisha, management planning for Hirakud Reservoir has given us an opportunity to integrate water requirements of downstream ecosystems in operations of the state's largest and most significant water infrastructure.

Specific efforts have also been made to disseminate the outcomes of the TEEB India Initiative, demonstrating use of economic approaches in addressing specific policy contexts related to management of wetlands. Through convergence with existing developmental sector investments, we have been able to pilot models of community resilience in 156 villages in wetland dominated landscapes in Mahanadi Delta and Gandak-Kosi floodplains. During the year, we were also able to establish our first corporate sector partnership project with Avendus Capitals, a financial services management company. Work under the partnership will entail assessing management effectiveness of 8 Ramsar Sites.

As per advice of the General Body, we have continued to engage with the Ministry of Environment, Forests and Climate Change, Government of India on improving policy and regulatory framework for wetlands in India. Through a national workshop with Ramsar Site Managers held in January 2016, we have initiated a dialogue with the State Governments and the Ministry on enhancing implementation of regulatory framework, and strengthening management of wetlands of national priority. A first of its kind training course for Indian Forest Service Probationers on Integrated management of wetlands was also organized in collaboration with Chilika Development Authority. We are also pleased to report that a national project on wetland biodiversity and ecosystem services has been approved for implementation by the GEF Council.

2016 marks the 30th year of the Asian Waterbird Census, one of the longest running citizen science initiative to monitor health of wetlands and wetland dependent species. Specific efforts have been made this year to enhance the number of sites covered under the census, as well as collate the results of previous counts to assess status and trends in wetlands.

We have also firmed up the South Asia Regional Strategy and Targets for the period 2015-2020. Given that a majority of our projects initiated under the 2011-2020 Regional Strategy are yet to achieve their desired impacts, the 2015-2020 is proposed to be a continuum of the previous strategy, while aligning with the Wetlands International network workstreams, and landscape scale focus.

I take this opportunity to thank our partners and donors for supporting the work of Wetlands International South Asia, and look forward to continued association.

New Delhi, July 7, 2016

Dr. Ashok K. Kundra

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Abbreviations

AWC	Asian Waterbird Census	NGOs	Non Government Organizations
BWA	Bangladesh Wash Alliance	NPCA	Programme on Conservation of Aquatic Ecosystems
CBD	Convention on Biological Diversity	PfR	Partners for Resilience
CCA	Climate Change Adaptation	PFCS	Primary Fisher Cooperative Society
CDA	Chilika Development Authority	OSWMA	Odisha State Wetland Management Authority
CSO	Civil Society Organizations	STAR	Strategic Allocation of Resources
DDMP	District Disaster Management Plan	TII	The Economics of Ecosystems and Biodiversity India Initiative
DGIS	Dutch Ministry of Foreign Affairs	UNEP	United Nations Environment Programme
DRR	Disaster Risk Reduction	WASH	Water Sanitation and Hygiene
GEF	Global Environment Facility	WIAMS	Wetland Inventory Assessment and Monitoring System
Gol	Government of India		
IMWBES	Integrated Management of Wetland Biodiversity and Ecosystem Services Project		
MoEFCC	Ministry of Environment, Forests and Climate Change		

Executive Summary

1. Wetlands International network has a mission to sustain and restore wetlands, their resources and biodiversity. During 2015-16, Wetlands International South Asia implemented 8 projects under four thematic areas, namely water, biodiversity, climate change and greening the economy, in line with the South Asia regional strategy 2011-2020.
2. Under the biodiversity thematic area, available information on Khijadiya Wetlands (Gujarat) was reviewed and collated to develop a proposal for designation of site as a Wetland of International Importance. Options for restoration of hydrological regimes of Kanwar Jheel were firm up in consultation with state government departments of water resources, and environment and forests. A framework for prioritization of wetlands of the state of Bihar for regulation and integrated management was also drawn up. A national scale GEF supported project for Integrated Management of Wetland Biodiversity and Ecosystem Services was also firm up, and approval received for implementation. A capacity development programme for IFS Probationers on integrated wetland management was also organized, with efforts being made for formalization of the course in the main curriculum. Efforts for enhancing coverage of Asian Waterbird Census were continued, and the count data for 2008-15 collated.
3. Under the thematic area on wetlands and integrated water management, management planning for Hirakud Reservoir was completed, and draft submitted to Odisha Wetland Management Authority for review. A 5-year, results oriented planning and governance improvement programme for mainstreaming biodiversity and ecosystem services values of Hirakud Reservoir within development programming at Mahanadi River basin scale has been formulated. Hydrological, ecological and socioeconomic assessments of Sasthamkotta Lake were also completed during the year. Assessments indicate that the current pattern of water use from the lake are not conducive to maintaining natural regimes, and are likely to lead to gradual terrestrialization of the Ramsar Site. In Tala District of Southern Bangladesh, training was given to Bangladesh WASH Alliance network organizations in application of catchment assessment tool in order to identify landscape scale interventions for sustainable water supply, sanitation and hygiene solutions.
4. On climate change adaptation, Wetlands International South Asia, under its Partners for Resilience (PFR) project supported NGO and CSO partners to implement community level interventions for building livelihood resilience in wetland dominated landscapes of Gandak-Kosi floodplains (Bihar) and Mahanadi Delta (Odisha). The interventions integrated ecosystem restoration, disaster risk reduction and climate change adaptation aspects, and were carried out using funds leveraged from ongoing developmental programmes of the central and state governments. An ecological character assessment of Lake Chilika to determine vulnerability to climate change was also completed. The outcomes will be used to update the existing management plan.
5. Under Greening the Economy thematic area, results of TII were disseminated to wetland managers and stakeholders through publications and workshops. In 2016, a corporate sector partnership project with Avendus Capitals on assessment of management effectiveness of 8 Ramsar Sites was also initiated.
6. During the reporting period, a total income of Rs. 21.05 million was received from 7 donor agencies, and interest income on reserves. The total expenditure incurred during the year towards various programmatic activities was Rs. 14.32 million. Direct overheads stood at Rs. 1.15 million, forming 8% of total expenditure. The total reserves at the end of the financial year stood at Rs. 23.32 million, which is envisaged to be ploughed back for institutional strengthening and building organizational capabilities.
7. During the year, the South Asia Regional Strategy and Targets for 2015-2020 were also finalized. Eight regional targets under the four workstreams (healthy wetland nature, vibrant coasts and deltas, replenished water stores, and peatland treasures safeguarded and restored) have been identified for implementation. The work of the organization in the coming five years would be guided by these targets.



Programme Overview 2015-16

8. Wetlands International South Asia has a mission to sustain and restore wetlands, their resources and biodiversity. The following goal statement of the organization brings to fore the importance of wetlands in securing societal well-being:

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 impacts.

9. In November 2011, the Governing Body of Wetlands International South Asia approved the South Asia Regional Strategy 2011-2020 as a guide to the technical programmes. Four thematic areas (water, climate change, biodiversity and

greening the economy) and six corresponding regional targets (summarized in table below) have been set as a means to achieve the organization's mission and goal. The technical programmes are designed around one or several of the intervention strategies, namely, mobilizing best available expertise and knowledge, raising awareness on key issues, enabling society to take action, and influencing policy and practice.

10. This section of the annual report presents an overview of activities and achievements of Wetlands International South Asia during the period April 2015 – March 2016 under each of the four thematic areas. Project specific details are contained in Annex 1.

Theme and objective	Regional targets	Geographical focus	Thematic focus
Biodiversity Halt and reverse the loss and degradation of wetlands and their biodiversity	Improved status of wetland biodiversity in 5 sites in South Asia through site management; and enhancing the efficiency of policies related to wetland conservation through use of better information base and wider awareness.	Khijadiya Wetlands, Gujarat Kanwar Jheel, Bihar Ashtamudi Estuary, Kerala	Management planning for securing biodiversity and ecosystem services Capacity Development for integrated wetland management Strengthening Asian Waterbird Census network Policy support for wetland prioritization and regulatory framework
Water Conserve and restore wetlands as critical elements of natural water infrastructure	Water Resource Management In 3 major basins, implementation of water resources management plans safeguard and restore the role wetlands play in regulation of hydrological regimes and supporting biodiversity.	Hirakud Reservoir, Odisha Sashtamcotta Lake, Kerala	Management planning for safeguarding and enhancing role of wetland ecosystems in water resources planning

	<p>Water Supply, Sanitation and Hygiene (WASH) Through strategic partnership with WASH organizations, ecologically sustainable WASH solutions implemented in country programme of 1 WASH initiative, and the outcomes used to support mainstreaming these principles in organizations working within the region in WASH sectors.</p>	Satkhira, South Bangladesh	Capacity development for catchment scale assessment of WASH-IWRM linkages
<p>Climate Change Conserve and restore wetlands to increase resilience to climate change</p>	<p>Adaptation to Climate Change National government in atleast 1 South Asian country increase recognition and investment into wetland conservation and wise use as a means for climate change adaptation.</p> <p>Disaster Risk Reduction In the catchments of 3 significant wetland systems, community resilience to natural hazards is enhanced through better environmental management</p>	<p>Lake Chilika, Odisha</p> <p>Mahanadi Delta (Odisha) Gandak-Kosi floodplains (Bihar)</p>	<p>Development of wetland climate vulnerability assessment protocol to support adaptation to climate change</p> <p>Integration of ecosystem management and climate change adaptation in community scale disaster risk reduction planning</p>
<p>Greening the economy Promote the positive contribution that wetlands can play in delivering ecosystem services</p>	<p>In atleast 3 cases, the design and delivery of major developmental schemes which threaten significant wetlands or water resources are adjusted to avoid or reduce impacts on biodiversity and livelihoods</p>	<p>Kanwar Jheel, Bihar Loktak Lake, Manipur Chilika Lagoon, Odisha</p>	<p>Promoting recognition of economic values of wetland ecosystem services and biodiversity in developmental programming</p>

Conserving wetland biodiversity

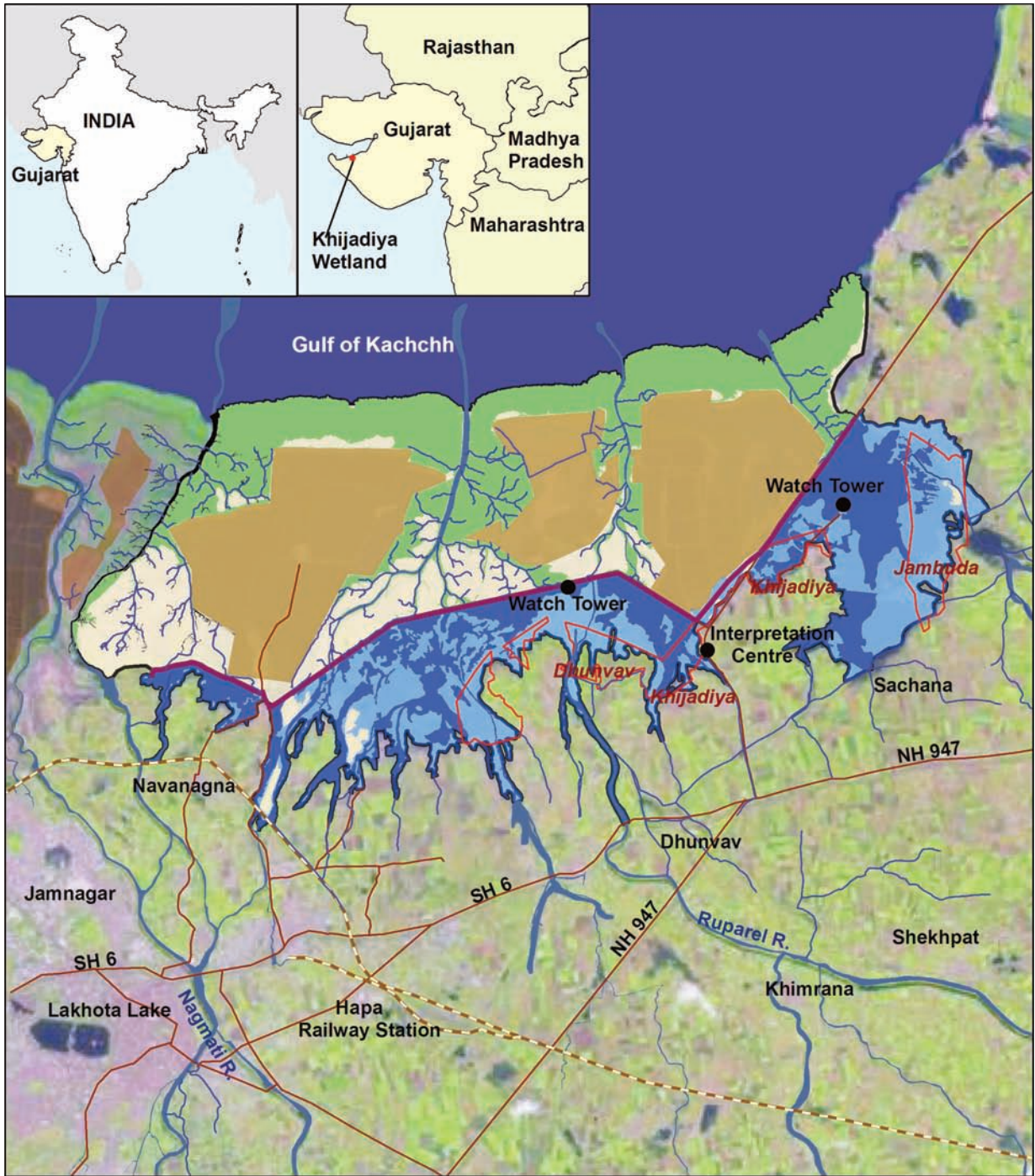
11. Work under the thematic area on biodiversity aims at halting and reversing the loss of and degradation of wetlands and their biodiversity by enhancing conservation status, improving site management and enhancing the policy environment through use of better information base and wider awareness.
12. Geographical focus of project implementation under this thematic area is on Khijadiya Wetlands (Gujarat), Kanwar Jheel (Bihar) and Ashtamudi Estuary (Kerala). A national programme for integrated management of wetland biodiversity and ecosystem services was formulated during the year. Wetlands International South Asia also engaged with the Ministry of Environment, Forest and Climate Change (MoEFCC) on revising the national regulatory framework for wetlands and framing guidelines for the national wetlands programme.
13. The Indo German Bilateral Technical Cooperation Project – 'Sustainable Management of Coastal and Marine Protected Areas 'of the MoEFCC aims at improving management of selected existing and potential coastal and marine protected areas through strengthened participatory management, capacity development and information, communication and training. Project implementation in the State of Gujarat includes formulation of a proposal for Ramsar Site designation and an integrated Management Plan for Khijadiya wetlands, Gujarat.
14. Khijadiya wetlands are a group of three shallow freshwater lakes and extensive marshes merging into a large area of salt pans and mangroves towards the shoreline of the Gulf of Kachchh, about 10 km from the City of Jamnagar. These wetlands span 4900 ha, of which 31% is classed as inland with predominantly freshwater characteristics, and the rest coastal. The two zones are separated by an earthen embankment. The diversity of habitats enables the site to support high biodiversity, represented by atleast 200 birds, 14 mammals, 8 fish, 3 amphibians and 12 reptilian species. Of the over 90 species of waterbirds which use the wetlands as habitat, at least 6 species have more than 1% of their known biogeographic population recorded here. Species as Oriental Darter, Painted Stork, Greater

Khijadiya Wetlands, Gujarat

13. The Indo German Bilateral Technical Cooperation Project – 'Sustainable Management of Coastal and Marine Protected Areas 'of the MoEFCC aims at improving management of selected existing

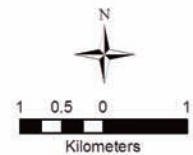


A flock of Cranes flying over Khijadiya, Gujarat



Legend

- Rail
- Road
- Embankment
- Minor river
- Major river
- Khijadiya bird sanctuary
- Seasonal freshwater lake (minimum inundation)
- Seasonal freshwater lake (peak inundation)
- Saltpan
- Mudflat
- Mangrove
- Wetland boundary



Flamingo and Eurasian Spoonbill are known to breed in these wetlands. The vegetation within the complex is constituted by atleast 78 species. On the coastward side, the complex is fringed by mangroves, predominantly by *Avicennia marina*.

15. The area between the embankment and mangroves is used for commercial salt production. A part of the wetland complex covering the major bird congregation areas was designated as a bird sanctuary in 1982. The coastal fringes of the wetland complex fall within the boundaries of the Marine National Park and Sanctuary.
16. The complex existed as a saline marsh till 1930s when an earthen embankment was constructed between Jamnagar and Navlakhi to reclaim parts of the marsh as storage area for freshwater. In the succeeding decades, the freshwater inundation regime created conducive conditions for colonization of hydrophytes as *Typha angustata*, *Hydrilla verticillata* and *Vallisneria spiralis*. While the monsoon runoff governs the hydrology of the inland zone, creeks from the Gulf carry sea water landward to reach the bunds of the fresh water lakes passing through intertidal mudflats, the salt pans and salt marshes.
17. The inland zone, is a freshwater store and supports agriculture in the neighboring villages. Khijadiya is an important peri-urban recreational amenity

of the City of Jamnagar. Communities attach high cultural significance to the wetlands, especially to the migratory waterbirds.

18. A field mission to the site was conducted in December 2015 alongwith biodiversity experts. A framework for assessment of floral and faunal diversity was developed in consultation with the Forest Department of Gujarat State. Evaluation of available data indicated that the site can be designated as a Ramsar Site under Criterion 4 (Wetland supports plant and animal species in critical life cycle stages or in adverse conditions) and Criterion 6 (supports >1% of waterbird population). A filled in Ramsar Site Information Sheet and a site map have been prepared for the wetland complex and are currently under review of the Forest Department. The management planning framework is under compilation, likely to be completed by September, 2016.

Wetlands of Bihar

19. During 2015-16, Wetlands International South Asia continued to support the Bihar State Wetland Development Authority on integrated management of wetlands in the state. This is a direct follow up of the conclusions and recommendations of the management planning initiated for Kanwar Jheel in 2014 with World Bank support.



A fisher amidst lotus bed in Kanwar Jheel, Bihar

20. Kanwar Jheel, a floodplain wetland of North Bihar, is a hotspot of biodiversity besides acting as a freshwater source and flood buffer for communities living in and around the wetland complex. Despite such high ecological and socioeconomic significance, management of Kanwar has received little attention in the regional developmental programming. Driven by perceptions of being waterlogged wasteland, the wetland complex has been subject to extensive hydrological regime fragmentation and conversion for permanent agriculture. An integrated management plan for the site was completed in April 2014.
 21. The management plan recommends restoration of hydrological regimes as being critical for securing biodiversity and ecosystem services values of the Kanwar Jheel wetland complex. The options for intervention were presented in a joint meeting of the Secretaries of Department of Water Resources and Department of Environment and Forests, held on June 16, 2015 at Water Resources Department, Patna. The Department of Water Resources agreed to regulate the outer channel of the wetland complex which drains water out from Kanwar, and leads to drastic reduction in water levels. The department also agreed to undertake measures for enhancing hydrological connectivity within the wetland complex and rejuvenating water holding capacity of the associated wetlands.
 22. Another major recommendation of the management plan is to rationalize current management arrangement of Kanwar as a Bird Sanctuary, and allowing for wise use of the complex while ensuring that critical habitats for waterbirds are secured. As a major proportion of Kanwar Jheel Bird Sanctuary is under private landholding, ensuring participation of local communities is important for the success of management. The management plan proposes that the sanctuary boundary be limited to the areas which retain water for a significant proportion of the year, and are used as habitats by waterbirds. The rest of the area may be designated as a 'community reserve'. A field survey alongwith officials of the Forest Department and District Administration was conducted during April 27-29, 2015, and a map of the permanently and intermittently inundated areas prepared. Wetlands International South Asia is working with the State Forest Department for firming up of the proposal.
 23. In its first meeting of the Bihar State Wetland Authority, (constitution of which was also recommended in the management plan and of which Wetlands International South Asia has been included as an expert member) held on 30 June 2015, the State Government agreed to inventorize all wetlands with high ecological significance and those with area greater than 100 ha for notification under the national regulatory framework. Wetlands International South Asia is assisting the State Wetland Authority in setting up of an inventory protocol for wetlands.
 24. Wetlands International South Asia will continue engagement with Bihar State Wetland Authority to bring major wetlands of the state under the framework of integrated management.
- ### Ashtamudi Estuary, Kerala
25. The Department of Environment and Climate Change, Government of Kerala has entrusted Wetlands International South Asia with the task of formulation of an integrated management plan for Ashtamudi taking into consideration the wise use guidelines of the Ramsar Convention and MoEFCC's national programmatic framework for wetlands. Wetlands International South Asia is implementing the project in collaboration with Center for Water Resources Development and Management (CWRDM), the nodal agency of the Government of Kerala for management of the state's wetlands.
 26. Ashtamudi estuary, spanning 61,400 ha in Kollam District of Kerala ranks second in area only to Vembanad backwaters, and is a designated Ramsar Site. The palm shaped waterbody derives its name from its physiography with eight cones, which converge into a single outlet to the Lakshadweep Sea at Neendakara. River Kallada, which originates in the Western Ghats is the estuary's main freshwater source. High biodiversity values of the estuary including over 50 bird species, significant chunk of mangroves, and over 100 species of fish coexist within rapidly growing tourism and real estate development. Clam fishery in Ashtamudi forms the livelihood of more than 500 families living around the estuary.
 27. Continued discharge of large quantities of untreated sewage, pollution from industries, coconut husk retting and oil spills from houseboats are some of the major threats on the estuary. Reclamation of land for settlement and plantation has impacted natural inundation



Chinese dip-nets in Ashtamudi Estuary, Kerala

regimes. Catch of economically important fish species as pearlspot and mullet have declined. Past efforts to develop management plans for the site, could not achieve the required degree of comprehensiveness as a result of which systematic investments for conservation and management of the sites could not materialize.

28. During the year, data on wetland catchments, hydrological regimes, and biodiversity has been collected, and thematic mapping complex completed. Household surveys in 26 wards has been completed to assess status and trends in wetland features, changes in wetland dependent livelihood systems, and stakeholder views on wetland management. The draft plan will be submitted to the Government of Kerala by close of 2016.

Integrated Management of Wetland Biodiversity and Ecosystem Services

29. During 2015-16, Wetlands International South Asia concluded formulation of a full-sized national GEF project entitled 'Integrated Management of Wetland Biodiversity and Ecosystem Services' (IMWBES) for the MoEFCC under the STAR 5 allocation. The project aims at improving management effectiveness of

the nationally and internationally significant wetlands of India, and complements MoEFCC's National Plan for Conservation of Aquatic Ecosystems (NPCA) – the flagship programme for conservation and sustainable management of wetlands in the country.

30. The IMWBES project is structured around four components designed to address the knowledge, capacity and institutional barriers which limit the effectiveness of wetland management and the implementation of the NPCA.
 - Component 1: National wetland biodiversity and ecosystem services based knowledge systems is designed to address the limitations in existing knowledge systems required for integrating ecosystem services, biodiversity assessments and management effectiveness into planning and management decision-making.
 - Component 2: National scale capacity building for applying integrated wetland management will enhance the capacity and trained human resources for integrated wetland management and increase the levels of awareness of the importance of wetland biodiversity and ecosystem services across a range of sectors and stakeholders.

- Component 3: Demonstration of integrated wetland management will involve application of integrated and multi-sectoral wetland management approaches in three wetlands (Sasthankotta Lake, Kerala; Harike Lake, Punjab; and Kanwar Jheel, Bihar) to facilitate learning and the development of best practices for up-scaling and wider implementation within State Governments.
 - Component 4: Project monitoring, evaluation and outcome dissemination will secure project monitoring and evaluation and wider dissemination of project outcomes for uptake in policy and decision making processes at various levels.
31. UNEP is the GEF Agency for the project with the MoEFCC as its National Executing Agency. Wetlands International South Asia will be the lead technical support agency, providing technical and managerial backstopping to project implementation. The project will be implemented through a GEF Grant of US\$ 4.196 million and a co-financing of US\$ 19.807 million by the MoEFCC. In addition to this, UNEP and Wetlands International South Asia will also be providing co-finance worth US\$ 0.26 million and US\$ 0.15 million.
 32. The proposal has been approved for implementation by the GEF Council in March 2016. The contracting arrangements are currently under formalization.

Supporting implementation of National Wetland Programme

33. Wetlands International South Asia continued to work with the MoEFCC for improved policy and programming for wetlands. Concerns of state governments on existing regulatory framework were conveyed to the Ministry. These have been used as inputs for revision of existing Wetland Rules, and a draft has been placed in public domain for consultation.
34. A national workshop of Ramsar Site managers was organized on 28-29 January 2016 at Wetland Research and Training Center of Chilika Development Authority (Balugaon, Odisha) to assess the current status and develop a blueprint for strengthening the management of Ramsar Sites. The workshop was convened by Chilika Development Authority (CDA) and Wetlands International South Asia. Mr. Hem Pande, then

Special Secretary, MoEF&CC and National Focal Point, Ramsar Convention inaugurated the workshop which was attended by representatives of 10 States (having 14 of the total 26 Ramsar sites) and subject matter experts.

35. During the workshop, agreements were arrived at on updation of Ramsar Information Sheets in compliance with commitments to Ramsar Convention. A framework for national inventory of wetlands was also arrived at, detailing the needs of site managers, concerned state government departments and the MoEFCC. Wetlands International South Asia is working with the state governments on follow up of the recommendations. A draft framework for national inventory of wetlands has also been developed in response to the workshop recommendations, and is being currently reviewed by the MoEFCC for implementation.

Capacity development for Integrated Wetland Management

36. A training course on integrated wetland management was organized for IFS Probationers (2014-16 Batch) during February 9-16, 2016 by Chilika Development Authority (CDA) and Wetlands International South Asia at the request of Indira Gandhi National Forest Academy.
37. The training was conducted in two batches with 31 and 33 participants each at the Wetland Research and Training Center (WRTC) of CDA. The course curriculum was designed with an objective of introducing the participants to various aspects of wetland management, keeping in view the fact that a major proportion of wetland managers in the country today are officers of Indian Forest Service. This is the first of its kind course designed for IFS Probationers.
38. The course was structured in following three parts:
 - Core modules covering wetland management principles; overview of national policy framework for managing Indian wetlands; and role of governance and monitoring
 - Wetland management elements focused on wetland catchments, water regimes and biodiversity



Participants of the National Ramsar Site Manager's Workshop at Lake Chilika, (Odisha)

- Development interface covering aspects of wetlands and livelihoods, fisheries and economics
39. The three parts of the curriculum were developed into 9 modules (three modules for each part), with each being delivered through a slide presentation, case studies, and films. The curriculum included a half day field visit to Nalabana bird sanctuary within Chilika to expose participants to the nuances of management of wetland habitats.
 40. The organization is working towards formalization of this course in formal IFS training curriculum.

Enhancing reach of Asian Waterbird Census

41. The International Waterbird Census (IWC), initiated in January 1967, is a global volunteer-based waterbird monitoring programme which has ever since become a vital source of information for the conservation and management of wetlands and waterbirds around the world. January 2016 marked the

50th count of the IWC. The Asian Waterbird Census (AWC) is a regional census programme, functioning since 1987 under the aegis of IWC, and has covered over 6,100 sites in 27 Asian countries.

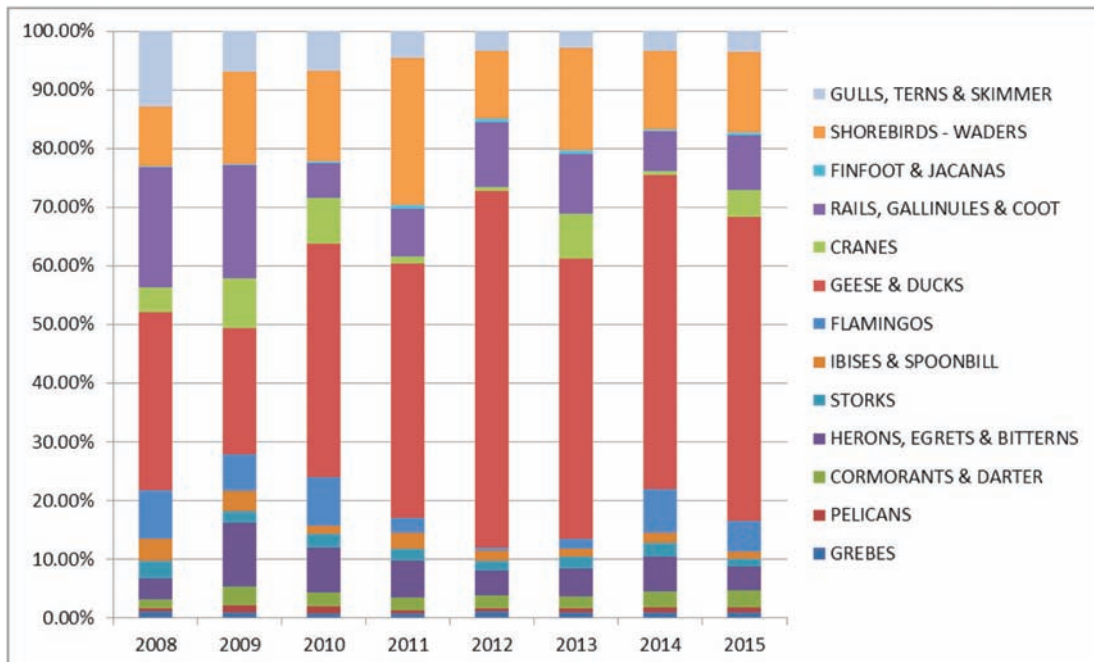
42. Wetlands International South Asia supports the census network in the region. During the year, efforts were put to retrieve mid-winter counts till 2015 to enable consolidation of a report for the 2008-15 period.
43. In order to mark the 30th year of the AWC counts, a meeting of state coordinators was organized during April 7-9, 2016, with an aim to review progress in implementation of the census and to develop a strategy for further strengthening monitoring of the important wetlands. The three day event was coordinated by Dr. Taej Mundkur (Manager, Flyways Programme of Wetlands International) and attended by 13 (of total 18) state coordinators. A number of agreements for strengthening census operations were agreed upon, which will be implemented during 2016-17. Major emphasis is being placed on reducing turnover



Dr. Balachandran (BNHS) demonstrating bird ringing to IFS Probationers at Nalabana Chilika (Odisha)

time between count operations and reporting to the AWC Coordinator through use of electronic forms, and in later years, use of web platforms. A seminal overview publication on status of

waterbirds in India, based on the results of 30 years of census is also being planned for publication during 2016-17 period.



Trends in composition of major waterbird groups in AWC site counts (2008 – 2015)

Wetlands and Integrated Water Management

44. Work under the thematic area on wetlands and integrated water management is aimed at conserving and restoring wetlands as critical water infrastructure. The regional targets relate to safeguarding and restoring the role wetlands play in regulating hydrological regimes and supporting biodiversity and water supply, sanitation and hygiene (integrating ecologically sustainable WASH solutions in wetland areas). Geographically, projects under this thematic area were implemented in the catchment of the Hirakud Reservoir (Odisha), Sasthamkotta (Kerala) and Southern Bangladesh.

Wetlands and Water management

Management planning for Hirakud Reservoir

45. Wetlands International South Asia drafted a management plan for conservation and wise use of Hirakud Reservoir.
46. Hirakud Reservoir, formed due to the damming of River Mahanadi at Sambalpur in 1957, is the largest and most significant water infrastructure of the State of Odisha. Spanning an area upto 700 km² when full, the Hirakud

Reservoir provides water for generating ~ 300 MW hydropower through its two power houses at Burla and Chiplima; irrigating 462,100 ha culturable command area within Bargarh, Bolangir, Sambalpur and Subarnapur Districts; and securing 9,500 km² of Mahanadi Delta region from floods. Over 7,000 fisher households depend on the reservoir fisheries for livelihoods. The vast open waterbody attracts a sizeable population of ducks, geese and waders during winter, making it one of the major waterbird congregation areas in the state. The scenic surroundings and historical and cultural landmarks lend significant cultural and recreational value to the reservoir.

47. The multiple values of the Hirakud Reservoir have been adversely affected by rapid transformation of catchments and increasing demands for water in the downstream reaches. Silt is accumulating in the reservoir at rates much faster than planned for, reducing its water storage and flood moderation capacity. Expansion of agriculture within the command area, industries and urban settlements within the reservoir's catchment have accentuated water



The stretch of Hirakud Reservoir at Tamdei



Legend

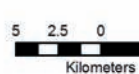
- State Boundary
- Railway
- Road
- Minor river
- Major river
- Island

Zones

- Riverine
- Transition
- Lacustrine

Inundation

- Landsat 8 May 2014
- Landsat 8 November 2014



use conflicts. Decreasing fish catch, reduction in fish species diversity and increasing pollution has placed the livelihood of fishers under great stress. Biodiversity has been adversely impacted by habitat fragmentation and increasing anthropogenic stress on key habitats.

48. Realizing the multifaceted role of Hirakud in the overall economy and ecological security of the state, the Odisha Wetland Development Authority (OWDA) recommended putting in place an integrated management framework for the reservoir. This management plan is a response to this decision, and marks the commitment of the Government of Odisha to set up effective management arrangements for conservation and sustainable management of the Hirakud Reservoir.
49. The management strategy for securing wise use of Hirakud Reservoir focuses on complementary planning and governance improvements to mainstream biodiversity and ecosystem services within Mahanadi River Basin scale developmental programming. Following are the key elements of the management strategy:
 50. *Hirakud Reservoir Management Committee as nodal agency for integrated management*
Integrated management of Hirakud Reservoir requires an institutional arrangement to enable coordination of programmes across sectors and stakeholders to ensure that the developmental benefits as well as ecological values can be maintained now and in the future. Such an architecture is proposed in the form of 'Hirakud Reservoir Management Committee' constituted under the aegis of the Department of Water Resources. The Committee shall coordinate implementation of sectoral plans, maintain an overview of status and trends of the reservoir's ecological character, and ensure stakeholder engagement in management.
 51. *Reducing reservoir siltation rate*
The ability of Hirakud Reservoir to moderate floods and provide water for various human uses in non-monsoon period is closely linked with the maintenance of its water holding capacity. The extent to which Hirakud Dam has impeded sediment transport along the Mahanadi River is apparent in terms of the loss in reservoir storage capacity and sediment starvation in downstream and delta reaches. Sustainable sediment management options therefore need to form an important part of the management strategy to sustain reservoir capacity and minimize environmental impacts. Systematic and comprehensive treatment of catchment areas is envisaged to reduce sediment production. This will need to be complemented with interventions for minimizing sediment deposition and recovering storage volume.
52. *Improving water allocation efficiency*
Water allocation from Hirakud Reservoir needs to address human and ecological requirements, considering interactions within a diverse lentic and lotic environments. This can be enabled through involvement of a wider group of stakeholders in setting a reservoir operation rule curve. Enhancing efficiency of water use for agriculture through improved water delivery, modern water-saving farming techniques, crop diversification, and conjunctive use of both surface and groundwater would enable increasing agricultural productivity while reducing water use. Similarly, water allocation to industries need to be optimized by improving water recycling and increased use of water saving processes. Environmental flows assessment shall be used to assess water regime requirements for downstream ecosystems.
53. *Habitat management to secure biodiversity values*
Reservoir management should seek to maintain key species habitats. Fish breeding and spawning grounds and migration pathways connecting the reservoir to riverine stretches will be maintained. River floodplains and in particular riparian vegetation need to be maintained to provide habitats for waterbirds and fishes. Existing environmental regulations need to be effectively enforced to abate pollution in Ib-Jharsuguda Valley. The needs of downstream ecosystems also need to be factored into the reservoir operations. The overall information base on biodiversity values of the reservoir is proposed to be enhanced through comprehensive surveys and species research studies. Management will also aim to establish community managed conservation reserves at strategic locations within the reservoir and its downstream stretches for securing viable populations of migratory waterbirds and its endemic fish species - Mahseer. Effective linkages will be made between conservation planning for the Debrigarh Wildlife Sanctuary and Hirakud Reservoir.
54. *Improving livelihood benefits*
Fish production, the most direct tangible benefit from the reservoir should be enhanced through scientific management of stocking, implementing mesh size regulations and enforcing no-fishing

periods in fish breeding seasons. Strengthening of PFCS will ensure that the fishers gain equitable benefit from fisheries enterprise. Systematic development of ecotourism will also enable communities to benefit from a healthy ecosystem. Access to safe water, sanitation and disaster risk reduction infrastructure needs to be improved towards enhancing well-being of reservoir communities.

55. *Integrated wetland inventory, assessment and monitoring system to support adaptive management*
Monitoring and evaluation is critical to assess changes in ecological character of Hirakud Reservoir. Management planning would therefore strive to put in place an integrated wetland inventory, assessment and monitoring system to support establishment of ecological and socioeconomic information baseline, assessing efficiency of management interventions and determining impacts of sectoral programmes on reservoir environs. An important part of the strategy should be to involve stakeholders, particularly local communities and civil society organizations in wetland monitoring. The Hirakud Reservoir Management Committee shall also work towards creating a network of specialist organizations to support assessments and independent review of quality and outcomes of inventory, assessment and monitoring efforts.
56. *Capacity development*
A major factor limiting integrated management

of Hirakud Reservoir is lack of effective capacity amongst concerned state government departments, stakeholders and local communities. The management plan therefore emphasizes on building capacity on integrated wetland management, particularly recognizing biodiversity and ecosystem service features and governing factors, underlying lentic-lotic interactions and integrating these in planning, decision making and implementation at all levels.

57. The management plan has been budgeted on the principle of convergence, taking into cognizance resources available within existing sectoral developmental programming within public and private sector. Of the total budget, 80% can be generated through resources already available under ongoing schemes of central and state government. The rest of the resources would need to be supplemented through a mix of private and public sector funding, or through international sources.
58. The management plan is currently under review by the OWDA. Wetlands International South Asia will work with the Authority to secure resources and put in place institutional arrangements as outlined in the management plan.

Management planning for Sasthamkotta Lake, Kerala

59. During 2015-16, assessments for management planning for Sasthamkotta Lake, Kerala (a Wetland of International Importance) was completed. Management planning for this site



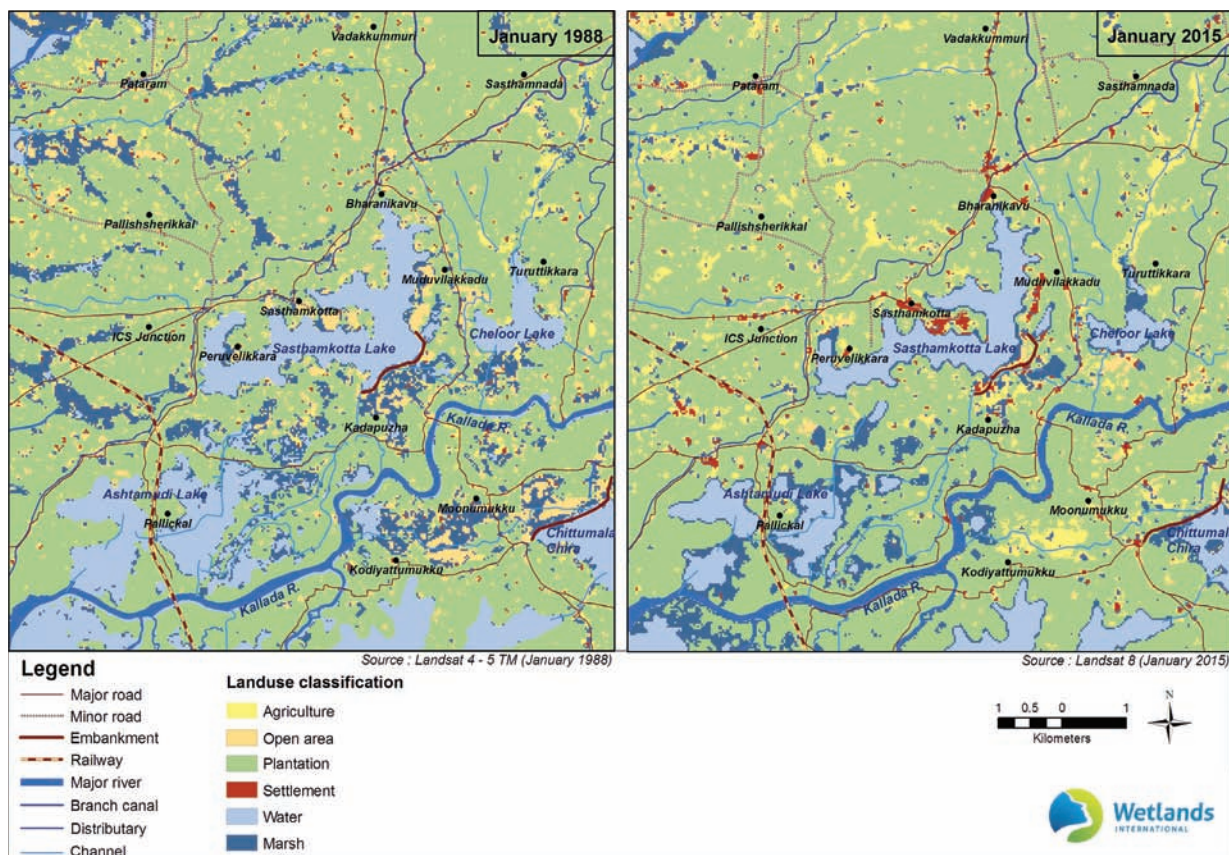
A scenic view of Sasthamkotta Lake, Kerala

was initiated during 2014-15 at the behest of the Directorate of Environment and Climate Change, Government of Kerala. The planning exercise is being done in collaboration with Center for Water Resources Development and Management. Implementation of the approved management plan will be taken up under the UNEP-GEF project on 'Integrated Management of Wetland Biodiversity Ecosystem Services'.

60. Located in Kollam District, Sasthamkotta is the largest freshwater wetland of Kerala and is one of its three designated Ramsar Sites. Its maximum waterspread extends to 378 ha, within a predominantly agrarian direct catchment of 10,360 ha. The lake is the principal source of water for 0.5 million people living in Kollam City and its suburbs. A water supply project, designed in the sixties and operated by Kerala Water Authority (KWA) withdraws nearly 37.5 million litres of water from the lake on a daily basis. The lake also plays a role in recycling nutrients received from the agricultural catchment, utilized within the ecological production processes and the food chain. Sastha temple, from which the lake is believed

to have got its name is an important cultural center for the region.

- 61. The dynamic inundation regimes of Sasthamkotta are primarily influenced by the monsoons and water withdrawal for Kollam City. While the monsoons have been variable, the water withdrawal has been nearly constant, leading to frequent drying up of large parts of the lake. Analysis of monthly water balance indicates that the current water management system is not conducive for maintaining the ecological health of the wetland. There is an urgent need to reduce water extraction from the wetland, by putting in place alternate water supply options for Kollam City.
- 62. Landuse landcover change assessments of Sasthamkotta and associated wetlands for the period 1988-2015 indicate extensive conversion of adjoining marshes (Kairali marshes, located on the western margins) (see Map). Large parts of the wetlands have also been converted for agriculture. Mining and conversion of natural forests to plantations within the catchments are the major drivers of degradation of rubber catchment. Wetland areas adjoining rubber



Landuse landcover change in Sasthamkotta Lake, Kerala

plantation at Rajnagar, Bharnikavu Town and Sasthamkotta Village indicate water quality deterioration, due to discharge of untreated effluents. Surveys conducted with 150 households indicate increased water stress due to the declining state of the wetland. Waste management practices in the shoreline villages are far from being comprehensive. Continued prevalence of these trends is only likely to impair wetland functioning and increase water insecurity for the dependent communities.

63. The management plan is in the final stages of drafting. A stakeholder consultation workshop is being scheduled in August 2016 to present the outcomes to the government and stakeholders.

Water supply, Sanitation and Hygiene

64. Work under Water supply, Sanitation and Hygiene (WASH) was implemented through the Bangladesh WASH Alliance (BWA) network operating in Southern Bangladesh. The interventions aim at "empowering people by building and strengthening an enabling

environment for sustainable WASH solutions achieving increased sustainable access for women and marginalized groups in developing countries". Wetlands International South Asia supports the partnership in implementation of environmental sustainability solutions for WASH interventions.

65. The Wetlands International South Asia project team developed a Catchment Assessment Tool in 2014 to assist partners in identification of WASH-water management linkages and intervention options. In 2014, the partners were trained in application of the tool, based on which 4 river distributaries and 10 tidal marsh tracts in Tala Upzilla were identified for intervention. A framework for collection of primary data from these landscapes was provided to the partners. A field mission was conducted between September 2 and 5, 2015, to Satkhira, wherein a detailed planning for intervention was undertaken. Implementation of these interventions will be taken up in the second phase of project implementation (2016-2020).

Wetlands and Climate Change

66. Work under the thematic area on climate change aims at conserving and restoring wetlands to increase resilience to climate change. The regional targets relate to climate change adaptation (enhancing integration of wetlands into climate change adaptation policies and actions; particularly seeking higher investment into wetland restoration as a part of the climate adaptation planning) and disaster risk reduction (integrate the role of wetlands and broader ecosystem management principles in disaster risk reduction approaches and interventions). Partners for Resilience project, which aims at building community resilience based on disaster risk reduction, ecosystem management, and climate change adaptation approaches is the major programme under this thematic area. The geographic focus is on Mahanadi Delta region in Odisha and Gandak-Kosi floodplains in Bihar.

Bihar. Over five years, the project engaged with communities living within 156 villages to build their resilience by improving management of natural capital, diversifying livelihood options and enhancing community disaster preparedness. PfR implementation is based on a cluster planning approach, which enables incorporation of ecosystem based approaches in disaster risk reduction planning. The project is implemented in the two landscapes through a network of 13 grass-root NGO partners.

68. Communities and NGO partners in Odisha were trained on applying 'Climate Games' to identify priority actions that need to be taken for disaster response and preparedness in a dynamic climatic setting. Organisational development training was given to NGO partners to develop organisation level contingency plans aimed at identifying each organisation's strategy for internal disaster preparedness and response, as well as their policy for engaging in community level disaster preparedness and response.

Disaster Risk Reduction

67. 2015 marked the fifth year of implementation of the Partners for Resilience Project in the wetland dominated landscapes of Mahanadi Delta, Odisha and Gandak-Kosi floodplains,

69. The main focus of project implementation in 2015 was to ensure sustainability of interventions carried out in the previous years.



Communities in Neemapara (Puri district, Odisha) village identifying climate risks to livelihoods using climate games

Communities were facilitated to take the lead in risk reduction planning and implementation of risk reduction plans. Opportunities for leveraging resources from on-going developmental programmes were identified and awareness built amongst communities on how to access relevant government schemes. Information brochures in local language were compiled and disseminated within the target communities. Communities who had enrolled for life and health insurance programmes were facilitated to renew their policies as well as new enrolments were facilitated.

70. By close of 2015, all target villages (90 in Bihar and 66 in Odisha) had village level risk reduction plans (VLRRPs) that were being implemented by village level disaster reduction committees (VLDRCs). 152 villages had early warning systems in place, 14,603 families were aware of and participated in implementing the plans, and 3,621 community members were trained in evacuation, mock drills and first aid. BY leveraging funds from ongoing developmental schemes and technical support of local agencies, 523 safe drinking water points were established, 1,243 raised plinth toilets were constructed, 4,733 families had accessed life insurance, and 806 seed and grain banks were established. Embankment plantations were undertaken at 77 locations and 41 ponds & 23 canals were rejuvenated.
71. To address the livelihood risks faced by communities, 16,280 community members were trained to engage in alternate livelihood options for diversified sources of income. 8,681 farmers had adopted sustainable agricultural practices, 1,665 farmers accessed crop insurance and 804 livestock was insured. In all interventions, adaptation strategies for variable climate patterns were identified. The project was able to leverage more than 352 million rupees for risk reduction activities through on-going developmental programmes in Odisha and Bihar combined.
72. The outcomes of PFR implementation are being used to formulation of a second phase, focused on addressing water mediated risks through integrated risk management approaches.

Climate vulnerability assessment

73. The 'wise use' approach is considered globally as a central tenet for wetland management. An important function of site management planning is to outline an approach for maintenance of ecological character, and in doing so, retain those essential ecological functions which underpin delivery of ecosystem services and maintenance of biodiversity. Delivery of wise use commitments is therefore predicated to the extent to which wetland managers are able to define the site's ecological character, and use the analyses to implement management.
74. Under the IDRC supported project on 'Strengthening livelihood security and adapting to climate uncertainty in Chilika Lagoon, India', an analytical framework for using ecological character as a basis for assessing wetland vulnerability to climate change was developed. Funds for implementation of the full project could not be received due as the necessary permissions from the Ministry of Home Affairs could not be obtained. The project was concluded with an ecological character description workshop held in Chilika in February 2015. The framework was used to identify a subset of 12 ecosystem component, process and services elements which can serve as indicators of changing climate. For each of these, a range of natural variability and thresholds were identified. Proposals for improving wetland monitoring system in the context of climate change were also identified.
75. Implementation of the analytical framework was continued during the year, with incorporation of historical data to understand regime shifts, and factor in the impacts of cyclone Phailin, which ravaged the coastline in October 2013, and induced significant changes to the lagoon ecology. The entire assessment is being published within a forthcoming peer reviewed book on Chilika Lake (to be published by Springer in 2017).

Greening the Economy

76. Greening the Economy is a cross-cutting theme contributing to the programmes under water, livelihoods and biodiversity. Work under this thematic is delivered through TII (The Economics of Ecosystem Services and Biodiversity - India Initiative).
77. TII was launched in 2010 by the Ministry of Environment, Forest and Climate Change, Government of India (MoEFCC, GoI) to make the values of biodiversity and ecosystem services explicit for consideration and mainstreaming into developmental planning. Three ecosystem types, namely inland wetlands, forests and coastal and marine, have been prioritized under the initiative. Fourteen case studies demonstrating use of economics based approaches for addressing policy issues related to management of these ecosystems formed the core of the TII implementation.
78. Nine of the 14 sites selected for TII assessment are wetland habitats. Following policy and decision making contexts in these sites were considered for application of economics based approaches:
 - Investment in wetland restoration
 - Integrating wetlands in land use planning and regulation
 - Wetlands and integrated water resources management
 - Property rights and improving distribution of costs and benefits
 - Use of market based instruments for supporting wetland wise use
 - Financing wetland conservation and management
79. Wetlands International South Asia conducted studies at three pilot sites, namely Kanwar Jheel (Bihar), Loktak Lake (Manipur) and Lake Chilika (Odisha).
80. Economic assessment of Lake Chilika restoration indicates that every rupee invested had yielded atleast Rs. 4.9 worth of benefits through sustained flow of ecosystem services. Interventions aimed at improving distribution of benefits from Lake Chilika fisheries by strengthening Primary Fisher Coperative Societies



Mr. Ashok Lavasa (Secretary, MoEFCC, third from right) releasing "Wetland Waterlogged Wealth" publication at TII dissemination workshop held on 28–29 April 2016 at India Habitat Center, New Delhi

have resulted in 21% increase in gross value realization and 13% savings in interest outgo on household debt, as compared with a 1999 baseline.

81. Economic assessment of land use change in Kanwar Jheel indicated that if the current trend continues, the annual loss of fisheries would be upto Rs. 74 million, for aquatic plants upto RS. 7.9 million and for groundwater recharge upto Rs. 9.66 million. The gain from increased area under permanent agriculture would be only worth Rs. 12.67 million, rendering land use change an economically inefficient proposition. The study recommended that an ideal scenario for management would be restore inundation regimes to the level of 1980s.
82. The worth of ecosystem services from Loktak Lake was estimated to be atleast Rs. 63.8 billion, considering its value in terms of fisheries, aquatic plants, nutrient retention, freshwater and biodiversity linked non-use values. Replacing the nutrient retaining vegetation in the lake would alone impose an annual cost of Rs. 113.3 million.
83. The outcomes of studies implemented by Wetlands International South Asia, along with others, have been published by the MoEFCC in the form of factsheets. Two dissemination workshops have also been organized to communicate the outcomes to various stakeholder groups.
84. Based on the study outcomes, and review of state of art on economic approaches used in management of wetlands in India, a synthesis report has been drafted. The report is currently under review of the Ministry and is expected to be published in 2016 under the title 'The Natural Capital of Wetlands'. Wetlands International South Asia will work with the wetland division of the MoEFCC to ensure that the outcomes are integrated in the guidelines of national wetland programme entitled the National Programme for Conservation of Aquatic Ecosystems (NPCA).

Organizational Development and Governance

Governance

85. Wetlands International South Asia is governed by a three-tiered structure. The General Body is at the apex of this structure and provides strategic direction and guides policy making. The overall management of the society is vested in its Governing Body. The President, Vice President and Treasurer are the Office Bearers of the Society, who meet periodically to maintain an oversight of the programme operations.
86. The Eighth Annual General Body Meeting of Society was held on September 30, 2015 at Wetlands International South Asia Office. The General Body members reviewed progress of programme implementation and overall financial health during the meeting, and expressed in-general satisfaction on the course of actions. Members advised to continue policy engagement with the Ministry of Environment, Forest and Climate Change for improved policy and regulatory environment of wetlands in the country. Members also advised to assess outcome of implementation of integrated

management plans formulated by the organization during the last decades.

87. The Eighth Governing Body meeting of the Wetlands International South Asia was also held on September 30, 2015. The members conducted a detailed review of projects under implementation, and made specific recommendations for improved performance. Recommendations for improved financial reporting and management were also made.
88. During the year, the Office Bearers conducted ten meetings to review implementation of various work programmes and the regional strategy. Field visits to project implementation sites in Odisha were also made. The recommendations have been adopted into implementation of ongoing projects, as well as design of new projects.

Formulation of Regional Strategy and Targets for 2015-2020

89. 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



Eighth Annual General Body Meeting of Wetlands International South Asia Society in progress

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.

90. 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.
91. The Global Strategic Intent 2015-2020 that has resulted from the 5 yearly review process envisions organizing priorities into four work-streams: 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.

92. The process of formulation of regional strategy for South Asia was initiated in 2015, in the form of a review of the implementation of regional targets set for 2011-2015 period. A draft regional strategy was presented for review of the General Body during the Eighth Annual General Body Meeting, wherein a number of comments were received. Based on the comments received and review by members, an updated version of Regional Strategy is being placed for adoption at the Ninth Annual General Body Meeting being held on July 14, 2016.

Corporate sector partnership

93. The Honorary Members of the General Body, in their meeting of August 11, 2012 recommended diversification of funding sources for various initiatives of Wetlands International South Asia by engaging with Corporate Sector, especially under the Corporate Sector Responsibility financing commitments mandated under the Companies Act, 2013. A specific action was in this direction has been forging of a partnership with Avendus, a leading provider of financial services to multinational companies. Avendus is supporting assessment of management effectiveness of eight Indian wetlands, wherein management plans were drafted by the organization. The company is also supporting strengthening of the Asian Waterbird Census programme of the organization.

Outlook 2016-17 and beyond

94. Implementation for the period 2015-2016 and beyond will be guided by South Asia Regional Targets 2015-2025.
95. The Regional Strategy has been developed keeping in view some of the most significant trends in South Asia region which have an implication for state of wetlands. These relate to increasing water and food insecurity, climate risks, disaster risks, urbanization and declining public finances for wetland restoration. Wetlands International South Asia can play a catalytic role in such an environment 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
 - 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.
 - 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
 - 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.
- 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
 - Strengthen 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 programing. 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 drawn 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

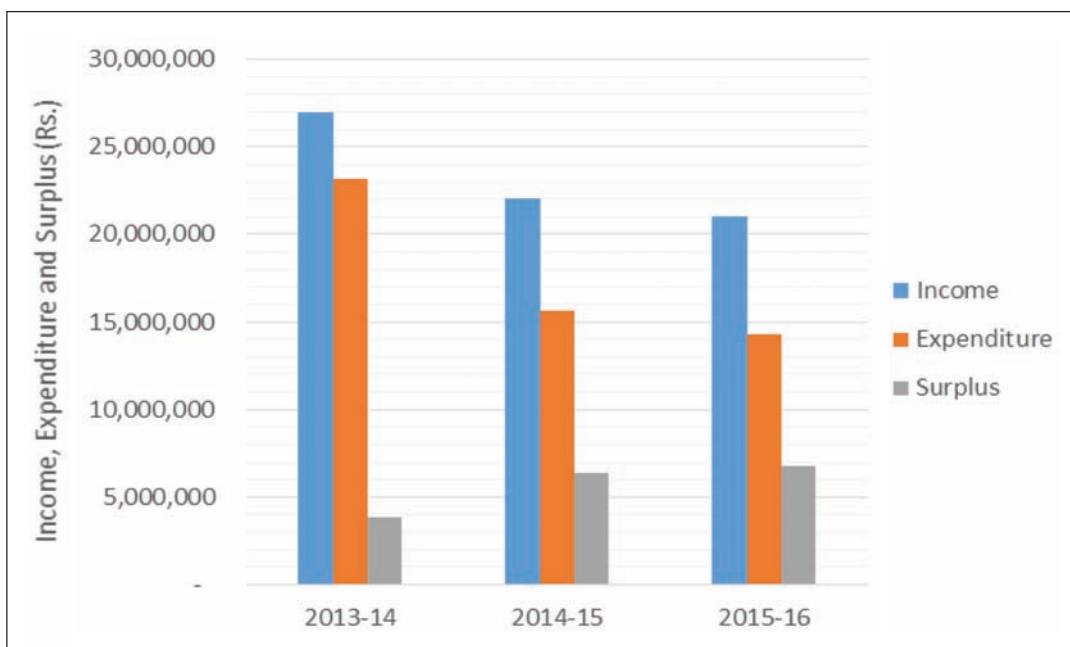
- Promote ecosystem based approaches to disaster risk reduction (as against reactive disaster management approaches), particularly highlighting the role of wetlands and water management in building resilient communities and landscapes. An important aspect of engagement will be working towards building 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.



Financial Overview: 2015 - 16

96. During the period April 2015 – March 2016, a total income of Rs. 21.05 million was received. Of this, Rs.19.12 million was on account of project funds received from 7 donor agencies, and the balance, Rs. 1.92 million as interest earned on the reserves. Funds received from Wetlands International – Head Quarters for implementation of Partners for Resilience project was the major source (66%) during the year, followed by GIZ-India (7%) and the UNEP-GEF (6%).
97. The total expenditure incurred during the year towards various programmatic activities was Rs.14.32 million. Direct overheads stood at Rs. 1.14 million, forming 8% of total

expenditure. Project expenses were Rs.13.18 million, including Rs.5.10 million towards staff salary. On a net, a surplus of Rs.6.7 million was accrued. The total reserves at the end of the financial year stood at Rs. 23.32 million, which is envisaged to be ploughed back for institutional strengthening and building organizational capabilities. Overall, the expenses made under projects were fully covered by project incomes. Similarly, the overheads were also well covered by the incomes accrued under staff time.



Audited Balance Sheet

Particulars	2015-2016	2014-2015	2013-14
Sources of Funds			
Capital Account	1,410,796	1,410,796	1,410,796
General Reserve			
Opening Balance	16,930,564	13,131,506	9,739,765
Add Transfer during the year	6,396,515	3,799,058	3,391,741
Closing Balance	23,327,079	16,930,564	13,131,506
Income & Expenditure Account			
Opening Balance	10,627,140	8,029,682	7,622,365
Add Surplus during the year	6,729,063	6,396,515	3,799,058
Less Transfer to General Reserve	(6,396,515)	(3,799,058)	(3,391,741)
Closing Balance	10,959,688	10,627,139	8,029,682
Current Liabilities	830,013	1,302,331	2,669,835
Total	36,527,576	30,270,830	25,241,819
Application of Funds			
Fixed Assets			
Opening Balance	773,064	630,874	713,486
Additions during the year	696,411	262,475	64,098
Less : Sale	(290,000)	-	-
Less : Depreciation	(177,570)	(120,284)	(146,710)
Closing Balance	1,001,906	773,064	630,874
Current Assets, Loans, Advances, Deposits & Cash balances	35,525,668	29,497,764	24,610,943
Rounding off Difference	2	2	2
Total	36,527,576	30,270,830	25,241,819

Audited Income and Expenditure Statement

Particulars		2015-2016	2014-2015	2013-14
Income				
	Project Income	19,124,964	20,698,981	25,904,128
	Other Income	1,929,207	1,350,008	1,085,244
Total		21,054,171	22,048,989	26,989,372
Expenditure				
Overhead Costs				
	Salary	5,101,300	4,625,532	4,130,463
	Office running expenses	1,147,962	1,203,464	1,041,938
	Organisational Tax	831,953	-	-
	Depreciation	177,570	120,284	146,710
Project Costs				
	Sub-contractor	3,645,147	7,250,090	14,342,534
	Travel Costs	811,479	645,270	503,034
	Project Material	313,485	122,537	238,937
	Communication	74,146	65,175	83,270
	Financial Charges	19,601	12,961	10,876
	Publications	375,394	243,589	204,512
	Training/Workshops/Meetings	1,767,971	1,363,573	2,488,039
Total		14,325,108	15,652,475	23,190,314
Surplus During the period		6,729,063	6,396,515	3,799,058
Total		21,054,171	22,048,989	26,989,372

Publications

Outreach

Nambhoomi – hamari jaliya sampada (in Hindi)

Factsheets on inland Wetlands published by MoEFCC and GIZ-India

Technical Reports

Conservation and Wise Use of Kanwar Jheel – An integrated management planning framework

Report submitted to The World Bank (updated Report, January 2016)

The Natural Capital of Wetlands (Sectoral synthesis report from TEEB India Initiative)

Integrated Management Plan Action Plan for Hiraikud Reservoir (Draft Report submitted to Odisha Wetland Development Authority)

Working Papers

Integrating landscape dimensions in disaster risk reduction: A cluster planning approach

Wetlands and Water Management in India: Integration Opportunities and Challenges

Contribution to External Publications

Managing freshwater, river, wetland and estuarine protected areas in G. L. Worboys, M. Lockwood, A. Kothari, S. Feary and I. Pulsford (eds) Protected Area Governance and Management, pp. 569–608,

ANU Press, Canberra

Posters

Building community resilience in vulnerable landscapes

Annex 1: Summary of projects under implementation during 2015-16

Project Title	Main Objectives	Geographical focus	Budget, implementation time frame and funding agency	Implementation Status
Partners for Resilience	Strengthening the resilience of communities to deal with increased disaster risks, effects of climate change and environmental degradation. The programme is based on three intervention strategies: namely a) strengthening community resilience; b) strengthening civil society; and c) policy dialogue and advocacy for stronger Disaster Risk Reduction and Climate Change Adaptation policies and increased resources at all levels.	Mahanadi Delta, Odisha and Gandak-Kosi floodplains, Bihar	Budget: Rs.1,38,76,358 for 2015-16 Implementation time frame: 2011-June 2016 Funding agency: Ministry of Foreign Affairs, The Netherlands through Wetlands International – HQ	Village level risk reduction plans formulated and under implementation in 156 villages of Mahanadi Delta, Odisha and Gandak-Kosi floodplains, Bihar
Support to Bangladesh WASH Alliance	Provide support to Bangladesh WASH Alliance on environmental sustainability	South Bangladesh	Budget : Rs. 3,13,453 for 2016 Received during the year: Rs. 3,13,453 Time frame:2014-2015 Funding agency: Wetlands International – HQ	Training for Bangladesh WASH Alliance partners on use of catchment assessment tool for identification of landscape scale interventions
Management Planning for Hirakud Reservoir, Odisha	Develop a management planning framework for Hirakud Reservoir, Odisha	Hirakud Reservoir, Odisha	Budget: Rs. 16,00,000 Received during the year: Rs. 10,25,000 Time frame: 2014-2015 Funding agency: Chilika Development Authority	Management plan drafted and submitted to Odisha Wetland Development Authority for review
The Economics of Ecosystem Services and Biodiversity – Inland Wetlands	Conduct a synthesis on application of ecosystem services approaches for conservation and wise use of inland wetlands Demonstrate application of ecosystem services economics based approaches for inland wetlands	14 demonstration sites all across India through a network of partners	Budget : Rs.36,76,520 Received during the year: Rs.6,93,969 Time Frame: 2014-15 Funding agency: GIZ, New Delhi	Dissemination of project outcomes through publication and workshops for managers and stakeholders.

Project Title	Main Objectives	Geographical focus	Budget, implementation time frame and funding agency	Implementation Status
Development of Wetland Management Plan and Ramsar Information Sheets for two coastal wetlands - Gujarat	Formulation of an integrated management plan for Gosabara-Mokarsagar wetland complex in Porbandar, Gujarat.	Gosabara-Mokarsagar wetland complex in Porbandar, Gujarat	Budget : Rs.18,42,500 Received during the year: Rs. 7,42,743 Time Frame : 2015-16 Funding agency: GIZ, New Delhi	Ramsar Site Information Sheet for designation of Khijadiya Wetlands as Ramsar Site drafted and submitted to Government of Gujarat.
Integrated Management of wetlands biodiversity and eco-systems services for water and food security	Development of a Full Sized GEF Project complementing MoEFCC's National Plan for Aquatic Ecosystems (NPQA)	National	Budget: US \$ 50,000 Received during the year: Rs. 13,25,700 Time Frame: 2014-15 Funding agency: UNEP-GEF	Full Sized Project Proposal developed and approved by the GEF Council for implementation
Preparation of Integrated Management Action Plan for Sasthamkotta and Ashtamudi, Kerala	Assessing the current status and trends of ecological, hydrological, socio-economic and institutional features Formulation of management objectives based on assessment of status and trends and consultation with stakeholders. Development of an implementation strategy for management plan, including institutional arrangement, monitoring mechanisms and evaluation systems.	Sasthamkotta and Ashtamudi, Kerala	Budget : 25,00,000 Received during the year: Rs. Nil Time Frame 2014-16 Funding agency: Department of Environment & Climate Change, Kerala.	Ecological, hydrological and socioeconomic assessments completed. Management action plan under drafting.
Corporate Sector Partnership with Avendus a) Management effectiveness assessment tracking for Ramsar Sites b) Strengthening waterbird monitoring in Central Asian Flyway			Budget : Rs. 39,80,500 Received during the year: Rs. 3,87,412 Time Frame: 2016-17 Funding agency: Avendus Capitals, Mumbai	Project initiated in February 2016. Desk collation of information on management effectiveness assessment.

¹The Ramsar Convention, in its 7th Conference of Parties held in 1999, conferred the status of 'International Organization Partners (IOPs)' to Wetlands International, IUCN, WWF-International 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.

Stay in touch

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