SRI LANKA

Report
Gap assessment on mainstreaming the conservation and sustainable use of wetlands and their resources into national planning processes in Sri Lanka

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List of Abbreviations

BDS	Biodiversity Secretariat
BDSL	Biodiversity Sri Lanka
BES	Biodiversity and Ecosystem Services
BMARI	Bandaranayaike Memorial Ayurvedic Research Institute
BOI	Board of Investment
CBD	Convention on Biological Diversity
CBOs	Community Based Organization
CC&CRMD	Coast Conservation & Coastal Resource Management Department
CCD	Coast Conservation Department
CCF	Central Cultural Fund
CCS	Climate Change Secretariat
CEA	Central Environmental Authority
CEB	Ceylon Electricity Board
CITES	Convention on International Trade in Endangered Species of Wild Fauna & Flora
CRI	Coconut Research Institute
DAD	Department of Agrarian Development
DAPH	Department of Animal Product & Health
DCS	Department of Census & Statistics
DFAR	Department of Fisheries and Aquaculture Resources
DMC	Disaster Management Center
DNBG	Department of National Botanical Gardens
DNM	Department of National Museum
DNZG	Department of National Zoological Gardens
DoA	Department of Aquaculture
DoArch	Department of Archaeology
DoAyur	Department of Ayurveda
DoDD	Department of Divinaguma Department
DoEA	Department of Export Agriculture
DoM	Department of Meteorology
DWC	Department of Wildlife
EBSAs	Biologically Significant Marine Areas (EBSAs)
EPAs	Environmental Protection Areas
ES	Environmental Stewardship
ESA	Environmentally Sensitive Area
FAO	Food & Agriculture Organization

FD	Forest Department
FFPO	Fauna and Flora Protection Ordinance
FMA	Fishery Management Area
GDP	Gross Domestic Products
GSMB	Geological Survey & Mines Bureau
IAS	Invasive Alien Species
ID	Irrigation Department
IDB	Industrial Development Board
IEO	International Environmental Organization
IPCC	Intergovernmental Panel on Climate Change
IPHT	Institute of Post-Harvest Technology
IPLC	Indigenous People & Local Community
IPS	Institute of Policy Studies
IUCN	International Union for Conservation Nature
LUPPD	Land Use & Policy Planning Department
MASL	Mahaweli Authority of Sri Lanka
MEPA	Marine Environment Protection Authority
MoF	Ministry of Finance
MoFARD	Ministry of Fisheries & Aquatic Resources Development
MoM&WD	Ministry of Megapolice & Western Development
MoMDE	Ministry of Mahaweli Development and Environment
MoH	Ministry of Health
NAQDA	National Aquaculture Development Authority
NARA	National Aquatic Resources Research and Development Agency
NBRO	National Building Research Organization
NBSAP	National Biodiversity Strategic Action Plan
NEA	National Environmental Act
NERD	National Engineering Research & Development
NG&JA	National Gem & Jewelry Authority
NGOs	Non-Government Organizations
NIE	National Institute of Education
NIFS	National Institute of Fundamental Studies
NPD	National Planning Department
NPP	National Physical Plan
NPPD	National Physical Plan Department
NPQS	National Plant Quarantine Service
NRC	National Research Council

NSCAG	National Species Conservation Advisory Group
NSF	National Science Foundation
NWPEA	North Western Province Environment Authority
NWS&DB	National Water Supply & Drainage Board
PA	Protected Area
PCS	Public Service Commission
PGIA	Post Graduate Institute of Agriculture
PGRC	Plant Genetic Resource Centre
RDA	Road Development Authority
RRDI	Rice Research & Development Institute
RRI	Rubber Research Institute
SAM	Special Area Management
SLC	Sri Lanka Customs
SLLR&DC	Sri Lanka Land Reclamation & Development Corporation
SLPA	Sri Lanka Ports Authority
SLPD	Sri Lanka Police Department
SLTDA	Sri Lanka Tourism Development Authority
TC	Timber Corporation
TEEB	The Economics of Ecosystems & Biodiversity
TRI	Tea Research Institute
UDA	Urban Development Authority
UGC	University Grant Commission
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change

Executive Summary

Sri Lanka, with its 103 river catchments, near coastal ecosystems and thousands of man-made reservoirs, is home to numerous wetlands that are of international importance. At present, there are six declared Ramsar sites. The wetlands are used extensively by people for direct and indirect services they provide, thus with extensive use and inadequate management, most wetlands are now fragmented, deteriorated, polluted and are in critical condition. Native wetland fauna and flora are therefore, directly impacted both by habitat change and invasives. Sri Lanka as a signatory country to Convention on Biological Diversity (CBD) and to UN, has been adopting the resolutions and good practices promoted among the signatory parties. At present, Aichi Targets, Sustainable Development Goals (SDGs), Nationally Determined Contributions (under the Paris Agreement of UNFCCC) and Sendai Framework for Disaster Risk Reduction are adopted by the country to name a few. Additionally, National Biodiversity Strategic Action Plan (NBSAP) 2016-2022 has been prepared with multi stakeholder participation, where five national strategic objectives and 12 national targets have been formulated incorporating the ideas and concepts of Aichi Targets and SDGs. Also, Sri Lanka is currently preparing necessary reviews and documentation to align policies, legislations and action plans in accordance with requirement of Nationally Determined Contributions and Sendai Framework for Disaster Risk Reduction.

It is therefore timely to investigate if wetland conservation and sustainable use has been mainstreamed into national policies, legislations and action plans. This evaluation is carried out to ensure that all resolutions applicable to Sri Lanka for conservation and wise use of wetlands developed by Ramsar and other agencies have been mainstreamed. This report is also prepared to identify the gaps and accordingly propose necessary capacity and institutional development and research needs. A policy and legislation review including the proposed legislations was conducted to establish the priority given for wetland conservation and wise use. NBSAP and other national plans were scrutinised to establish if targets relevant to wetlands from SDGs and Aichi Targets have been mainstreamed into national targets and actions. Interviews were held with relevant stakeholders and a stakeholder consultation with all key government agencies, non-governmental agencies and was carried out to validate the draft.

The review established that Sri Lanka has clear constitutional commitment to environment and a policy exclusively for wetland, which has been formulated with close consultation of Ramsar Convention (National Wetland Policy and Strategy, 2006). Additionally, policies and legislations are present to ensure conservation of species, ecosystems and to prevent unsustainable extraction of direct services. A notable gap was the absence of a marine policy but it is being drafted at present. Also, wetland conservation has not been adequately recognised in disaster management policy and act. Additionally, policies and legislations are required to value and to ensure the wise use of indirect services, and to assess and to regulate cumulative impacts of developments. The presence specific clauses for wetland conservation and wise use in several policies provides weightage but also creates confusion as

management becomes segmented. The absence of provisions in all studied policies and legislation to create a mechanism to introduce stakeholder participated, evidence based decision making and to regulate wetland management through one agency can be stated as the biggest factor contributing to ongoing deterioration of wetlands. It also results in conflicts in relation to use. Also, less provisions were observed for managing wetland biodiversity outside protected areas and to ensure continuum of wetland dynamics especially in lotic systems.

NBSAP has mainstreamed most wetland interests, identified the main responsible agencies, indicators, communication and financing mechanisms. However, Aichi targets and notably SDGs have not been mapped for all national targets making it difficult to make connections. Readiness plan for implementation of intended nationally determined contributions plan for 2017 to 2019 is in place, and both under mitigation and adaptations, wetland conservation has been emphasized notably in biodiversity, forestry and water sectors. Sendai Framework related activities are under discussion and however no plans are present at present.

The need for collaboration between the water sector and the wetland conservation and management sector, notably through promoting integration of conservation and wise use of wetlands into decision-making on land use, groundwater management, catchment/river basin and coastal zone planning is still absent despite the presence of several policies. With the above back ground, in order to ensure that wetland interests are taken care of and are managed, Sri Lanka needs to seek strategies to bring wetland partner agencies to one forum to take decisions regarding conservation, development and conversion. Equally provisions should be made available to assess the cumulative impacts and river basin focused management. In order to verify the changes, developing baseline data bases that can be shared among all interested parties both for critical species as well as for aquatic ecosystems is essential.

1. Background, rationale, and objectives of the report

Sri Lanka has a very long history of wetland management, with records of the construction of tanks (reservoirs) of varying size from as early as 300 BC, in the drier part of the country, principally to provide water for irrigation. These tanks slowly evolved to become connected into complex systems that cascaded and allowed water from one tank to flow to the next further downstream, and these systems are still in existence today. As a result, there has always been a high level of awareness of the importance of wetlands in Sri Lanka.

As of January 2018, six priority wetlands in Sri Lanka have been placed on the list of Wetlands of International importance (Ramsar sites). Wetlands are the most productive ecosystems that provide essential services for supporting people and the environment. Therefore, it is imperative to raise wider awareness of the importance of wetland conservation, restoration and wise use, and to integrate the value of wetlands into other processes, such as in sustainable development, biodiversity conservation, climate change mitigation and adaptation, and disaster risk reduction. The involvement of the community from the level of the decision makers to the local communities is equally a prerequisite for the conservation and wise use of wetlands and their resources.

1.1 Rationale

Wetlands are critical water related ecosystems that provide essential goods and services for people and the environment. In addition to clean drinking water supply, they act as basis of life for vegetation, wildlife, fisheries and agriculture and are also an important source of energy production. They prevent and regulate floods, act as sediment and nutrient retention, also serve as a carbon sink. Besides, they often have cultural, religious and historical values, as well as being excellent sites for tourism from which countries such as Sri Lanka can generate significant revenue.

Despite their importance, if wetlands are prioritized in Sri Lanka's national policies and strategies and plans remains unclear. The primary reason behind the degradation of freshwater ecosystem is ignorance of the goods and services that they provide in the planning, designing and implementation of national development projects. Thus, the providing protection to remaining wetlands and safeguarding their services are of absolute conservation priorities. In this context, the Government of Sri Lanka aims to conduct an investigation to verify the level of mainstreaming and integrating conservation, restoration and wise use of wetlands and their resources into national policies and strategies.

1.2 Objective

The major objective of this report is to document current status in mainstreaming the conservation and sustainable use of wetlands and their resources into key national planning processes in Sri Lanka.

1.3 Specific objectives

To ensure that the value of wetlands and the need for their conservation and wise use is mainstreamed into the planning processes for achievement of;

a. Sustainable Development Goals
b. Aichi Biodiversity Targets
c. Nationally Determined Contributions (under the Paris Agreement of UNFCCC)
d. Sendai Framework for Disaster Risk Reduction etc.

2. Overview of wetland conservation and wise use in Sri Lanka

2.1 Current status

The policy directives for biodiversity conservation come from the constitutional directives. According to Sri Lanka´s Constitution (1978), "the State shall protect, preserve and improve the environment for the benefit of the community". Additionally Sri Lanka has been the signatory for several regional and international treaties and conventions that directly and indirectly supports wetland conservation and wise use. The constitutional directives have also resulted in formulation and implementation of several policies.

Constitution of Democratic Socialist Republic of Sri Lanka	The Constitution of 1978 has introduced justiciable fundamental rights and non-justiciable directive principles of state policy.	There are sections in the directive principles of state policy which are relevant in relation to state duty to conserve nature. Preserving and Improving the environment for the benefit of the community is a fundamental duty of the State (Sec 27 (14) the State shall protect, preserve and improve the environment for the benefit of the community). Protecting nature and conserving its riches is the duty of every person in Sri Lanka (Sec (28) (f) The exercise and enjoyment of rights and freedoms is inseparable from the performance of duties and obligations, and accordingly it is the duty of every person in Sri Lanka-to protect nature and conserve its riches.

The constitutional directives have been taken by the national policies and legislature. Sri Lanka has developed several cross sectoral and sectoral policies for wetland conservation and wise use accordingly. Sri Lanka's National Biodiversity strategy and Action Plan (NBSAP) has accorded high priority to protecting bioregions that are considered high priority for conservation including wetlands.

According to the NBSAP (2016-2022), about 35% of terrestrial land has been declared as protected areas (PAs) and most protected areas are concentrated in and around wetlands. A careful look at protected area network of Department of Wildlife Conservation reveals that most protected areas have been declared to protect the catchment of major reservoirs and riverine ecosystems. The protected area network in montane region of the county has been established primarily to protect the watersheds (Figure 1).

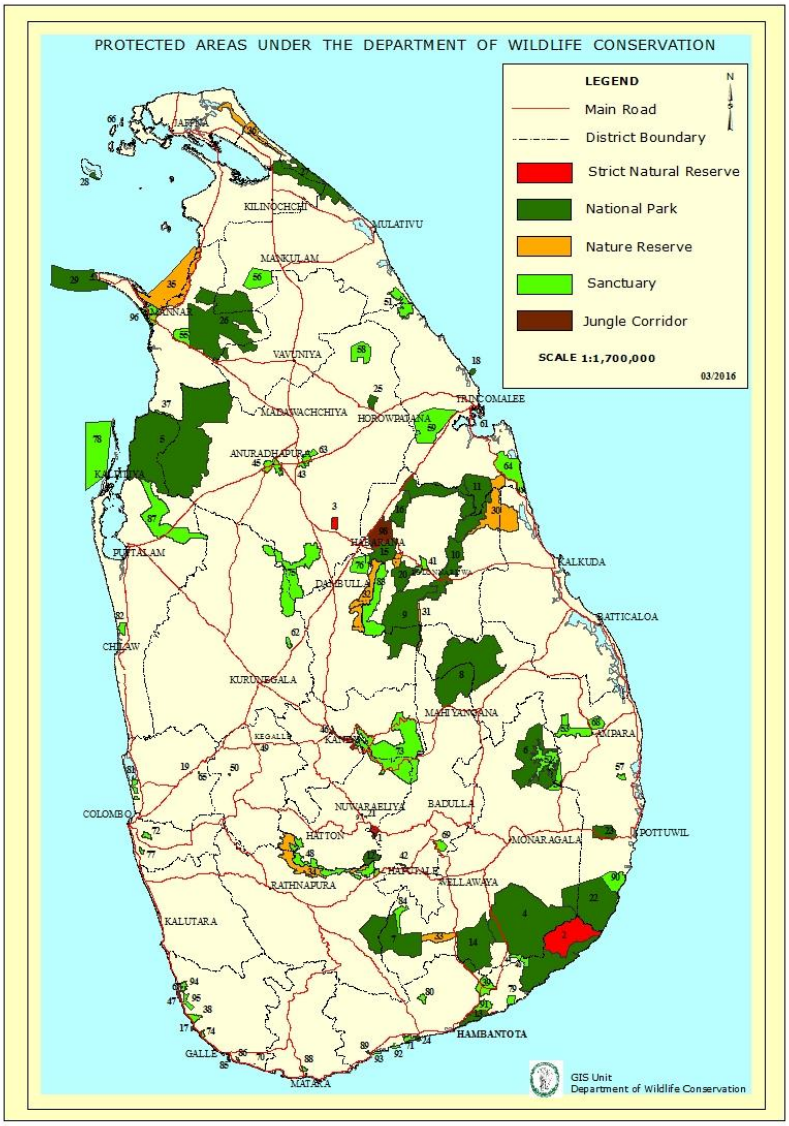

Figure 1: Protected areas under the Department of Wildlife Conservation (© DWC)

Table 1: Summary of the National Parks of Sri Lanka. Details are given for the protected areas that have been declared to protect any type of a significant wetland ecosystem or their catchment. Ramsar wetland sites are highlighted in blue.

National Parks	Date of Declaration	Extent (ha)	Types of main aquatic ecosystems
1. Ruhuna (Yala)	1938.02.25	97880.7	Riverine ecosystems and river mouths of Menik and Kubbukan Oya rivers, reservoirs, coastal ecosystems
2. Wilpattu	1938.02.25	131667.1	Ox bow lakes (villus) and river mouths of Kala Oya and Modaragam Aru rivers and coastal ecosystems including mangrovesn
3. Galoya	1954.02.12	25900	Reservoir and the catchment of Senannayake Samudraya reservoir and other major perennial reservoirs
4. Yala East (Kumana)	1970.01.20	18148.5	Riverine ecosystem and river mouth of Kubbukan Oya river, reservoirs, coastal ecosystems
5. Udawalawa	1972.06.30	30821.0	Reservoir and the catchment of Udawalawe reservoir and other major perennial reservoirs, middle course of Walawe river and its tributaries
6. Lahugala Kithulana	1980.10.31	1554	Riverine ecosystems of Heda Oya and Koranda Oya and reservoirs (Lahugala Tank, Sengamuwa Tank and Kitulana Tank)
7. Maduru Oya	1983.11.09	58849.6	Reservoir and the catchment of Maduru Oya reservoir, Ulitiya reservoir and Ratkinda reservoir and other major perennial reservoirs, Riverine ecosystems of Maduru Oya.
8. Wasgamawa	1984.08.07	37062.9	Riverine ecosystems of Mahaweli River and catchment of perennial reservoirs
9. Floodplains	1984.08.07	17350	Riverine ecosystems of Mahaweli River and catchment of perennial reservoirs
10. Somawathiya	1986.09.02	37645.5	Riverine ecosystems of Mahaweli River and ox bow lakes (villus)
11. Horton plains	1988.03.16	3159.8	Riverine ecosystems of Belihul Oya, Kiriketi Oya, Agra Oya and Weli Oya, waterfall ecosystems, reservoir and the catchment of Ambewela reservoir
12. Bundala	1993.01.04	6216	Brackish water lagoon with salt pans and wetland and coastal ecosystem including mangroves

National Parks	Date of Declaration	Extent (ha)	Types of main aquatic ecosystems
13. Lunugamwehera	1995.12.08	23498.8	Reservoir and the catchment of Lunugamvehera reservoir and riverine ecosystems of Menik and Kirindi Oya rivers
14. Minneriya	1997.08.12	8889.4	Reservoir and the catchment of Minneriya reservoir and other minor perennial reservoirs, riverine ecosystems of Amban River and Elahera canal and wetland ecosystem
15. Kaudulla	2002.04.01	6900	Reservoir and the catchment of Kaudulla Tank
16. Hikkaduwa	2002.10.08	101.6	Fringing coral reef and coastal ecosystem
17. Pegion Island	2003.06.04	471.429	Fringing coral reef and coastal ecosystem
18. Horagolla	2004.07.28	13.362	Tropical wet evergreen forest
19. Galway's Land	2006.05.18	29.24	Montane forests
20. Horrowpatana	2011.12.06	2570	Minor perennial reservoirs ecosystems
21. Ussangoda	2010.05.06	349.077	Coastal ecosystem
22. Angammadilla	2006.06.06	7529.10	Reservoir and the catchment of Parakrama Samudra and other minor perennial reservoirs, Riverine ecosystems of Amban river
23. Madu Road	2015.06.22	16367.36	Minor perennial reservoirs ecosystems
24. Chundikulam	2015.06.22	19565.33	Lagoon and coastal ecosystem including mangrove and seagrass beds
25. Adam's Bridge	2015.06.22	18990.00	Coastal ecosystem including coral reef, mangrove and sea grass beds
26. Delf	2015.06.22	1846.28	Coastal ecosystem including coral reef, mangrove and sea grass beds and small lake ecosystem

In addition to above Ramsar sites, Anvilundawa sanctuary, Madu Ganga Sanctuary and Vankalai sanctuary are Ramsar sites of Sri Lanka declared for their importance in regulating aquatic dynamics, biodiversity, direct and indirect services and cultural heritage. At present DWC has 16% of the land cover declared as some form of protected area (Table 2).

Table 2: Current coverage of protected areas of Sri Lanka (©NBSAP 2016)

Protected Area Category	Extent (ha)	% of Sri Lanka	% of PA Extent
Department of Wildlife Conservation			
Strict Natural Reserve	31,574	0.5	1
National Parks (Land)	685,979	10	30
National Parks (Marine)	19,563	0.3	1
Nature Reserves	65,485	1	3
Sanctuary	262,911	4	11
Jungle Corridor	8,777	0.1	0
Total	**1,074,290**	**16**	**47**
Forest Department			
Conservation Forest	134,307	2	6
Reserved Forests	1,092,700	17	47
Village Forests			
Total	**1,227,007**	**19**	**53**

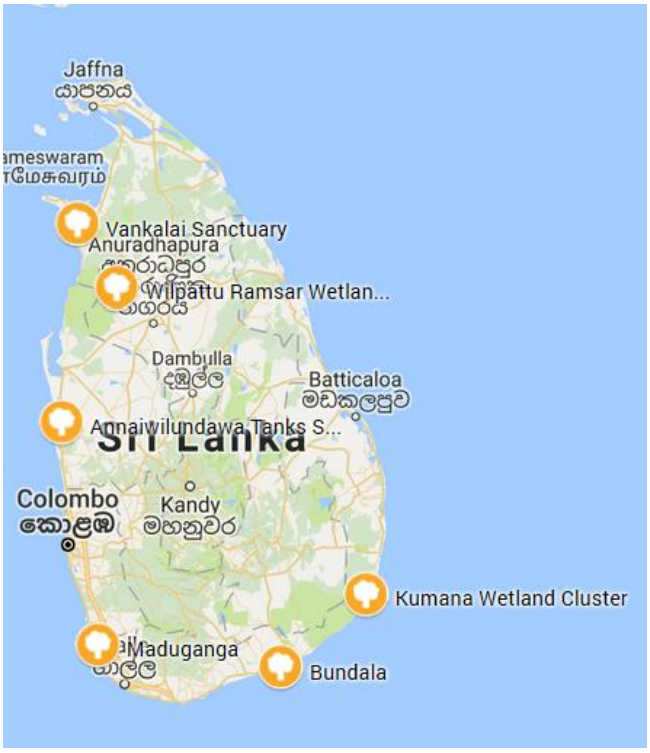

Figure 2: Declared Ramsar wetlands of Sri Lanka

Conservation of wetlands and their wise use is achieved by establishment of areas of particular importance for wetland biodiversity and ecosystem services, through systems of protected areas and other effective area-based conservation measures, integrated into the wider landscape and seascapes. Ssafeguarding ecosystems, species and genetic diversity (as required in the NBSAP) is the key to enhance such biodiversity mainstreaming activities, both national and international best practices as well as input from the assessment of existing practices.

3. Policy and legislations of Sri Lanka relevant to mainstreaming wetlands

3.1 National policies

Table 2 provides a review on the current policies directly and indirectly related to wetland conservation and wise use. The analysis revealed that National Wetland Policy and Strategy (2006) has been formulated giving prominence to Ramsar Convention, it's directives as well as the definitions. The strategic action plan of this policy is adequately comprehensive addressing from research, awareness, conservation, sustainable utilization and conservation needs. This policy alone can provide directives in line with Ramsar Convention to manage wetlands of Sri Lanka. In addition to National Wetland Policy and Strategy (2006), several other policies have set policy directives for wetlands and their wise use. However, Disaster Management Policy has not addressed the policy directives recognizing the importance of conservation, restoration and services of wetlands in relation to disaster management. Though climate change adaption is highlighted as a part of preventive approaches for mitigating the risk of disaster, the policy has not directly recognized the importance of wetlands.

Other relevant policies, their scope as well as sections that can be used as policy directives to mainstream wetlands interests are given below in table 3.

Table 3: Summary of analysis of national policies of Sri Lanka that has policy directives for wetland conservation and wise use

Name of the Policy	Responsible Department or Ministry	Scope of the Policy
National Wetland Policy and Strategy (2006)	Ministry of Environment and Natural Resources, Central Environment Authority	Not given
Relevant clause/s in Ramsar	All articles in Ramsar are relevant to this policy	
Objectives of the Policy		
Objectives of the policy have been mentioned under the section 4. They are as follows: 4.1 to protect and conserve wetland ecosystems 4.2 to prevent illegal utilization of wetlands 4.3 to restore and maintain the biological diversity and productivity of wetlands 4.4 to enhance ecosystem services from wetland habitats 4.5 to assure sustainable use of wetlands and traditional practices by local communities 4.6 to meet national commitments as a signatory to the Ramsar Convention on Wetlands		
Number and Relevant clauses to Wetland management specifically mentioning Ramsar convention		
Under introduction, section 1.4 of this policy, national commitment to Ramsar convention is recognized This policy seeks to be consonant with and give effect to the National Environment Policy and other relevant national policies, while respecting national commitments towards relevant international conventions, protocols, treaties and agreements to which Sri Lanka is a party, including **the Ramsar Convention on Wetlands of International] Importance (1971)**; the Convention on Conservation of Migratory Species of Wild Animals (1979) and the Convention on Biological Diversity (1992) Under objectives, section 4.6 of this policy, national commitments as a signatory to the Ramsar Convention on Wetlands is highlighted To meet national commitments as a signatory to the **Ramsar Convention** on Wetlands Definition of "wetlands" has been adopted according to the Ramsar Convention under explanation of key concepts of this policy Areas of marsh, fen, peat land or water, Where* natural or artificial, permanent or temporary with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters and may incorporate riparian and coastal zones adjacent to the wetlands and islands or bodies of marine water deeper than six meters at low tide within the wetlands ** a typo found in the policy definition*		

Gap analysis/Notes
This policy is complimentary to needs of Ramsar convention. Five principles given under section 3 of this policy are linked to principles of the Ramsar Convention *3.1 Principles of sustainable use; acknowledgement of interdependence; "polluter pays"; recognition and use of traditional knowledge will guide this policy* *3.2 While taking socio-economic necessities in to consideration, the application of the precautionary. principle will help resolve issues relating to the management and wise use of wetlands* *3.3 Wetland management including both planning and implementation will involve participation on of all stakeholders and especially local communities* *3.4 The need to conserve, the downstream wetlands is recognized when designing and implementing upstream development projects* *3.5 Awareness of values of wetlands and benefits that can be accrued by. their sustainable management is ensured among all stakeholders including the general public* *Policy Directions have been discussed under the section 5 with respective to Wetland management, Institutional arrangement, Inter-sectoral linkages, and Research, development and education* *5.1 Wetland Management* *5.1.1 All wetlands will be zoned and classified according to the levels of ecological, utilitarian, international, national and local significance, inventorised with clearly defined ownership through legal reforms where necessary and managed sustainably on the basis of appropriate management mechanisms* *5.1.2 Privately owned wetlands will be brought under appropriate management systems, if necessary through legal reforms* *5.1.3 Wetland management will be integrated into land use plans at all levels* *5.1.4 The restoration of degraded wetlands will be given priority* *5.1.5. Sustainable use and equitable benefit sharing, habitat conservation and integrated management at all stages will involve participatory and collaborative processes* *5.1.6 Active and informed participation of civil society in the conservation of wetlands will be encouraged* *5.1.7 Sustainable financing mechanisms through local and foreign sources will be developed for the management and wise use of wetlands* *5.2 Institutional Arrangement* *5.2.1 Local level Wetland Management Committees will be established under the provisions of the National Environment Act, with the assistance of government agencies responsible for wetlands and divisional, district and provincial level committees will be established as appropriate to facilitate these Committees* *5.2.2 A multi-stakeholder National Wetland Steering Committee will be established for the purpose of advising on wetland issues and a National Wetland Management Units will be established by the Ministry in-charge of the subject of environment to oversee and facilitate policy implementation* *5.2.3 Existing legislation will be revised as necessary to bring it into conformity with this policy* *5.3 Inter-sectoral Linkages* *5.3.1 The principles, of sound wetland ecosystem management will be integrated into sectoral plans at all levels. Development activities in wetland areas will be required to be consistent with such plans. Research, 5.4 Development and Education* *5.4.1 Research programmes that facilitate conservation, Sustainable use, restoration and adaptive management of wetlands will be promoted. The results of such research will be integrated into the management process*

5.4.2. Training, education and awareness on wetland conservation will be promoted at various levels on a continuous basis *Strategies and action under the national policy on wetlands are tabulated to support implementation of components (Institutional arrangement, Inter-sectorial linkages, Wetland management, and Research, development and education) of the national wetland policy* ***This policy has very broadly adopted the main objectives and principals of Ramsar*** ***The policy is also backed by a strategic action plan***

Name of the Policy	Responsible department or Ministry	Scope of the policy
National Environmental Policy and Strategies (2003)	Ministry of Mahaweli Development and Environment	The policy aims to promote the sound management of Sri Lanka's environment balancing the needs for social and economic development and environment integrity. It also aims to manage the environment by linking together the activities, interests and perspectives of stakeholders and to assure environmental accountability
Relevant clause/s in Ramsar		
Objectives of the Policy		
No direct objectives are given for wetland management but safeguarding of environment has been highlighted by all objectives 1. To promote the sound management of Sri Lanka's environment in its entirety without compromise, balancing the needs for social and economic development and environmental integrity, to the maximum extent possible while restricting inimical activities 2. To manage the environment by linking together the activities, interests and perspectives of all groups, including the people, non-government organizations and government at both the central and the local levels 3. To assure environmental accountability		
Number and Relevant clauses to Wetland management specifically mentioning Ramsar convention		
There are no clauses directly relevant to wetland management specifically mentioning Ramsar convention However the policy broadly promotes sound management of environment which includes wetlands. Provisions in this policy is implemented by National Environmental Act No.47 of 1980 This policy also has been the foundation for subsequent regulations under Central Environmental Authority for pollution control, environmental impact assessment and designation of Environmentally important, specific areas as Environmental Protection Areas, (***EPA***), as per provisions of Sections 24 C and 24 D, of the National Environmental Act No.47 of 1980, by an order published in a Gazette Notification		

Gap analysis/Notes
Under outcomes to be achieved, relevant to "Land", section 10 of this policy, ecologically importance wetlands are protected *Wetlands that are of importance for their ecological functions are protected* *Under outcomes to be achieved, relevant to "Water", section 3 of this policy, provisions for protection for aquatic systems are given* *Adequate protection given to streams, irrigation and drainage canals, reservoirs, tanks and other water bodies* *Under outcomes to be achieved, relevant to "Biological Diversity", section 3 of this policy, protection for coastal and marine biodiversity hotspots are given* *Key coastal and marine ecosystems rich in biodiversity are declared as conservation areas and given adequate protection* *Under Environmental Strategies for the key economic sectors, environmental strategies of six sectoral groups have been given as Forestry and Wildlife Conservation, Agriculture, Plantations, Land development and Mining, Fisheries, and* ***Coastal and Marine Area Management****, Industry and Tourism, Energy and Transport and Health, Sanitation and Urban Development* *Under that, section of Forestry and Wildlife Conservation, section 18, promotion of awareness of conservation of biodiversity and sustainable use of biological resources are highlighted* *Promote education, awareness and communication on the subject of conservation of biological diversity and the sustainable use of biological resources* *Under Agriculture, Plantations, Land development and Mining, section 5 provides protection for environmentally sensitive state lands* *Take appropriate action (including revision of land laws) regarding encroachments on environmentally sensitive state land and prevent future encroachment on such land* *Under Fisheries, and Coastal and Marine Area Management, sections of 1, 2, 5, 6, 7 and 18, control activities which adversely impact on coastal erosion, coastal biodiversity and promote conservation of coastal biodiversity* *1. Restrict, regulate and, where considered necessary, prohibit activities in the coastal zone so as to minimize or eliminate adverse impacts in relation to coastal erosion* *2. Ensure that sand mining within the coastal zone does not exceed environmentally safe limits and is restricted to designated sites* *5. Restrict, regulate, and where necessary, prohibit activities (development activities in the coastal zone such as aquaculture, discharge of untreated wastes, sediment, etc.) that are a threat to coastal biodiversity* *6. Promote conservation of biodiversity and sustainability in the use of resources within coastal habitats, focusing specifically on species and ecosystems under threat* *7. Adopt specific measures for protecting coral reefs* *18. Encourage co-operation between countries of the region in conserving the marine and coastal environment* *Under Industry and Tourism, section 12 of this policy, national commitments to international conventions are recognized* *Take action to implement Sri Lanka's obligations under environment-related international conventions* *Five principles that have been used in this policy including "the polluter pays" as the guiding principles* *1. The guiding principles of environmental management will be "the polluter pays" and the need to reduce consumption, and recycle and reuse materials to the maximum extent possible* *2. When living natural resources are used, it will be ensured that such use is wise, sustainable, and consistent with the integrity of ecosystems and evolutionary processes*

3. When non-living resources are used, it will be ensured that such use is consistent with environmental best-practice, bearing in mind the need to provide also for future generations

Name of the Policy	Responsible department or Ministry	Scope of the policy
Wildlife Policy (1994)	Department of Wildlife Conservation (DWC)	The policy renews the commitment of the government to conserve wildlife resources through promoting conservation, maintaining ecological processes and life sustaining systems, managing genetic diversity and ensuring sustainable utilization and sharing of equitable benefits arising from biodiversity. It emphasises the need for effective protected area management with the participation of local communities
Relevant clause/s in Ramsar		
Objectives of the Policy		
No direct objectives are given for wetland management but safeguard of wildlife resources has been highlighted by all objectives. Objectives broadly cover wise use, conservation, protection to species and maintenance of ecological processes 1. To conserve wildlife resources, through protection, research, education, sustainable use and benefit sharing, for the benefit of present and future generation 2. To maintain ecological processes and life-sustaining systems, with particular regard to primary production, hydrological balance, nutrient cycles, and prevention of erosion, siltation, drought and flood 3. To manage all components of genetic diversity, as resources to improve crop plant and farm animal, and to develop in a fair and equitable manner new product and processes through bio-prospecting 4. To ensure sustainable use and equitable sharing of benefits, arising from the direct and indirect use of wildlife resources and ecosystems 5. To conserve native and endemic species and their habitats, so as to maintain the overall species richness and ecological integrity of the country 6. To encourage the development of biological repositories, for the purposes of conservation education and science 7. To encourage the private sector and communities to join as a full partners in all aspects of the wildlife-conservation process		
Number and Relevant clauses to Wetland management specifically mentioning Ramsar convention		
There are no clauses which are directly relevant to wetland management, specifically mentioning Ramsar convention		

Gap analysis/Notes
No direct policy relevant to Ramsar Convention is found in Wildlife Policy. However, some of the sections in this policy indirectly provide provisions to safeguard wildlife resources within the wetland ecosystem *Under the Policy on Protected Area Management and wildlife Conservation, section 4, 5, 6, 7 and 8, the guidance for management of protected area and wildlife conservation are provided* *4. To identify, classify manage and monitor all protected areas, on the basis of appropriate scientific studies and agreed criteria* *5. To manage all protected areas according to approved management plans, which will be reviewed and revised regularly, and implemented by staff at the field level who will be afforded such authority and resources as they need to do so effectively* *6. To ensure that protected areas are internally zoned according to accepted criteria, to reflect the different resources within each zone and the most appropriate sustainable use of resources* *7. To manage all protected areas the context of their surrounding landscapes, taking into account the ecological, social and economics links between natural and human systems* *8. To promote active, ecosystem-based management of all protected areas, including the eradication wherever possible of alien and invasive species, subject to though consideration of the environmental impacts of these interventions* *Under the Policy on institutional Support for Wildlife Conservation, section 3, national effort on wildlife conservation is recognized through research and education* *To promote research and education as valuable contributors to the national effort on wildlife conservation*

Name of the Policy	Responsible department or Ministry	Scope of the policy
National Forest Policy of Sri Lanka-1995	Forest Department	The policy was drawn up to provide clear directions for safeguarding the remaining natural forests of the country in order to conserve biodiversity, soil and water resources. In accordance with the policy, the forests under the jurisdiction of the FD is being reclassified and placed under four management systems ranging from strict conservation, non-extractive use, management of multiple use forests for sustainable production of wood and management of forests with community participation
Relevant clause/s in Ramsar		
Objectives of the Policy		

No direct objective is given relevant to wetland. However, conservation of biodiversity is highlighted To conserve forests for posterity, with particular regard to biodiversity, soils, water, and historical, cultural, religious and aesthetic values
Number and Relevant clauses to Wetland management specifically mentioning Ramsar convention
There are no clauses which are directly relevant to wetland management, specifically mentioning Ramsar convention
Gap analysis/Notes
No direct policy component relevant to wetland has been given in this policy. However, under the forestry sector master plan, enhancement of biodiversity through conserving remaining natural forest is emphasized *Conserving the remaining natural forests to maintain biological resources (flora & fauna) as reservoirs of biodiversity*

Name of the Policy	Responsible Department or Ministry	Scope of the policy
The National Policy on Invasive Alien Species (IAS) in Sri Lanka (2016)	Ministry of Mahaweli Development and Environment	Section 3 describes Scope of the National Invasive Species Policy. The scope cover controlling the introduction of non-native invasive species into Sri Lanka thus to wetlands. All actions taken or authorized by the Government of Sri Lanka should consider and minimize, to the extent possible, the detrimental effects caused by the introduction of non-native invasive species. This policy does not imply that the government of Sri Lanka will not permit introduction of all exotic species to the country. However, the government of Sri Lanka recognizes that all alien species are potentially invasive, caution is required until a formal risk assessment is performed. The introduction of biological measures to control Invasive Alien Species or scientific studies on Invasive Alien Species approved by the Government of Sri Lanka is not covered by this policy. This policy supplements any other policy and program guidelines that may exist.

Relevant clause/s in Ramsar	
Objectives of the Policy	
No direct objectives have been provided in relevant to wetland management. However, reduction of risk of ISA on biodiversity are addressed by the objectives of this policy 1. To minimize the risks of IAS on the biodiversity, ecosystems, economy and society thus promoting the sustainable economic development 2. To update all the stake holders on the national position and priorities and promote their participation in dealing with IAS related issues 3. To contribute to global efforts to control IAS through nationwide operations	
Number and Relevant clauses to Wetland management specifically mentioning Ramsar convention	
There are no clauses which are directly relevant to wetland management, specifically mentioning Ramsar convention	
Gap analysis/Notes	
Although, there is no direct policy provisions on wetland management, under the mission statement it has been mentioned that aquatic, marine and terrestrial ecosystems are protected from the risks associated with IAS *A comprehensive, coordinated, and efficient system is established with necessary legal environment to protect aquatic, marine and terrestrial ecosystems including agricultural and other man made landscapes and native biodiversity of Sri Lanka from risks associated with IAS*	

Name of the Policy	Responsible department or Ministry	Scope of the policy
National Policy on Construction (2014)	Ministry of Housing & Construction and Construction Industry Development Authority	Not given
Relevant clause/s in Ramsar		
Objectives of the Policy		
The objectives of this policy are not directly relevant to wetland but this policy promotes energy efficient and environment friendly technology in the construction industry. So, it indirectly helps to safeguard of wetland Providing strategic leadership to all stakeholders, of the construction industry, stimulate sustainable growth, reforms and improvement, **promote energy efficient and environment friendly technology, building materials and systems,** promote appropriate research and dissemination and publication of research		

work, formulate standards and codes of conduct and practices, and promotion of the export of construction services
Number and Relevant clauses to Wetland management specifically mentioning Ramsar convention
There are no clauses which are directly relevant to wetland management, specifically mentioning Ramsar convention
Gap analysis/Notes
Section 2.2 (vi), highlights the minimization of negative environmental impacts *Ensure minimizing negative environmental impacts and achieving sustainable development* *Section 4.1 (Public Sector Responsibilities and Implementation Mechanism) promotes energy efficient and environmentally sustainable buildings in construction sector* *Promote sustainable economical growth of the construction industry with special attention to the design and development of disaster resilient, energy efficient and environmentally sustainable buildings, structures and construction practices*

Name of the Policy	**Responsible department or Ministry**	**Scope of the policy**
National Land Use Policy of Sri Lanka (2007)	Ministry of Lands	The Policy aims to ensure proper land use, food security, economic development and the maintenance of the productivity of the land at a higher level
Relevant clause/s in Ramsar		
Objectives of the Policy		
No direct objectives are given for wetlands but safeguarding of environment and biodiversity have been recognized by some of the objectives VI. Protect, conserve and manage all sources of water on state as well as private lands XI. Take steps to minimize the vulnerability of land to natural and human induced hazards XII. Promote land uses that minimize environmental hazard XIII. Promote gender equity in the ownership, utilization and conservation of lands XIV. Conserve bio-diversity XV. Conserve soil & water XVI. Preserve historical, cultural, religious, and aesthetic values associated with lands		
Number and Relevant clauses to Wetland management specifically mentioning Ramsar convention		
There are no clauses which are directly relevant to wetland management, specifically mentioning Ramsar convention		

Gap analysis/Notes
The national land use policy addresses protection, conservation and improvement of the quality of environmental and natural resources through "Land and Nature" theme *Under "Land and Nature" theme of this policy, section 9 directly provides provision of conservation and management of wetland* *9. Conservation and management of wetlands will be undertaken in accordance with land use plans* *Other than section 9, all other sections of this policy under the theme of "Land and Nature", protection and conservation of the environment and biodiversity are highlighted. As such, it is indirectly safeguard the wetland* *1. Environmentally sensitive areas will be identified and measures will be taken to protect and conserve such areas.* *2. All the lands 1600m.above the mean sea level will be protected and conserved* *a) Current Land uses within that zone will be allowed to continue with appropriate conservation measures* *b) All the unutilized lands with less than 60% slopes will undergo land suitability classification to determine their uses. All unutilized lands with over 60% slope will be under permanent forestry and grass land* *3. In respect of state and private lands with slopes exceeding 60% situated 1600m above mean sea level and without forest cover action will be taken to stabilize slopes through reforestation, agro forestry and adoption of soil conservation measures* *4. Natural forests which have a high biological and hydrological value will be conserved as strict conservation forests. Other forests will be allocated for regulated multiple use* *5. All forestlands and protected areas will be managed through management plans based on bio-diversity conservation principles* *6. Action will be taken to identify high, medium and low, landslide prone areas and steps will be taken to introduce appropriate conservation measures* *7. The reservations of all natural and man-made watercourses and sources whether private or state will be demarcated and protected through appropriate conservation measures. If needed, action will be taken to acquire private lands* *8. In managing land and water resources, river catchments will be considered as the management unit* *9. Conservation and management of wetlands will be undertaken in accordance with land use plans* *10. Areas within the coastal zone vulnerable to natural disasters will be subjected to Land use zoning. Appropriate uses will be determined on the basis of the zoning* *11. Training, awareness and educational programmes relevant to the protection, conservation and improvement of the quality of the natural resources associated with land will be implemented*

Name of the Policy	Responsible department or Ministry	Scope of the policy
Sri Lanka National Agriculture Policy	Ministry of Agriculture Development and Agrarian Services	Not given
Relevant clause/s in Ramsar		
Objectives of the Policy		
The objectives of this policy are not directly relevant to wetlands but section 5 recognise adaption of environmentally friendly technologies 5. Adoption of technologies in farming that are environmentally friendly and harmless to health		
Number and Relevant clauses to Wetland management specifically mentioning Ramsar convention		
There are no clauses which are directly relevant to wetland management, specifically mentioning Ramsar convention		
Gap analysis/Notes		
There is no any policy component directly relevant to wetlands but under the policy statement, section 1 (Promoting Agricultural Production), environmentally friendly agricultural production is recognized *Implement technically sound, economically viable, environmental friendly and socially acceptable programmes to promote sustainable agricultural development with efficient and effective utilization of resources* *Under policy statement, section 4 (Pesticides), it promotes the use of bio-pesticides to minimize environmental risk* *Provide adequate institutional and infra-structural facilities to operate pesticide regulatory system effectively in conformity with the Food and Agriculture Organization (FAO) international code of conduct on the distribution and use of pesticides in order to minimize associated health and environmental risks* *Promote the production and use of environmental friendly bio-pesticides with public and private sector participation* *Under policy statement, section 11 (Agricultural Research), environmental conservation is highlighted through agricultural research* *Use cutting edge technologies such as Bio-technology, Geographical Information System (GIS) technology, pre and post-harvest technology, nanotechnology for efficient agricultural production and environmental conservation* *Establishment of a continuing research process to monitor the effects and impacts form agricultural activities on environment and health*		

Name of the Policy	Responsible department or Ministry	Scope of the policy
National policy and strategy on cleaner production for agriculture sector (2012)	Ministry of Agriculture And Ministry of Mahaweli Development and Environment	Not given
Relevant clause/s in Ramsar		
Objectives of the Policy		
No direct objectives relevant to wetlands but under section 5.2 of this policy, ecologically sound agricultural practices are promoted 5.2 To promote ecologically sound agricultural practices		
Number and Relevant clauses to Wetland management specifically mentioning Ramsar convention		
There are no clauses which are directly relevant to wetland management, specifically mentioning Ramsar convention		
Gap analysis/Notes		
Under section 6.7 and 6.8, prevention of usage of Persistent Organic Pollutants and environmental pollution due to agricultural practices are emphasized *6.7 Prevent usage of POPS (Persistent Organic Pollutants) pesticides and other ecologically harmful materials* *6.8 Take measures to reduce/mitigate environmental pollution due to agricultural practices* *Under Strategies, sections 7.1, 7.3, 7.6, 7.7 and 7.10, ecologically and environmentally friendly agricultural practices and publications those practices are highlighted* *7.1 Enhance public awareness and knowledge management on sustainable food production, utilizing ecologically sound agricultural practices and consumption of clean products* *7.3 Prevent/minimize post harvesting losses with environmentally sound packaging, storage and transportation* *7.6 Promote ecologically friendly integrated farming system management practices* *7.7 Apply agricultural practices that prevent/mitigate environmental pollution* *7.10 Establish information systems on best environmental practices and appropriate environment technologies*		

Name of the Policy	Responsible department or Ministry	Scope of the policy
National Policy on Protection and Conservation of Water Sources, their Catchments and Reservations in Sri Lanka (2014)	Ministry of Land and Land Development	Not given
Relevant clause/s in Ramsar		
Objectives of the Policy		
Wetlands are directly benefited by the objective of this policy. Protection and conservation of all the water sources, their reservations and closest catchment area is the main objective of this policy The main objective of this policy is to protect and conserve all the water sources their reserves and closest catchment areas to ensure the existence of the water sources in Sri Lanka		
Number and Relevant clauses to Wetland management specifically mentioning Ramsar convention		
There are no clauses which are directly relevant to wetland management, specifically mentioning Ramsar convention		
Gap analysis/Notes		
This policy indirectly safeguard the wetland as it mainly focus on protection and conservation of water sources, their catchments and reservations *Under the introduction, section 1.7, states three main components related to conservation and protection of water sources. All these three components are directly linked to wise use of wetlands* *(a) Micro catchments which include rivers and streams, their reservations and their spouts and flood plains of the rivers* *(b) Natural or manmade tanks and reservoirs and shallow lakes (villu), their reservations and "immediate catchments" of those tanks and irrigation canals and their reservations* *(c) Existing underground or surface springs or spouts or such sources which are potentially available for common use and necessary land extent to ensure their existence and protection* *Under introduction, section 1.14, importance of protection, conservation and sustainable existence of water sources, their reservations and catchments are highlighted* *Protection, conservation and sustainable existence of water sources, their reservations and catchments grant a great support not only to the country's socio –*		

economic development but also to maintain the environment equilibrium and protect the bio diversity

Five areas of concern that requires action are,

7.1 Identifying, demarcating boundaries, protection and conservation of water sources

7.2 Empowering the institutions related to the conservation and protection of water sources

7.3 Monitoring of activities and follow up action

7.4 Awareness and participation

7.5 Granting financial provision and facilities

Under the section 8 of this policy, the identification, demarcating of boundaries, conservation and protection of water sources and related areas are emphasized

8.1 Determine and demarcate the limits/boundaries of water sources and their catchments and legally declaration of such areas

8.2 Conserve the lands in the areas demarcated as water sources and their catchments and related reservations regardless of the ownership of such lands

8.3 Avoid inappropriate use of land in the areas related to water sources through the preparation of land use plans

8.4 Rehabilitate the degraded lands in the areas related to water sources

8.5 Identify amendments needed in existing laws and legislations and introduce new laws with regard to the protection of the areas related to water sources, if necessary

8.6 Pay attention on protection and conservation of the areas related to water sources when preparing all the development plans including regional development plans

8.7 Encourage land use patterns suitable for environmentally sensitive areas and the lands over 5000 feet above the sea level for the protection and conservation of the areas related to water sources

8.8 Not to release the state lands in the areas related to water sources for any purpose other than the protection of such lands

8.9 Follow a holistic approach for the management of areas related to water sources

Under the section 9 of this policy, the institutions related to the conservation and protections of water sources are strengthened

9.1 Identify the institutions which contribute directly or indirectly for the protection and conservation of the areas related to the water sources

9.2 Develop human and physical resources in such institutions enabling the implementation of the policy

9.3 Establish a National Level Operational Committee comprising the subject *related experts for decision making on protection, conservation and management of the areas related to the water sources* *Under section 10, Policies on monitoring and follow up action, protection and conservation of water sources through establishment of "Early Warning System", follow-up mechanism, sharing of data, development of data base is emphasized* *10.1 Establish an "Early Warning System" to provide early information to relevant authorities pertaining to unauthorized activities in the areas related to water sources* *10.2. Establish a follow-up mechanism to monitor all the activities pertaining to protection and conservation of the areas related to water sources* *10.3 Test the capacity and condition of water in the reservoirs and their source areas* *10.4 Develop a data base to facilitate the protection and conservation of the areas related to water sources and connect it with the data base stated in the Cabinet Memorandum submitted by the Minister of Land and Land Development on* *07.08.2013 regarding "setting up a formal National Program for the Common Use and Sharing of Spatial Data and Information"* *10.5 Sharing data and information on protection, conservation and management of water sources through the District Secretariat, Divisional Secretariat and Local Authorities and other institutions concerned*

Name of the Policy	Responsible department or Ministry	Scope of the policy
National Policy on Disaster Management (2010)	Ministry of Disaster Management	
Relevant clause/s in Ramsar	Adaptation to climate change is mentioned under Integrated systems to reduce disaster risk "Disaster risk reduction activities should integrate climate change adaptation"	
Objectives of the Policy		
The objective, in line with the Act, is to protect Sri Lanka's people, property and environment from disaster		
Number and Relevant clauses to Wetland management specifically mentioning Ramsar convention		
There are no specific mentioning of wetlands in this policy Also policy does not include directives for wetland and other environmental management in relation to disasters		

Gap analysis/Notes		
This policy recognises multi- phases *multi-phases' before, during and after disasters (prevention, reduction, mitigation, preparedness, emergency operations, relief, recovery, rehabilitation and reconstruction and review)*		
Name of the Policy	**Responsible department or Ministry**	**Scope of the policy**
National Policy on Climate Change 2012	Ministry of Mahaveli Development and Environment	
Relevant clause/s in Ramsar		
Objectives of the Policy		
This Policy aims to adapt to and mitigate the impacts of climate change within a framework of sustainable development. One of its objectives is ensuring ecosystem stability		
Number and Relevant clauses to Wetland management specifically mentioning Ramsar convention		
No specific mentioning of Ramsar Convention is given in the policy but the policy broadly recognise the importance of mitigation and adaptations to changes		
Gap analysis/Notes		
The Policy articulates the broad national policy statements which will guide decisions taken at national and sub-national levels against the threat of climate change. It presents twenty five policy statements to cover a number of relevant areas of climate change in Sri Lanka including: vulnerability, adaptation, mitigation, sustainable consumption and production, knowledge management and general statements concerning institutional coordination, research and development, technology transfer, legal and regulatory framework, market and non-market based mechanisms and resource mobilization		

3.2 National legislations

In addition to policies, several national ordinances, acts and regulations are important for providing specific guidance for wetland ecosystem conservation, sustainable use, species protection and restoration. Table 4 outlines relevant provisions.

Table 4: Briefs scope of all major acts and ordinances related to wetland conservation and wise use

Laws	Scope	Significance and Relevance to wetland conservation and wise use
National Environmental Act No. 47 of 1980 and the amendment No. 56 of 1988 and National Environmental (Amendment) Act, No. 53 of 2000	The law brought together the institutions that were in charge of different aspects related to environment and established the institutional mechanism through the CEA and the environmental council to support the policy and decision making	Provisions to declare important wetland ecosystems as EPA and provide protection. Provisions for environmental assessment for developments, issuing of licences, pollutant control to aquatic systems
Gap Analysis/Notes *Establishment of environmental council and Central Environmental Authority has resulted in enforcing environmental impact assessments for all prescribed developments in wetlands. However, current provisions do not warrant assessing cumulative impacts of developments such as in a river or a cascade*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
The Forest Ordinance No. 16 of 1907 as amended by Act No 16 of 1907, No 11 of 1912, No 24 of 1918, No 23 of 1931, No 16 of 1935, No 30 of 1945, No 8 of 1947, No 34 of 1951, No 49 of 1954, No 13 of 1966, No 56 of 1979, No 13 of 1982, No 84 of 1988, No 23 of 1995, and Act No 65 of 2009	This act has the scope to declare state lands as reserved forests and to provide protection through management plans prepared by Conservator - General of Forests in order preserve biodiversity, soil and water and to preserve unique ecosystems Conservation forests, reserved forests and village forests can be declared which can also include important wetlands	Several montane forests which are the catchment of upper course of rivers of Sri Lanka have been protected under this act These include Knuckles and Sinharaja forests

Gap Analysis/Notes

Although no specific mentioning of Ramsar convention is found in this act, nonetheless it provides regulations to protect wetlands as mentioned above
Several mangrove ecosystems are conserved through this act
Provisions are also present for participatory management planning (Section 64 (g). Participatory management is also encouraged
Section 20 of the act prohibits activities such as blocking any waterways within any forest and making clearings. However laws such as Industrial Development Act and Urban Development Act would prevail over the provisions and declarations made under this law

Laws	Scope	Significance and Relevance to wetland conservation and wise use
The Fauna and Flora Protection Ordinance No. 2 of 1937 and its subsequent amendments including Act No 07 of 2009	This law focuses on the conservation and protection of fauna and flora and their habitats in Sri Lanka. The law also allows for the minister to declare any land to be national reserve or a sanctuary	Any state land can be declared as a specifically protected area as mentioned in the Act As the management authority of Ramsar Convention, any selected wetland is declared as a Ramsar site Provisions are present for species management, ecosystem management, participatory management, preparation of management plans and environmental impact assessment for specified developments

Gap Analysis/Notes

Per the amendment of s 14, Act No 22 of 2009, s 9 A restricts the development activities within one mile of a national reserve
The Act enables the use of rights acquired by people by virtue of laws customs, usages or traditional practices in or over any land situated within the limits of national parks, nature reserves, marine national parks, jungle corridors or in or over any state land in any sanctuary
Further, s. 30 also enables protection of mammals and reptiles not include in Schedule I (negative listing)

Thereby if any person who in any area ***outside a National Reserve or Sanctuary*** *kills, wounds, injures or take any mammal or reptile not included in Schedule I; or (takes or destroys the eggs or nest of any such reptile;*
or uses any boat or any time, snare, net, spear, trap, gun, rod, line or hook with any accessory or bait, or explosives of any description or other instrument for the purpose of killing, wounding, injuring or taking any such mammal or reptile; or has in his possession or under his control any such mammal or reptile killed, dead or taken or any article made out of any part of such mammal or reptile killed, dead or taken or the meat or flesh of any such mammal or reptile killed, dead or taken or the meat or flesh of any such mammal or reptile killed, dead or taken or the eggs of any such reptile; has in his

possession or under his control, the hide or skin of any such mammal or reptile killed, dead or taken, or the horns or antlers of such mammal; exposes for sale, any such mammal or reptile or any part of such mammal or reptile, or the eggs of any such reptile; or [S 30(1)(f) subs by s 27(4) of Act 22 of 2009.] (g) purchases the hide or skin of any such mammal or reptile for the purpose of tanning or preparing such hide or skin for use;

(h) transports any protected mammal or reptile not included in Schedule I or any part of such mammal or reptile including the nest or eggs of any such reptile. [S 30(1) (h) ins by s 27(5) of Act 22 of 2009.], would be guilty of an offence punishable with a fine

Similar nature of protection is provided for the birds in areas outside a National Reserve or Sanctuary, per s. 31 if any person who (a) kills, wounds, injures or take any bird; or [S 31(a) am by s 23 of Act 44 of 1964.] b) takes or destroys the eggs or nest of any bird; or (c) uses any boat, or any time, snare, net, spear, trap, gun, rod, line, or book with any accessory or bait or explosive of any description or other instrument for the purpose of killing, wounding, injuring or taking any bird; or (d) has in his possession or under his control , any bird killed, dead or taken skin of any bird killed, dead or taken, or the feather or any other part of any bird killed, dead or taken, or the eggs of any bird; or [S 31(1)(d) am by s 28(2) of Act 22 of 2009.] (e) exposes or offers for sale, of any bird or the eggs of any bird or any part of any bird or the eggs of any bird, [S 31(1)(e) am by s 28(3) of Act 22 of 2009.] (f) transports any bird, any part of a bird or eggs of any bird, [S 31(1)(f) ins by s 28(4) of Act 22 of 2009.]

Under the law plants specified in Schedule V is provided protection per s.42. there by it is an offence to remove, uproot or destroy or cause damage to any plant in any property, in any public place or to destroy a plant on his own property and to remove, uproot or destroy, or cause any damage or injury to any tree upon which any orchid or any other epiphytic plant is growing.

This can be punished with a fine or imprisonment or both. This provision can be used in relation to the trees that need special protection.

Irrespective of whether a plant is recognised in schedule V the Ordinance provides for regulations in relation to flora under s. 45 whereby regulations can be mode to prohibit or regulate the exportation, cultivation of a specified plant, provide for the procedure for inspection of a plant and generally for the protection and conservation of the wild vegetation, plant life and flora of Sri Lanka. S.45 (g).

Laws	Scope	Significance and Relevance to wetland conservation and wise use
National Heritage Wilderness Areas Act, No. 3 of 1988	Minister is empowered to declare any area of State land with unique eco-systems. Genetic resources or any outstanding natural features, to be a National Heritage Wilderness Area. This is to be done in consultation with the ministers of Environment, Wild Life Conservation, Fisheries, Agriculture, Cultural Affairs, and Indigenous Medicine	The provisions under the Act can be used to enable protection of wetlands

Gap Analysis *According to s 11, this Act would prevail over any other written law However the law does not make any provisions for the areas that are not declared under the Act*

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Felling of Trees Control Act No. 9 of 1951	Provides that the minister has the power to prohibit, regulate or control felling of trees described, in a particular area or throughout the country	Can be used for species specific protection Ramsar sites
Gap Analysis *S 2 provides that the minister has the power to provide for prohibition, regulation or control of felling of trees described by an order*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Soil Conservation Act, No. 25 of 1951; Amendment Act No 24 of 1996	Act was introduced to conserve soil resources, enhance the substance of productive capacity of the soil, to restore degraded land for the prevention and mitigation of soil erosion, conservation of soil resources and protection of land against damage by floods, drought, salinity and alkalinity	Erodible areas can be declared by the minister. By the amendment Act of 1996 the Soil Conservation Board was established to take measures to enhance sustenance of productive capacity of soil, restoration of productive capacity and protection of land and conservation of water and watersheds and to prevent soil erosion resulting from non-agricultural activities Under this Act too areas can be declared by the minister as conservation areas
Gap Analysis *As per. S. 9 of the Act of 1996 allowances for regulations to be made by the minister in relation to measures to be taken by owners of land to protect land vulnerable to degradation and the measures to conserve water and watersheds in so far as it is necessary for the conservation of the soil*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Coast Conservation Act No. 57 of 1981 and the amendment No.64 of 1988 Coast Conservation (Amendment) Act, No. 49 of 2011	Coast Conservation Amendment Act No 49 of 2011 increased the coastal zone to cover 100 m of riparian land on either side of the 2 km water source perpendicular to a river mouth in the coastal zone	Special provision to declare and manage SAM (Special Area of Management) is an important provision to manage marine ecosystems and the human activities in such declared areas Section 16 provides revisions for EIA (the development activities, which is interpreted in the Act as any activity likely to alter the physical nature of Coastal Zone and includes any construction of buildings and works deposit of waste or other material from outfalls, vessels or by other means, removal of sand, sea shells, natural vegetation, sea grass and other substances, dredging and filling, land reclaiming and mining or drilling for minerals)
Gap Analysis/Notes *The Director General is tasked with the preparation of the Coastal Plan which is to include guideline on the management of coastal resources and a comprehensive programme for conservation of coastal resources for sustainable development and to provide guidelines to be used in determining the suitability of particular development activities in the Coastal Zone*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Land Acquisition Act. 9 of 1950, 39 of 1954, 22 of 1955, 28 of 1964, 20 of 1969, 48 of 1971, 8 of 1979, 12 of 1983, 13 of 1986	The Act provides for the takeover of any land for a public purpose that has been widely interpreted and for the acquisition of lands and servitudes connected to the lands for public purposes	The Act provides for the acquisition of land for public purposes, which can include aquitition of wetlands. However there are not specific protection that can be claimed through the Act
Gap Analysis/Notes *This act can be used to acquire important wetlands in private lands such as mangroves after compensation and could be set aside for conservation*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Land Development Ordinance No 19 of 1935, 3 of 1946, Amendment Act No 49 of 1955, 16 of 1969, 21 of 1971, 27 of 1981, 10 of 1983, 22 of 1993, 9 of 1995, 20 of 1996	This provides for the protection of state land. The main purpose of the Ordinance was to provide or systematic development and alienation of state land	
Gap Analysis/Notes *Under this Ordinance it is provided that state land can be mapped out by the Government Agent under the general or special direction of the Land Commissioner among others for the purpose of reservations for climatic and other ecological purposes and environmental protection; preservation of objects of archaeological or historical interest; and protection, conservation and development needs of the areas*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
State Lands Ordinance No 8 of 1947, 9 of 1947 and Amendment Act No 13 of 1949 (previously the Crown Land Ordinance)	The Act provides for grant and for disposition of crown lands and for the management and control of the lands and the foreshore, for the regulation of the use of water of lakes and public lakes and streams	The law allows for state /crown land that is declared as protected areas to be given on lease and grant for development activities under specific conditions. This law can negate the protection given to state lands
Gap Analysis *Part VI provides for reservations. According to s49 minister can publish a gazzette notification, and declare that any state land is constituted a State reservation for any of the public purposes stated : protection of the source, course of bed of any public stream, protection of springs, tanks, reservations, lakes, ponds, lagoons, creeks, ponds, canals, aqueducts, elas, channels, paddy fields and land suitable for paddy cultivation; protection of the foreshore; Part VIII deals with the regulations related to foreshore* *s. 111 states that nothing in this Ordinance should affect the provisions of Forest Ordinance, Irrigation Ordinance and the Land Development Ordinance*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
The Fisheries and Aquatic Resources Act No. 2 of 1996, No 4 of 2000, No 4 of 2004, No 22 of 2006, No 35 of 2013, No 2 of 2015, and No 3 of 2016	The Act provides measures for the management, regulation, conservation and development of Fisheries and Aquatic resources in Sri Lanka	Important aspect is the recognition of fisheries reserves which can be used for the protection of fisheries and aquatic resources. The law provides for the director general to designate any area of water and adjacent land as Fisheries Management Areas
Gap Analysis/Notes *The Act provides for restriction on catching and possession of prohibited fish, establishing management committees and fishery management areas*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Marine Pollution Prevention Act No. 59 of 1981	The objective of the Act was to ensure that the Sri Lankan waters are prevented, reduced and controlled from pollution and to give effect to international conventions for the prevention of pollution of the sea	For this purpose the Act established the Marine Pollution Prevention Authority. The Act also imposed criminal and civil liability for prohibited activities
Gap Analysis/Notes *The Act has provisions for managing* *(a) marine, coastal, port activities including fisheries activities* *(b) tourism and the preservation and development of tourist attractions in Sri Lanka waters or on the fore-shore including beaches and coral reefs* *(c) the health of the coastal population and their well- being* *(d) the protection and conservation of living marine resources and of wild life*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
National Aquatic Resources Research and Development Agency Act No. 54 of 1981 amended by Act No 32 of 1996	Act established the National Aquatic Resources Research and Development Agency charged with the responsibility of carrying out and research, development management and conservation activities on the subject of aquatic resources, hydrographic surveying and nautical charting, hydrographic surveying and nautical charting	The Aquatic Resources Management and Development Plan and Research Plan can be used as a tool to conserve species and habitats of fish
Gap Analysis/Notes *Among the objectives of NARA is to promote and conduct research activities directed towards the identification, assessment, management, conservation and development of aquatic resources, and in particular to provide advisory and consultancy services on scientific, technological and legal matters relating to the exploitation, management, conservation and development of aquatic resources; etc.*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Plant Protection Act No. 35 of 1999	The provisions are used to prohibit and quarantine harmful plants and their pests and varieties that would threaten the biodiversity	
Gap Analysis/Notes *Introduction of invasive to wetlands is controlled and monitored at the ports of entry by this act*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Water Hyacinth Ordinance No 09 of 1909	The objective was to prevent introduction and dissemination of the water hyacinth plant (*Eichhornia crassipes*)	This law can also be used to protect wetlands against the spreading of water hyacinth
Gap Analysis/Notes		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Felling of Trees (Control) Act No 9 of 1951 as amended by No 30 of 1953	The Act provides for the prohibition, regulation or control of the felling of trees	This Act can be used for the protection of selected tree varieties in wetland areas
Gap Analysis/Notes		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Sri Lanka Land Reclamation and Development Corporation Act.27 of 1978, as amended by Act No 15 of 1968, No 52 of 1982, No 35 of 2006, and No 49 of 2011	Sri Lanka Land Reclamation and Development Corporation (SLLRDC) was established with the intention of undertaking, preparing, and executing development schemes in the reclamation and development areas declared under the same Act. SLLRDC is empowered to protect the low lying and marshy land under the Act. SLLRDC is also empowered to maintain and improve rivers and canals	The two main objectives of the Act is to reclaim and develop marshy and low-lying areas under s2 of the Act and to retain the custody, management and control of such vested land
Gap Analysis/Notes *The Corporation is empowered to take legal action against all unauthorised fillings, violation of conditions given on drainage design, unauthorised occupants in the canal reservation and people who are polluting the canals, within the areas declared under the SLLR&DC Act and the amendment Act No. 35 of 2006*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Town and Country Planning Ordinance No.13 of 1946 as amended by 13 of 1946, No 9 of 1950, No 29 of 1953, No 10 of 1955, No 22 of 1955, No 57 of 1981, and No 49 of 2000	The law authorises the formulation and implementation of a National Physical Planning policy; the making and implementation of a National Physical Plan with the object of promoting and regulating integrated planning of economic, social, physical and environmental aspects of land in Sri Lanka; to provide for the protection of natural amenities, the conservation of natural environment, buildings of architectural and historic interest and places of natural beauty; to facilitate the acquisition of land for the purpose of giving effect to such plan and to provide for matters incidental to or connected with the matters aforesaid	
Gap Analysis/Notes *The Act also provides for an inter-Ministerial Co-coordinating Committee on National Ministerial Physical Planning, with the power to draft policy on national physical planning*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Urban Development Authority Law Act No 41 of 1978, as amended by No 70 of 1979, No 4 of 1982, No 44 of 1984, No 49 of 1987, No 41 of 1988	The law provides for the integrated planning and implementation of economic, social and physical development of areas declared by the minister to be Urban Development Areas	
Gap Analysis/Notes *The powers and functions of the authority include carrying out integrated planning and physical development within and among such areas; implementing related programmes of development work, activities and services in such areas that are consistent with integrated planning in such areas; to formulate and implement an urban land use policy in such areas; to develop environmental standards and prepare schemes for environmental improvements in such area among other functions*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Urban Development Projects (Special Provisions) Act No 2 of 1980	This law provides for the declaration of lands urgently required for the carrying out of urban development projects	
Gap Analysis/Notes		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Mahaweli Authority of Sri Lanka Act No. 23 of 1979 as amended by Act No 59 of 1993	Establishment of the Mahaweli Authority of Sri Lanka to implement the Mahaweli river Development Scheme. Minister has the power under s3 to declare with the approval of the President any area which in his opinion can be developed with the water resources of the Mahaweli river or of any major river to be a special area.	The authority is empowered to acquisition lands in any special area for the purposes related, per s23 of the Act.
Gap Analysis/Notes *The authority is give power under s 13 to among other things construct, maintain and operate such dams, channels, drainage systems, and other irrigation works and structures for the purpose of achieving its objects; to take such measures as may be necessary for water-shed management and control of soil erosion; to construct such hydro-power installations as may be necessary for the purpose of the generation and supply of electrical energy; to manage farms and to engage in farming, agricultural and horticultural activities of every kind.*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Irrigation Ordinance 32 of 1946, amended by Act No 37 of 1973, No 1 of 1951, No 48 of 1968, No 23 of 1983, No 34 of 1990, and No 13 of 1994	Provides for the District Agricultural Committees- important in implementing the laws and polices related to bio diversity. Sets out the duties of the agricultural committees and sets out the duties of farmer's organisations and famer's organisations	According to s4 it is the duty of the District Agricultural Committee to advise the government agent on all matters affecting and related to irrigation and paddy cultivation and all matters related to agriculture. Amendment of 1994 has introduced Project Management

	agents	Committees in respect of specified major irrigation work
Gap Analysis/Notes *Per s. 63 of the Act regulations can be made to prevent obstruction, diversion, or cutting of any ela, channel, or other watercourse comprised in the irrigation work, or of any other damage; prevent any encroachment upon any such ela, channel, or watercourse; prevent interference with any sluice, dam, or regulating machinery or device in or upon any such ela, channel, or watercourse; prevent obstruction of or interference with any road or path comprised in the irrigation work; prevent obtaining of water from any such ela, channel, or other watercourse in any manner not authorised and any other matters necessary for the protection of the irrigation work, or for the conservation of water*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Water Resources Board Act No 29 of 1964, as amended by Act No 42 of 1999	Provides for the establishment of a Water Resources Board The Water Resources Board Act was amended and passed by the Parliament in 1999 to enable the Water Resources Board to pay more emphasis on matters pertaining to Groundwater Resources in Sri Lanka	Can be used to protect ground water resources
Gap Analysis/Notes *Among the duties recognised of the board under s 12 as amended is to advice the minister on control, regulation and development (including the conservation and utilization), of the water resources of the country; prevention of the pollution of rivers, streams and other water resources; formulation of national policies relating to the control and use of the water resources of the country; preparation of comprehensive and integrated plans for the conservation, utilization, control and development of the groundwater resources of the country.* *The Act also provides for the inter-departmental advisory committee consisting of irrigation department, CEB, department of health, department of local government, forest department etc.*		

Laws	Scope	Significance and Relevance to wetland conservation and wise use
River Valleys Development Board Act No 4 of 1975, as amended by No 51 of 1949, No 40 of 1952, No 46 of 1961, No 50 of 1961, No 6 of 1965, No 18 of 1965	establishment and regulation of a board for the development of the Gal Oya valley and other areas which may be brought under the control of the board	Limited application but can be expanded to include ESAs

Gap Analysis

The area of the authority is over the areas declared by minister to be Gal Oya Valleym and other areas in any part of the island declared by a similar order to be within the control of the Board. the functions of the board include:
(a) to develop each undeveloped area

(b) to promote and operate schemes of
(i) irrigation
(ii) water supply
(iii) drainage
(iv) generation, transmission and supply of electrical energy
(v) flood control

(c) to promote and control irrigation and fisheries

(d) to promote afforestation

(e) to control soil erosion

(f) to promote public health

(g) to prevent and control plant and animal diseases

(h) generally to promote agricultural and industrial development and economic and cultural progress in each area of authority

Laws	Scope	Significance and Relevance to wetland conservation and wise use
Antiquities Ordinance 9 of 1940, as amended by Act No 24 of 1998, and No 12 of 2005	provides for the preservation of antiquities in Sri Lanka and of sites and buildings of the historical or archaeological importance	Protection of ancient monuments and historical sites
Gap Analysis/Notes *The Act states that no antiquity would only by reason of being discovered in or upon any land in the ownership of any person be deemed to be property of such person and that every ancient monument which on the date the law comes into operations not owned by any person or the control is not vested on any person as trustee, incumbent or manager shall be deemed to be the absolute property of the state and all undiscovered antiquities is deemed to be the absolute property of the State* *Even though such sites are protected as state land, there are enactments such as industrial development law that can override the provisions of this law – whereby state land can be transferred to the board under s50*		

3.3 National Frameworks and Action Plans

NBSAP (National Biodiversity Strategic Action Plan (2016-2022)) was prepared as a part of commitment Convention on Biological Diversity. Sri Lanka became signatory to the convention on 1992 and ratified the convention in 1994. NBSAP is currently the most important action plan prepared for the conservation of biodiversity. NBSAP has highlighted Ramsar convention as an important agreement for the conservation of biodiversity and aquatic ecosystems (page 111 of NBSAP).

A present a considerable proportion of the land is under some form of protection (Table 2). And as mentioned above, most of the protected areas are around wetlands. The task left at present is to ensure formulated actions as per the NBSAP are implemented. Ensuring the implementation and measuring the progress with relevant indicators are paramount for the conservation of wetlands of Sri Lanka and to ensure commitments to Ramsar Convention and CBD. Under national target 3 the need to increase the marine protected area coverage is mentioned.

NBSAP has stated 12 national targets to be achieved by 2022 under five strategic objectives. All targets are key targets that need to be achieved for aquatic ecosystems of the country too.

1. By 2022, a system established and on-going for inventorying species (taxonomy and conservation status), ecosystems (structure, function, composition and distribution), their services and values, to inform conservation planning and decision-making.

2. By 2022, habitat loss, degradation and fragmentation are significantly reduced.

3. By 2022, the PA network is made representative of all critical ecosystems and species and managed effectively.

4. By 2022, the loss of species is significantly reduced.

5. By 2022, the valuation of biodiversity is mainstreamed.

6. By 2022, mechanisms are established to ensure sustainable use of biodiversity.

7. By 2022, traditional sustainable uses of biodiversity is promoted and established

8. By 2022, sustainable agriculture practices are promoted and established.

9. By 2022, genetic diversity of crop wild relatives, cultivated species and livestock are conserved.

10. By 2022, a mechanism for equitable sharing of benefits arising from biodiversity is established and implemented.

11. By 2022, the capacity of ecosystems to deliver goods and services and provide protection from hazards is enhanced.

12. By 2022, biosafety is ensured.

Annex 3 of NBSAP provides the communication and capacity building strategy for the action plan. Under target 2 action number 15 directs "Prepare and implement wetland conservation management plans for wetlands that are identified as critical systems lying outside the PA network". Under target 3 (By 2022, the PA network is made representative of all critical ecosystems and species and managed effectively) action 3 directs to "carry out an assessment of the coastal and marine sector and identify and designate the areas that need to be protected and

further up scaling existing and new marine PAs to internationally recognize marine PAs such as Ecologically or Biologically Significant Marine Areas (EBSAs)". Under target 5 several actions have been listed for valuation and awareness that are important for wetland ecosystems too. They include conducting programmes to capture and create awareness on value of Biodiversity and Ecosystem Services (BES) and Integrating biodiversity and ecosystem service values in to educational curricula for meaningful engagement. Target 10 directs "enactment of necessary legislation or amend existing legislation for the smooth implementation of the Nagoya protocol". Under target 11, actions are directed towards "implement mangrove and river bank restoration and forest conservation projects for watersheds". Though no action mentions Ramsar Convention specifically, the goals and actions mentioned above are compatible to goals of Ramsar Convention.

Figure 3: Aichi Targets

Table 5 indicates the mainstreaming of Aichi targets into national strategic objectives and targets of NBSAP. Except for Aichi targets 17 and 20 all other targets have been mainstreamed into national targets and actions, responsibilities as well as indicators have been set.

Table 5: Mapping of Aichi targets into national strategic objectives and targets as per NBSAP

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Aichi Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably						
Conduct programmes to capture and create awareness on value of Biodiversity and Ecosystem Services (BES)	Types and number of BES values captured	BDS, IEOs, IPS, Media	Universities, DWC, FD, NGOs, NIE	2	5	1
	Number of programmes conducted and types of stakeholders covered					
	Level of awareness creation					
	Number of information materials produced					
Undertake TEEB type valuation studies to determine the value of key ecosystems and their services in Sri Lanka	Number of valuation studies conducted	PGIA, Universities	BDS, IEOs, IPS	2	5	2
	Number of Ecosystem services covered					
Integrate biodiversity and ecosystem service values into educational curricula for meaningful engagement	Teacher guidelines for schools and other educational institutes updated	NIE, BDS, UGC	Universities	2	5	3
	Subjects and grades integrated					
	Types and number of engagements					
Capture and share biodiversity and ecosystem service values embedded in religion and culture	Number and types of values captured	BDS, Religious institutions	Ministry of Buddha, Sasana and Religious Affairs and other religious ministries	2	5	4
	Number of programmes or stakeholders engaged					

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Link existing databases and develop and maintain a searchable database/ web portal for ecosystems, ecosystem services and their values	Searchable database established	BDS	Universities, IPS, IEOs, DWC, FD	2	5	5
Aichi Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems						
Integrate biodiversity and ecosystems service values to national accounts	Operational framework of green accounting developed	DCS, SDD, NPD	IPS, UoSJP, PGIA, IEOs, BDS	2	5	6
	Number of ES incorporated into green accounting					
	Sectorial contribution to GDP captured					
Develop guidelines to incorporate Biodiversity and Ecosystem Service values into regional/ national/ local level planning and plan implementation	Number of guidelines developed	DoNP, NPPD, LUPPD, BDS, UNDP, IEOs	DWC, FD, BDSL	2	5	7
	Number of guidelines incorporated					
Aichi Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions						
Develop innovative financing mechanisms to generate sustainable self-financing for biodiversity and ecosystem service conservation	Types and number of mechanisms developed	BDS, FD, DWC, CC &CRMD	Private sector, NGOs, CBOs, IPLCs Universities	2	6	1

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Introduce appropriate economic instruments for biodiversity and ecosystem service conservation	Types and number of economic instruments introduced Number of sectors covered	BDS, FD, DWC, MoF, CC & CRMD	Universities, IPS,	2	6	2
Identify and remove perverse incentives that damage biodiversity and ecosystem services	A review conducted to identify perverse incentives Actions taken to remove perverse incentives	BDS, DWC, FD, MoF, CC& CRMD	IPS, Universities	2	6	3
Aichi Target 4 : By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits						
Promote best practices to minimize the destructive harvesting methods used for biological resources from terrestrial aquatic and marine systems	Number of guidelines on best practices produced Number of programs conducted to promote best practices and types and number of stakeholders covered	DFAR, DWC, FD, MoH, CC & CRMD	CG, SLPD, SLC, BDS	2	6	4
Improve conversion efficiency of raw material to final products	Number of programmes conducted to enhance Number of research outputs	IPHT, DFAR, TC, FD, DoAyur	IPHT of NARA,RRDI, NERD, Universities, NGOs, BMARI	3	8	1

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Aichi Target 5 : By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced						
Conduct Strategic Environment Assessments for all nine provinces and identify the best possible pathway to achieve national development goals with the least amount of habitat loss and fragmentation	Nine SEAs completed SEAs are used in provincial and National Level physical planning	CEA, NPPD, UDA	CEB, ID, MASL, RDA, GSMB, DoA, SLTDA, NG&JA, CC & CRMD, NWS&DB, NAQDA, NARA, SLLR&DC, DFAR	1	2	1
Develop and implement a set of guidelines to reduce the impact of tourism on natural habitats Conduct a national level awareness	Guidelines developed and implemented	SLTDA, FD, DWC, CEA, CC&CRMD, Provincial authorities, Hotels	Tour operators, Tour guides, MEPA, NGOs, CBOs, Pradeshiya sabha	1	2	6
Strengthen the implementation of special management areas, conservation areas and affected areas as defined by the CC&CRM Act	Management plans prepared and implemented for SMA,CA and AA	CC & CRMD, CEA, UDA, SLTDA	DFAR, MEPA, DWC, FD, Universities, CBOs, NGOs, NARA, Research institutions, Local authorities, Fish exporters	1	2	12

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Prepare and implement wetland conservation management plans for wetlands that are identified as critical systems lying outside the PA network	Wetland conservation and management plans prepared and implemented	CEA, BDS, SLLR &DC, UDA CC&CRMD, MEPA, FD, DWC	FD, DWC, NARA, CC & CRMD, MEPA, CBOs, NGOs, Local authorities, RDA	1	2	15
Preparation of the Red List of Ecosystems for Sri Lanka and updated every five years	Ecosystem Red List Prepared and updated regularly	BDS, NSCAG, BEC, IUCN	DWC, FD, DNBG, DNZG, NARA, Universities, NGOs, Individual experts, DNM	1	2	16
Aichi Target 6 : By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits						
Assess the present levels of harvesting of freshwater and marine finfish/ shell fish and develop and implement recovery plans for finfish/ shell fish species stocks that are depleted due to overexploitation	**Prioritization of species that are overexploited**	**DFAR, NARA, NAQDA, MoFARD**	**CC&CRMD, Universities, BDS**	**2**	**6**	**5**
	Develop and implement recovery plans for the prioritized species					

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Identify gaps in Fishery Management Areas (FMA) and implement programs to address the identified gaps.	Gaps identified	DFAR, MoFARD	BDS, Universities, NARA, NGOs	2	7	6
	Number of new FMAs established					
Aichi Target 7 : By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity						
Promote and mainstream underutilized, lesser known or neglected food crops, livestock and food fishes which provide nutrition	At least three underutilised varieties(species) of seed, fruits& plants promoted at national level	DoA, BDS	CBOs, NGOs, IPLCs, Media, PGRC, DFAR	3	8	2
	Food Mandala developed at national/provincial level					
	Food composition tables of underutilised plants and animals produced					
Identify and conserve useful BES such as natural enemies, pollinators and soil microorganisms for sustainable agricultural productivity	Number of programmes conducted to raise awareness on sustainable agriculture	BDS, DoA, FD	NGOs, CBOs, IPLCs, Universities	3	8	5
	Growth of the percentage of land under sustainable agriculture					
	Identify and remove perverse in incentives that prevents the use of sustainable practices					
	Number of research findings					

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Aichi Target 8 : By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity						
Develop and implement a national programme that reduces reliance on agrochemical usage	National programme developed	DoA, MASL, ID, DAD, SLPD, Municipalities, Farmer organizations, Agrochemical Companies	IPLCs, CBOs, NGOs, MoH, All research institutes related to agriculture and farming	1	2	4
	Number of programmes conducted					
Develop and implement a national strategy that reduces the release of pollutants and solid waste into wetlands (as defined by Ramsar) Develop and implement a set of guidelines to reduce the impact of	National Strategy developed and implemented	CEA, BOI, Local authorities, SLLR&DC, NWPEA	NWS&DB, MEPA, DWC, CC&CRMD, ID, MASL	1	2	5
	Polluting sources reduced by 25%					
Aichi Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment						
Conduct a national level awareness campaign on invasive alien species and their impacts on natural habitats	Number of programmes conducted	BDS, DWC, FD, DAD, DoA, Shipping companies, DNBG,	MEPA , NARA, NAQDA, NPQS, DAPH, SLC, CC& CRMD Universities, Research institutions	1	2	7

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
		DNZG, Importers, Media				
Strengthen regulatory mechanisms to prevent entry of invasive alien species	Risk Assessment Protocols established and utilised	BDS, NPQS, DAPH, DFAR, SLC	MoFARD, DWC, NAQDA	1	2	8
Establish early warning system for invasive alien species	Early warning system established and implemented	BDS, DWC, FD, MEPA, DNBG,NARA, DNZG, Local government	Individual experts, fish collectors, fisherman, CG, Media	1	2	9
Establish a mechanism for updating National IAS lists every four years	Mechanism established and implemented	BDS	DWC, FD, DNBG, DNZG, NARA, MEPA, NAQDA, Universities, NGOs, CBOs, DoA, DFAR	1	2	10
Develop and implement species-specific management plans for identified invasive alien species	Management plans for priority IAS developed Management plans implemented	BDS, DOA, NAQDA, CEA, DFAR, MASL, MEPA, SLPA	DWC, FD, MEPA, CC& CRMD, DNBG, NGOs, CBOs, Farmer and fisher organisations	1	2	11

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Aichi Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning						
Carry out an assessment of species that are undergoing range expansion due to climate change and examine their impacts on ecosystems and develop and implement mitigation measures	Impact of range expansion of species due to climate change and their effects assessed Mitigation implemented	BDS, CCS	Universities, DNBG, FD, DWC, NARA, MEPA, CC&CRMD	1	2	13
Carry out a national assessment of the impact of climate change on identified vulnerable species and ecosystems and develop potential mitigation and adaptation strategies and ensure that this assessment feeds into the climate change national adaptation planning for Sri Lanka	National Assessment completed Mitigation and adaptation strategies developed and mainstreamed to national adaptation planning	CCS, BDS, DoM, FD, DWC, NARA, CC & CRMD DFAR, DMC	CBOs, NGOs, Individual experts, Universities	1	2	14

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Aichi Target 11: By 2020, at least 17% of terrestrial and inland water, and 10 percent of coastal and marine areas, especially areas of particular importance for biodiveristy and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into wider landscape and seascapes						
Update the protected area gap analysis based on the recommendations of the provincial SEAs and develop and implement a strategy to protect the critical habitats outside the PA network with reference also to ecosystem-based climate change adaptation	Gap analysis completed Number of PAs established based on the gap analysis	DWC, FD, CEA, NARA, CC&CRMD	BDS, MASL, ID, Universities, Individual experts	1	3	1
Conduct a status assessment of the PA network and identify sites that need to be upgraded or downgraded based on their current status	PA network assessed and designations updated	DWC, FD, CEA, NARA, CC&CRMD	BDS, Universities, Individual experts	1	3	2
Carry out an assessment of the coastal and marine sector and identify and designate areas that need to be protected and further up scaling of existing and new marine PAs to internationally recognized marine PAs such as Ecologically or Biologically Significant Marine Areas (EBSAs)	At least 10% of coastland marine areas protected At least 4 EBSAs are declared	DWC, FD, CEA, NARA, CC&CRMD	BDS, Universities, Individual experts	1	3	3
Establish a marine division in the Department of Wildlife Conservation and implement effective management of	Marine unit established and functioning in DWC	DWC, CG	BDS, NARA, CC&CRMD	1	3	4

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
MPAs and marine species						
Prepare adaptive management plans for all areas declared as protected under action 2 and 3 and ensure that these plans are implemented effectively	Management plans prepared and implemented for all designated areas	FD, DWC, CEA, CC&CRMD	BDS, Universities, Individual experts, Private sector	1	3	5
Protect sites that harbour key evolutionary links such as fossils or sub-fossils	Number of paleo-biodiversity sites designated	BDS, DoArch, CCF	DWC, FD, CC&CRMD, CEA	1	3	6
Promote community-based conservation using sui-generis tools for community owned land	Biocultural community protocol developed for Kitul	BDS	IEOs, CBOs, NGOs, IPLCs	1	3	7
Aichi Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained						
Update the national red list every five years and ensure that the data is shared in inappropriate format with the IUCN Global Red List	National Red List revised at least twice during the period	BDS, NSCAG, BEC, IUCN	DWC, FD, DNBG, DNZG, NARA, Universities, NGOs, Individual experts, DNM	1	4	1
	Sri Lanka data incorporated into the IUCN Global Red List					

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Develop and implement recovery plans for prioritized threatened species	Number of recovery plans developed and implemented	BDS, NSCAG, BEC, DNBG, DNZG	DWC, FD, NARA, CEA, Universities, NGOs, Private Sector	1	4	4
	Number of species that are down listed based on recovery					
Establish an ex-situ breeding and research facility for breeding/propagation of threatened species under the Department of National Zoological Gardens and National Botanic Gardens	Ex-situ breeding facility established	DNZG, DNBG, NARA, NAQDA	BDS, Universities, Private Sector, DWC, FD, DoAyur, Aquaria, NGOs, Individual experts	1	4	5
	Number of threatened species successfully bred or propagated					
Regularize turtle hatcheries with appropriate guidelines for scientific management and a monitoring system established	Guidelines developed	DWC, CC&CRMD, NARA	BDS, NAQDA, Universities, Individual experts, NGOs, Private sector	1	4	6
	Number of permits issued and renewed					
	Monitoring reports					

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
	Number of turtle hatcheries regulated					
Establish animal care shelters under the Department of Wildlife Conservation for rehabilitation of confiscated, injured and displaced animals in each wildlife region	A shelter per wildlife region established	DWC	BDS, NGOs, CC& CRMD, DFAR, SLC, CG, FD, NARA, DNZG	1	4	7
	Protocols and standards for animal care developed are developed and implemented					
	Training for all relevant officials on animal care is provided					
Develop and implement species level management plans for mitigation of conflicts caused by threatened species	Species creating conflict identified	DWC, FD	BDS, Universities, Individual experts, NGOs	1	4	8
	Management plans developed for identified species					
	Implementation initiated					
Establish ex-situ conservation facilities such as botanic gardens, zoos, aquaria, wetland parks, arboreta, medicinal	Number of ex-sit facilities established	DNBG, DNZG, SLLR&DC,	BDS, FD, DWC, NARA, CEA, NIFS, Private Sector,	1	4	9

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
gardens, urban parks, natural history museums, plant herbaria etc., or upgrade and improve existing facilities in each bioclimatic zones for recreation, conservation, education and research	Number of existing ex situ facilities improved and upgraded	DNM, PGRC, UDA, MASL, DoAyur	NGOs, Municipal councils, Hospitals, Universities			
Identify gaps in enforcement of tracking, monitoring and prosecuting illegal trade of scheduled species and update current legislation and regulations to address identified gaps as well as alignment with international conventions such as CITES	Database on trade and trafficking in flora and fauna established	DWC, BDS, SLC, FD, CG, CCD, DFAR	CC&CRMD, NARA, IEO, NGOs, Individual experts, DoA	1	4	10
	Gap analysis on effective regulation of illegal trade of scheduled species conducted					
	Legislation to regulate illegal trade of scheduled species updated					

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Aichi Target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio- economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity						
Establish and strengthen genetic resource centres such as field gene banks, seed banks etc., for both short and long-term conservation of genetic diversity of crops, poultry and livestock	Number of new genetic resource centres established	PGRC, BDS, DAPH	CRI, RRDI, DoEA, DoAyur, DoA, NGOs, CBOs	3	9	1
	Number of functioning genetic resource centres improved					
	Number of community based seed banks established					
Promote conservation of neglected, lesser known and under-used food crops, livestock and their wild relatives such as vegetables, seeds, fruits, poultry, livestock and food fish	Number of lesser known, underutilized crops and their wild relatives conserved	PGRC, BDS, B4FN, BACC	DoA, NGOs, FD, DWC	3	9	2
Carry out molecular genetics research to identify and use beneficial genes of wild relatives and traditional varieties with the aim of improving cultivated crop varieties and animal varieties	Number of new genes identified, characterized and utilized	DoA, RRDI, Universities, Research institutes, PGRC	BDS	3	9	3
Implement on-farm conservation for traditional crop varieties and land races and encourage promotion of farmer-based crop varieties and livestock	Number of programmes conducted	DoA, BDS	NGOs, CBOs, IPLCs	3	9	4
	Number of crop varieties conserved					

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
	Number of farmer based crop varieties identified and promoted					
Create new protected areas or special management zones within existing protected areas for in-situ conservation of crop wild relatives	Number of crop wild relatives protected through in-situ conservation initiatives	DWC, FD,CEA BDS,PGRC	Universities, DoA, NGOs, CBOs, IPLCs	3	9	5
Aichi Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable						
Implement mangrove and river bank restoration and forest conservation projects for watersheds	Extent of river banks, mangroves and catchment forests restored	FD, MASL, CC& CRMD, BDS, DWC	CBOs, NGOs, IEOs, SLTDA, Private Sector	5	11	3
Identify and promote species with enhanced resilience to extreme conditions in agriculture and reforestation	Number of species identified and promoted	DoA, FD	Universities, CBOs, NGOs, CRI, TRI, RRI, RRDI	5	11	4
	Number of agencies applying the concept					
Mainstream EBA and Eco-DRR in all development planning and the education system	Number of provincial councils adopting EbA and Eco-DRR	DMC, CCS, CG	MEPA, NARA, CC&CRMD	5	11	5
	Number of universities and technical institutes that have included EbA and EcoDRR in their curriculums					

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
	Number of public awareness programs conducted on this topic					
Aichi Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification						
Develop a national ecosystem (terrestrial, coastal and marine) conservation plan to identify the best possible strategies for afforestation, enhancement, restoration and establishing connectivity, with reference also to ecosystem-based climate change adaptation	National committee of experts established to provide technical support	FD, DWC, BDS, NSCAG, BEC, SLLR&DC, NARA, MEPA, CC&CRMD, CEA	DNBG, DNZG, NGOs, IPLCS, MASL, Universities, Private Sector, CG, Provincial Councils	1	2	2
	National ecosystem conservation plan established					

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Implement the national ecosystem conservation plan by integrating it with provincial and local development plans as well as ensuring private sector participation	Conservation plan mainstreamed into Provincial level development plans	DWC, FD, BDS, Provincial councils, UDA, Local chambers of commerce, Private Sector, BSDL	CEA, NWPEA, NARA, CBOs, NGOs, IPLCs, DNBG, DNZG, MEPA, IDB, CC &CRMD, SLTDA, MASL, SLLR & DC	1	2	3
Initiate research and monitoring programmes on the impacts of climate change, infrastructure development, and natural hazards on biodiversity	Number of studies initiated	CCS, BDS, NSF, DoM, NBRO	Universities, IEOs, NGOs, FD, DWC, CCD, NWS & DB, CEA, ID, DMC	5	11	1
	Number of permanent plots established for monitoring impacts of climate change					

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Development or enrichment of home garden carbon stocks and both urban and rural green spaces to improve ecosystem services provided by them	Number of programs conducted	DoDD, BDS, CCS, DoA, UDA, MoM&WD	IEOs, NGOs, CBOs, FD	5	11	2
	Number of home gardens where the concept is applied					
	Number of building approval programs					
Aichi Target 16: By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing Benefits Arising from their Utilization is in force and operational consistent with national legislation						
Enact necessary legislation or amend existing legislation for the smooth implementation of the Nagoya protocol	Legislation amended	BDS, MoMD&E, DWC, FD	IEOs, NGOs IPLC	4	10	1
Develop regulations, procedures, guidelines and benefit sharing mechanisms for biological resources	Number of regulations, procedures, guidelines and benefit sharing mechanisms for biological resources developed	BDS, MoMD&E	IEOs, NGOs , IPLCs	4	10	2
Develop and implement bio-prospecting programmes and establish relevant mechanisms	Mechanism for bio prospecting established	BDS, MoMD&E	MoF, IPLCs PSC	4	10	3

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Prepare guidelines, handbook for all stakeholder groups for use of genetic resources that includes economic, social, cultural, legal and ethical considerations	Guidelines and handbook prepared	BDS, MoMD&E	IEOs, NGOs	4	10	4
Establish a mechanism to ensure benefit sharing at the grass roots level and piloting the bio-cultural protocols via collective action for stewardship development	Mechanisms established to ensure benefit sharing at grass root level	BDS, MoMD&E	CBOs, IPLCs	4	10	5
	At least two bicultural protocols are prepared collectively with IPLCs					
Aichi Target 17: By 2015, each Part has developed, adopted as a policy instrument, and has commenced implementing effective, participatory and updated national biodiversity strategy and action plan						
Aichi Target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels						
Promote and mobilize cultural practices and traditional wisdom related to biodiversity	Number of cultural practices identified	NSF, BDS, IPLCs	Universities, BBOs, IPLCs, DoA, NARA	2	7	1
	Number of identified practices mobilized					
Promote bio-prospecting of both animal and plant genetic resources though the	Develop policy and legal mechanisms for bio prospecting	BDS	Universities, PGRC, IEOs, NGOs, IPLCs	2	7	3

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
application of traditional knowledge	Develop a pilot project for sustainable bio-prospecting					
Develop policy tools for repatriation of traditional knowledge and artefacts which are related to biodiversity and mainstreaming suasive behaviour related to biodiversity conservation	Policies developed and implemented	BDS		2	7	4
Introduce an outgrowing system for medicinal plants with the involvement of private sector	Identify species that are suitable for outgrowing	MoH, DoAyur	Private sector, IEOs, CBOs, NGOs, IPLCs	2	7	5
	Number of pilot projects conducted					
Promote useful elements of traditional knowledge/practices of unique agro ecosystems(such as Kandyan home gardens, cascade tank systems, chena, owita and Mavee lands) to address current issues	Number of lessons learnt from traditional or unique agro ecosystem practices promoted	BDS, DoA	Universities, IEOs, NGOs, CBOs, IPLCs	3	8	4
Aichi Target 19 : By 2020, knowledge, the science base and technologies relating to biodiversity, its values functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied						
Establish a national list of species and ecosystem types with annual updating	Biodiversity Expert Group established to provide technical backstopping	Biodiversity Expert Group, BDS	DWC, FD, IEOs, NARA, DNBG, DNM, NGOSs, CC&CRMD,	1	1	1

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
	Species and Ecosystem Lists established and annually updated		Individual experts, Universities			
	Lists established and annually updated					
Establish a national biodiversity database to document biodiversity in all natural areas	Data base established	BDS, DWC, FD	DNM, BEC, NARA, NGOs, Universities, Individual experts	1	1	2
	Data entry, reporting, sharing and access protocols defined					
	Mechanism for regular updating defined					
Populate the database with existing data sets and update continuously Develop a research agenda to address	Database populated with all existing data sets	BDS, DNM, FD, DNBG	IEOs, NARA, CC&CRMD, NGOs	1	1	3
Develop a research agenda to address identified information gaps on sites, taxa and valuation of ecosystem services and share this information with relevant stakeholders	Research agenda developed and presented to broad stakeholder group and research priorities identified	NSF, BDS, NRC	UGC, DWC, FD, Universities, NGOs, Individual experts, NPD	1	1	4
Establish a national botanical and	National Botanical and Zoological Survey programme	NSF,	DNBG, DNM,	1	1	5

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
zoological survey programme to conduct baseline surveys for subsequent monitoring of sites identified in action 4	established with funds	BDS,NRC	DNZG, Universities, Individual experts			
Provide seed grants for contract research on identified sites, taxa and ecosystem services, where information is not presently available	Number of seed grants provided Number of sites inventoried	BDS	NSF, NRC, UGC, NARA, DNBG, DNM, CC&CRMD, Universities	1	1	6
Provide training for local experts on lesser known taxa	Number of experts trained Number of para taxonomists trained per district National database of taxonomic experts established	Universities, BDS, NSF, DNBG, DNM, DNZG	NARA, DWC, FD, NGOs, IPLCs	1	1	7
Provide financial support for local experts to communicate their findings related to biodiversity of Sri Lanka both nationally and globally	Criteria to provide travel grants developed Travel support given	NSF, NRC, UGC, Universities	BDS, DNM, DNBG, DNZG, NARA	1	1	8

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Develop and implement a communication strategy to disseminate the information collected to relevant stakeholders	Communication strategy developed and implemented	BDS, DNBG, DNZG, FD, DWC, DNM	Universities, Education Department, Individual experts	1	1	9
Establish an interactive web portal on threatened species to create awareness on threatened species of Sri Lanka and ensure that this portal is continually updated	Web portal established	BDS	FD, DWC, CEA, DNBG, DNZG, NARA, DNM	1	4	2
	Number of visitors to the portal					
Identify research needs with respect to prioritized threatened species and develop funding mechanism to facilitate such research	Prioritized threatened species list formulated	BDS, NSF, NRC, NSCAG, BEC	Private Sector, Universities, UGC, NGOs	1	4	3
	Research agenda developed					
	Funding mechanism established					
Establish a searchable database on traditional knowledge, beliefs and practices related to biodiveristy	Database established	BDS, NARA, IEOs, IPLCs	DFAR, CBOs, IPLCs Universities, MoH, Ministry of Indigenous Medicine, NARA	2	7	2

Action	Indicator	Primary	Secondary	Strategic Objective	Target	Action Number
Establish and maintain a searchable database linked with global databases on nutritional quality of food	Data base established	DoA, BDS	Universities NGOs	3	8	3
Establish a database on traditional knowledge	Database established	DoAyur, DoA		3	8	6
Aichi Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan 2011-2020 from all sources and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resources needs assessments to be developed and reported by Parties						

Figure 4: Sustainable Development Goals

NBSAP has mapped some of the SDG targets into national targets. In relation to wetland management directly SDG 6,11,13,14 and 15 are important. Table 6 indicate already mapped SDG targets into national targets. It is noted that NBSAP has failed to map the actions to several SDG targets. Actions are mapped only to SDG 1, 2, 3, 12, 13, 14 and 15. Hence, a revision to mapping is proposed. The mapped actions do not reflect wetland interests well.

Table 6: Mapping of Sustainable Development Goals into national strategic objectives and targets as per NBSAP (only the mapped actions are given)

NSAP Strategic Objective = SO, Target Number = TN, Action Number = AN

SDG	Description	Action	SO	TN	AN
1	No poverty	Develop regulations, procedures, guidelines and benefit sharing mechanisms for biological resources	4	10	2
		Establish a mechanism to ensure benefit sharing at the grass roots level and piloting the bio-cultural protocols via collective action for stewardship development	4	10	5
2	Zero hunger	Promote and mainstream underutilized, lesser known or neglected food crops, livestock and food fishes which provide nutrition	3	8	2
		Identify and conserve useful BES such as natural enemies, pollinators and soil microorganisms for sustainable agricultural productivity	3	8	5
		Establish and strengthen genetic resource centres such as field gene banks, seed banks etc., for both short and long-term conservation of genetic diversity of crops, poultry and livestock	3	9	1
		Promote conservation of neglected, lesser known and under-used food crops, livestock and their wild relatives such as vegetables, seeds, fruits, poultry, livestock and food fish	3	9	2
		Implement on-farm conservation for traditional crop varieties and land races and encourage promotion of farmer-based crop varieties and livestock	3	9	4
		Promote useful elements of traditional knowledge/ practices of unique agro ecosystems(such as Kandyan home gardens, cascade tank systems, chena, owita and Mavee lands)to address current issues	3	8	4

SDG	Description	Action	SO	TN	AN
2	Zero hunger	Establish and maintain a searchable database linked with global databases on nutritional quality of food	3	8	3
3	Good Health & Well-Being	Develop and implement a national programme that reduces reliance on agrochemical usage	1	2	4
		Develop and implement a national strategy that reduces the release of pollutants and solid waste into wetlands(as defined by Ramsar)	1	2	5
12	Responsible Consumption and production	Promote best practices to minimize the destructive harvesting methods used for biological resources from terrestrial aquatic and marine systems	2	6	4
		Improve conversion efficiency of raw material to final products	3	8	1
		Promote and mobilize cultural practices and traditional wisdom related to biodiversity	2	7	1
		Introduce an outgrowing system for medicinal plants with the involvement of private sector	2	7	5
13	Climate action	**Carry out an assessment of species that are undergoing range expansion due to climate change and examine their impacts on ecosystems and develop and implement mitigation measures**	**1**	**2**	**13**
		Carry out a national assessment of the impact of climate change on identified vulnerable species and ecosystems and develop potential mitigation and adaptation strategies and ensure that this assessment feeds into the climate change national adaptation planning for Sri Lanka.	**1**	**2**	**14**
		Identify and promote species with enhanced resilience to extreme conditions in agriculture and reforestation	**5**	**11**	**4**
		Initiate research and monitoring programmes on the impacts of climate change, infrastructure development, and natural hazards on biodiversity	**5**	**11**	**1**

SDG	Description	Action	SO	TN	AN
13	Climate action	Development or enrichment of home garden carbon stocks and both urban and rural green spaces to improve ecosystem services provided by them	5	11	2
14	Life below water	Strengthen the implementation of special management areas, conservation areas and affected areas as defined by the CC&CRM Act	1	2	12
		Assess the present levels of harvesting of freshwater and marine finfish/ shell fish and develop and implement recovery plans for finfish/ shell fish species stocks that are depleted due to overexploitation	2	6	5
		Identify gaps in Fishery Management Areas (FMA) and implement programs to address the identified gaps.	2	7	6
15	Life on land	Integrate biodiversity and ecosystems service values to national accounts	2	5	6
		Develop guidelines to incorporate Biodiversity and Ecosystem Service values into regional/ national/ local level planning and plan implementation	2	5	7
		Conduct Strategic Environment Assessments for all nine provinces and identify the best possible pathway to achieve national development goals with the least amount of habitat loss and fragmentation	1	2	1
		Prepare and implement wetland conservation management plans for wetlands that are identified as critical systems lying outside the PA network	1	2	15

SDG	Description	Action	SO	TN	AN
15	Life on land	Preparation of the Red List of Ecosystems for Sri Lanka and updated every five years	1	2	16
		Strengthen regulatory mechanisms to prevent entry of invasive alien species	1	2	8
		Establish early warning system for invasive alien species	1	2	9
		Establish a mechanism for updating National IAS lists every four years	1	2	10
		Develop and implement species-specific management plans for identified invasive alien species	1	2	11
		Update the protected area gap analysis based on the recommendations of the provincial SEAs and develop and implement a strategy to protect the critical habitats outside the PA network with reference also to ecosystem-based climate change adaptation.	1	3	1
		Conduct a status assessment of the PA network and identify sites that need to be upgraded or downgraded based on their current status	1	3	2
		Prepare adaptive management plans for all areas declared as protected under action 2 and 3 and ensure that these plans are implemented effectively	1	3	5
		Update the national red list every five years and ensure that the data is shared in inappropriate format with the IUCN Global Red List	1	4	1
		Develop and implement recovery plans for prioritized threatened species	1	4	4
		Establish an ex-situ breeding and research facility for breeding/ propagation of threatened species under the Department of National Zoological Gardens and National Botanic Gardens	1	4	5
		Regularize turtle hatcheries with appropriate guidelines for scientific management and a monitoring system established	1	4	6

SDG	Description	Action	SO	TN	AN
15	Life on land	Establish animal care shelters under the Department of Wildlife Conservation for rehabilitation of confiscated, injured and displaced animals in each wildlife region	1	4	7
		Develop and implement species level management plans for mitigation of conflicts caused by threatened species	1	4	8
		Establish ex-situ conservation facilities such as botanic gardens, zoos, aquaria, wetland parks, arboreta, medicinal gardens, urban parks, natural history museums, plant herbaria etc., or upgrade and improve existing facilities in each bioclimatic zones for recreation, conservation, education and research	1	4	9
		Identify gaps in enforcement of tracking, monitoring and prosecuting illegal trade of scheduled species and update current legislation and regulations to address identified gaps as well as alignment with international conventions such as CITES	1	4	10
		Implement mangrove and river bank restoration and forest conservation projects for watersheds	5	11	3
		Develop a national ecosystem (terrestrial, coastal and marine) conservation plan to identify the best possible strategies for afforestation, enhancement, restoration and establishing connectivity, with reference also to ecosystem-based climate change adaptation	1	2	2
		Implement the national ecosystem conservation plan by integrating it with provincial and local development plans as well as ensuring private sector participation	1	2	3

In addition to NBSAP, following action plans are also important for wetland management.

National Action Plan for Haritha Lanka Programme:

The National Action Plan discusses eight missions to improve sustainable development.

- Mission 2 relates to saving the fauna, flora and ecosystems. The proposed strategies include (2) Establish optimum Protected Area network and ensure recovery of important threatened species; and (3) Conserve and sustainable use flora and fauna outside the protected area network. Actions mentioned as part of strategy (2) on PA areas, includes to (2.1) identify critically important biodiversity hotspots in the country outside existing protected areas and declare these under a relevant category and develop representative Protected Area (PA) Network.

- Mission 5 discusses the responsible use of land resources. Strategy (4) suggests to Optimize soil conservation through mandatory and other measures. Action plans for this strategy include (4.4) ´to restrict further settlements, cultivation or other human activity including road & railway construction in areas identified as highly landslide prone areas. Another strategy (10) contains ´promotion of the integrated management of upper watersheds.

The Haritha Lanka Programme has identified climate change, land degradation, loss of forest cover and pollution as areas to be addressed by the actions and selected certain strategies/actions relating to both mitigation and adaptation. While the climate change mission in Haritha Lanka has given more weight to strategies/actions targeting mitigation (i.e. reducing GHG emissions), it has adaptation actions in areas of infrastructure vulnerability, land use zoning, rain water harvesting.

Sri Lanka Comprehensive Disaster Management Programme 2014-2018 (SLCDMP):

The SLCDMP is a policy document which has a close connection to the National Adaptation Plan (NAP). It identifies climate change as a type of disaster and proposes actions to overcome the consequences of it and restoration of wetlands and conservation of aquatic ecosystems have been highlighted.

National Action Programme for Combating the Degradation of Lands in Sri Lanka (NAP-CDL):

It highlighted issues such as soil erosion and landslides in up-and mid-country wet zone (upper watershed) areas as critical issues together with actions to overcome them.

Coastal Zone Management Plan (CZMP):

Initially prepared in 1991, this is updated periodically by the CC&CRMD, the last published iteration being in 2006. Another revision is currently under review. The CZMP has also recognized coastal zone degradation, erosion, pollution in coastal wetlands and climate change as a factors that can intensify the degradation of coastal resources in future. The NAP identifies impacts on the coastal sector and proposes adaptation measures to overcome them.

The management plan regulated development activities not to occur in sensitive areas.

The Coastal Resources Development Division is responsible for the development of national coastal zone management plans, coastal habitat management, socio-economic issues and implementation of Special Area Management (SAM) plans. The SAM concept, which is an integral component of national coastal zone management policy, addresses the resultant adverse impacts of increasingly rapid economic growth in environmentally sensitive areas such as

coastal wetlands, which require new management tools and greater collaborative efforts with other agencies and the public.

National Physical Plan (NPP):

The NPP has identified wetland degradation as a concern that can affect physical development activities of the country. In addition, it covers some aspects of disaster risk management too. However, the major focus of the NPP is development of physical infrastructure facilities and no attention was given to climate adaptation. It propose to conserve central and coastal regions as environmentally sensitive (fragile) areas.

Sri Lanka Water Development Report 2010 (SLWDP):

The Water Development Report has identified wetlands and also states that climate change as a major driver of change in the water resources sector.

Mahinda Chintana (A vision for a new Sri Lanka) (2006-2016)

Protection of the environment, soil, biodiversity is given priority. Programmes to achieve these priorities and targets include projects to protect and conserve environmentally sensitive areas with the community participation.

National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants of 2006 (NIP)

The NIP details several activities to control and manage POPs in Sri Lanka. Capacity building and institutional strengthening as well as awareness raising on the detrimental effects of POPs are areas of high priority for the successful implementation of the NIP.

Management plans specific to Ramsar wetlands

In 2017, Department of Wildlife Conservation developed a strategic management framework for Wilpattu National Park which has number of actions to safeguard the interests as a Ramsar site. Goal 1.3 of this management plan calls for properly well demarcated and accepted sanctuary boundary with community participation and objective 1.3.1. has been set for extending the national park by declaring the coastal segment of Wilpattu Ramsar site as Wilpattu Marine sanctuary thus enhancing the protection to Ramsar site.

The management plan for Bundala National Park was prepared in 2005. The plan and the resource inventory for Bundala Ramsar site has recorded the overall diversity of the area and also the threats to system.


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Key agencies for management of wetlands in Sri Lanka

Following key agencies were identified for the management of wetlands of Sri Lanka (Table 7). Mainstreaming wetland interests and interests of Ramsar Convention needs the support of these agencies.

Table 7: Key agencies involved in wetland management of Sri Lanka

Organizations	Functions	Remarks
Ministry of Sustainable Development and Wildlife	Oversees the DWC. Sustainable Development Goals (SDGs) are implementation is coordinated by this Ministry	
Department of Wildlife Conservation	This department approximately manages 15% of the total land area of Sri Lanka. The areas managed by DWC are categorized under several management units as National Parks (26), Nature Reserves (7), Strict Natural Reserves (3), Jungle corridors (1) and Sanctuaries (61). At present 5 Ramsar sites are also managed by this department. Within these there are several marine sanctuaries and marine national parks declared and managed by the DWC	Implements the FFPO. Comes under the MSD&W. Also Ramsar Convention is implemented by Department of Wildlife Conservation
Forest Department	This department is responsible for managing 19 present of land of Sri Lanka. Several catchments of main rivers are protected by Forest Department	Implements the Forest Conservation Ordinance. Comes under the MoMD&E
The Coast Conservation and Coastal Resource Management Department	The mandate of the CC&CRMD is the coastal zone defined in the Coast Conservation Act of 1981	Implements the Coast Conservation Act. Comes under the MoMD&E
Central Environmental Authority	The Central Environmental Authority was established and empowered under the National Environment Act and is responsible for enforcing the National Environment Act, as well as formulating and implementing other environmental policies	Implements the National Environmental Act. Comes under the MoMD&E
The Marine Environment Protection Authority (MEPA)	MEPA is responsible for preventing, controlling and managing the pollution of Sri Lanka's marine environment	Implements the Marine Pollution Prevention Act No.35 of 2008. Comes under the MoMD&E

Organizations	Functions	Remarks
Ministry of Fisheries and Aquatic Resources Development (MoFARD)	MoFARD is mandated to be responsible for the development and, sustainable use and conservation of fisheries sector in Sri Lanka. Under this ministry three institutions are important I relation to wetland management 1. Department of Fisheries 2. National Aquatic Resources Research and Development Agency (NARA) 3. National Aquaculture Development Authority (NAQDA)	Implements the Fisheries Act

3.4 Proposed Policies, National Frameworks and Action Plans

3.4.1 Proposed policy for conservation and sustainable use of mangroves

Proposed policy for conservation and sustainable use of mangroves is currently under preparation by Ministry of Mahaweli Development and Environment. This policy has been developed to address the specific policy needs of mangrove conservation, sustainable use and restoration. All aspects of mangroves have been incorporated into this draft policy. Policy goals of the proposed mangrove policy have mainstreamed several goals of Ramsar convention both directly and indirectly.

3.4.2 Policy Goals

1. Mangrove ecosystems including living and non-living resources as well as their interactions are optimally functioning through conservation
2. Human and ecological wellbeing in areas where mangroves are present is established through good governance
3. Concerns regarding mangrove ecosystems are applied into policies, legislations, plans, programmes and projects
4. Efficient resource use is established minimizing adverse environmental impacts in mangrove ecosystems
5. Equitable access to mangrove ecosystems inter and intra generationally is established
6. Traditional knowledge is protected and social capital for mangrove conservation is empowered through mutually beneficial multi-stakeholder partnerships between local communities, public agencies, the academic and research community, investors, and multilateral and bilateral development partners
7. A willing nation supporting mangrove conservation formed through awareness among both resource users and general public

3.4.3 Proposed policy on access to biological resources and benefit sharing policy

Ministry of Mahaweli Development and Environment is finalizing the above policy at present and resolutions of CBD are the foundation. The proposed policy will can also benefit sharing the benefits of biological resources originating from wetlands.

3.4.4 Proposed policy on traditional knowledge and practices

Ministry of Mahaweli Development and Environment is finalizing the above policy.Traditional practices and knowledge in using wetlands and their resources is also addressed by this policy.

3.4.5 Proposed policy, strategies and national action plan for marine environment protection in Sri Lanka

This policy is proposed by Marine Environment Protection Authority. The proposed policy and strategies are expected to cover marine pollution, coastal resources and ecosystem management and sustainable development in coastal and offshore zones.

Additionally three new acts that have provisions for mainstreaming wetlands conservation and wise use are currently being prepared by Ministry of Mahaweli Development and Environment. They are,

- Biosafety Act
- Climate Change Commission Act
- Invasive Alien Species Act

Climate change Commission act is expected to mainstream provisions from NDC as well as Sendai Framework.

3.4.6 Proposed marine conservation strategic action plan

This proposed action plan is being prepared by Department of Wildlife Conservation and the scope of the plan extends to conservation of marine wildlife, ecosystems, restoration and wise use.

4. Mainstreaming Nationally Determined Contributions and Sendai Framework for Disaster Risk Reduction

4.1 Nationally Determined Contributions (NDCs)

Nationally determined contributions (NDCs) are at the heart of the Paris Agreement and the achievement of these long-term goals. NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. The ***Paris Agreement*** (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain successive nationally determined contributions (NDCs) that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.

Timeframe and Periods of Implementation

Base year 2010 as per Business-As-Usual scenario and Target period 2021-2030

Scope and coverage

Sri Lanka's NDCs comprise of following four areas;

Mitigation - Reducing the GHG emissions against the Business-As-Usual (BAU) scenarios in the sectors of energy (electricity generation), transportation, industry, waste and forestry. The key contributors to GHG are Carbon Dioxide (CO2), Methane (CH4) and Nitrous Oxide (N2O).

Adaptation - Building resilience in most vulnerable communities, sectors and areas to adverse effects of climate change. Adaptation will focus on human health, food security (agriculture, livestock and fisheries), water and irrigation, coastal and marine, biodiversity, urban infrastructure and human settlement, tourism and recreation. Adaptation initiatives that derive mitigation co-benefits will be prioritized.

Loss and Damage - In order to address issues related to losses and damages resulting from extreme weather events, a local mechanism will be developed in accordance with the Warsaw International Mechanism for Loss and Damage.

Means of Implementation - External support for Finance, Technology Development and Transfer, and Capacity Building for the above sectors are considered in the implementation process of the NDCs of Sri Lanka.

The readiness phase till 2020 is for allowing the country to prepare for the full-scale implementation of chosen NDCs. A host of groundwork and preparations need to be carried out to ensure successful implementation of NDCs to achieve the set GHG emission reduction targets by 2030.

A Readiness Plan for the Implementation of the INDCs of Sri Lanka has been developed in consultation with relevant stakeholders, led by line ministries that cover the 14 sectors identified in the NDCs of Sri Lanka, The sector specific line Ministries and other stakeholders have provided information and recommendations on the implementation of the NDCs, need of identifying policy gaps, institutional gaps, the need for improvements in human and technical capacity, as well as financial and technical support to implement the NDCs by 2020.

The NDCs of Forestry Sector

1. Increase the forest cover of Sri Lanka from 29% to 32% by 2030.

    1.1 Identify land for reforestation/forestation (suitable non forest land for forestry by conducting land use planning at national scale)

2. Improve quality of growing stock of natural forests and forest plantations.

    2.1 Complete boundary demarcation

    2.2 Conserve to increase non-carbon benefits

    2.3 Demarcate boundaries including buffer zones

    2.4 Develop plantation management plans for sustainable forest management practices for productive and protective purposes

3. Restoring degraded forests and hilltops (shrubs, grasslands and state lands)

4. Increase river basin management for major rivers of Sri Lanka.

    4.1 Multi hazard prioritization of catchment/ river basins

    4.2 Preparing catchment management plans

    4.3 Demarcation and protection of riverine vegetation

    4.3 Implement protective measures

5. Forestation of underutilized private lands and marginal Tea lands

    5.1 Promote forestation/afforestation through non carbon benefit/payment for ecosystem service mechanism

6. Urban forestry (roadside planting, urban parks and other state lands)

7. Establish a functional National Forest Monitoring System (NFMS)

8. Promote investment of private and public sector companies in environmental conservation projects through CSR programs

The NDCs of Water Sector

1. Establish and erect sand bags across the river during the drought season to prevent saline water intrusion where saline water intrusion is a concern

    1.1. Identification of areas, designing implementation & monitoring plans

2. New water supply projects and schemes will be implemented in the areas where water scarcity

    2.1. Assess and map areas with water scarcity

    2.2. Explore new water sources and identify alternative sources

3. Prepare water safety management plans for entire country to overcome pollution and climate change impacts

4. Improve protection and conservation measures in all drinking water catchment areas

4.1. Establish island-wide surface & ground water monitoring networks i.e. for long term monitoring of water level flow patterns, water quality

4.2. Enforcement of laws & regulations

5. Permanent water supply schemes can be implemented with pipeline systems through new water supply schemes

5.1. Identification of safe water sources qualitatively & other alternatives such as desalinization

6. Establish mobile laboratories to ensure safety during water supply

6.1. Onsite water quality monitoring systems for more adequate measurement on toxicity, pesticide etc.

7. Establish monitoring and recording for saline water intrusion into drinking water sources during the drought period

8. Establish safety of water management facilities and minimize disturbances to water supply due to extreme weather events

9. Introduce a new management system focusing on community awareness creation programs and water supply plans

National Adaption Plan for Climate Change Impacts in Sri Lanka (2016-2015) is in place now. It has mapped the NAP actions to SDGs and accordingly key SDG targets relevant for wetland and their wise use (5, 6, 8, 9, 11, 12, 14, and 15) have been indicated. Most actions appear under water resources, coastal and marine sector and ecosystems and biodiversity. Some of the key actions are;

- Conduct research studies on climate change impacts on ecosystems and biodiversity, sea level rise, salt water intrusion, carbon fixation
- Prepare adaptive management programmes for climate sensitive ecosystems
- Protect marshes/ flood retention areas vulnerable to thermal stress
- Prepare recovery plans for highly threatened ecosystems and species
- Conduct awareness programmes for local communities on impacts of climate change on local biodiversity and ecosystems in vulnerable areas
- Increase the participation of local communities in adaptive management programmes
- Assess changes in oceanic habitats and composition of species due to impacts/of climate change on oceanic environments
- Initiate long term monitoring of essential bio physical parameters

4.2 Sendai Framework for Disaster Risk Reduction

The Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai Framework) is the first major agreement of the post-2015 development agenda, with seven targets and four priorities for action. It was endorsed by the UN General Assembly following the 2015 Third UN World Conference on Disaster Risk Reduction (WCDRR). The Sendai Framework is a 15-year; voluntary, non-binding agreement which recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders. It aims for the following outcome.

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

4.2.1 Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors. It promotes seven global targets

4.2.2 The Seven Global Targets

(1) Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality rate in the decade 2020-2030 compared to the period 2005-2015

(2) Substantially reduce the number of affected people globally by 2030, aiming to lower average global figure per 100,000 in the decade 2020-2030 compared to the period 2005-2015

(3) Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030

(4) Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030

(5) Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020

(6) Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030

(7) Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030

4.2.3 The Four Priorities for Action

Priority 1. Understanding disaster risk

Disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment. Such knowledge can be used for risk assessment, prevention, mitigation, preparedness and response.

Priority 2. Strengthening disaster risk governance to manage disaster risk

Disaster risk governance at the national, regional and global levels is very important for prevention, mitigation, preparedness, response, recovery, and rehabilitation. It fosters collaboration and partnership.

Priority 3. Investing in disaster risk reduction for resilience

Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment.

Priority 4. Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction

Sri Lanka has submitted Sendai Framework data readiness report and at present Ministry of Disaster Management is adopting the guidance from this framework to strategies that are currently reformed at the ministry. How wetland interests are mainstreamed is not clear at present.

5 Road map and time table to mainstream wetland conservation and sustainable use of wetlands and their resources into national planning processes in Sri Lanka

5.1 Key gaps in mainstreaming wetland conservation and wise use into national policies and plans

Current investigation revealed that Sri Lanka has sufficient policies, legislations and action plans that have mainstreamed wetland conservation and wise use. All resolutions of Ramsar notably resolution

1. The analysis also revealed that though we have several policies in place for wetland conservation, most policies are for preventive but there is an absence of encouragement through policies for wise use of both direct and indirect services of wetlands.

2. Also policies, legislations and action plans have failed to emphasise the need for continuum dynamisms between land and water. Hence, wetland connectivity and lateral dynamics which are vital for the health of wetlands are not addressed by the existing policies.

3. Gaps exist in connecting government, non-government and grass root communities to act together as no policies, legislations and plans have addressed communication strategies adequately. Though NBSAP has a communication strategy, the mechanism to implement the strategy is still not in place.

4. Gaps also exist in transferring scientific and technical tools required to assist in management of those aspects of wetland ecosystems directly related to water including indigenous knowledge systems. No central system is present to collate data and information. Therefore, policy, governance and institutional aspects of water and wetland management is happening in isolation without adequate baseline data. The gap is not the absence of baseline data but the absence of communicating the data gathered by various fractions to policy makers and peers in relation to wetlands. Absence of baseline information on wetlands on time, influence the nature of people's interactions with water and wetlands at all levels.

5. Hence, integrating frameworks, such as planning and management frameworks at various scales from regional through river basin to local catchment level, that promote the integration of human society's needs, values and aspirations into processes which utilise the best available knowledge are vital. Idea should be to support the wise use of wetlands and therefore, the sustainability of water resources by promoting dialogue and evidence based decisions. These areas were not strongly reflected in current plans despite planning has happened with stakeholder inclusion.

6. Taking stakeholders beyond being only participatory to produce plans, to implement them, requires a body with powers vested to do so. Though National Wetland Steering Committee is in place, considering the number of institutes that have various roles in wetlands, there is an urgent need to provide adequate powers to oversee all wetland matters at a higher level than it is operated today. Getting a birds- eye view of wetland matters will be possible with such a steering committee.

7. Ramsar Resolution VI.23: *Ramsar and water* (Brisbane, 1996), which addresses the need for collaboration between the water sector and the wetland conservation and management sector, notably through promoting integration of conservation and wise use of wetlands into decision-making on land use, groundwater management, catchment/river basin and coastal zone planning is still absent despite the presence of several policies. Notably establishments dealing with irrigation, agriculture, town and other infrastructure planning and hydro energy need to be connected with agencies dealing with conservation.

8. Ramsar resolution VII.18: *River basin management* (San José, 1999), which provides guidance on integrating wetland conservation and wise use into river basin management, is yet to be fully incorporated into planning processes. The river continuum concept has been identified in recent projects such as Ecologically Sensitive Area project implemented by MoMDE.

9. Policies and regulations are also weal to implement Ransar resolution VIII.4: *Integrated Coastal Zone Management* (Valencia, 2002), which consolidates previous resolutions and recommendations related to intertidal wetlands, coral reefs and associated ecosystems, coastal zone management and mangrove ecosystems needs to be strengthened mainly with legal and institutional frameworks, stakeholder participation and the linkages between coastal wetlands and river basin management on the one hand, as well as oceans and fisheries management on the other.

10. The widest gap in mainstreaming wetland conservation and wise use was seen with reference to Ramsar resolution VIII.35: *Natural disasters, particularly drought* (Valencia, 2002), which addresses the need for planning and providing water for wetland ecosystems in times of drought and other natural disasters, to ensure that these ecosystems continue to provide values and functions for people and biological diversity. However, Sri Lanka has committed to implement both NDC and Sendai Framework. Yet, for the most effective outcome Ministry of Disaster Management and Climate Change Secretariat both needs to work hand in hand with environmental sector.

11. Similarly, gaps are also seen in implementing resolution VIII.34: *Agriculture, wetlands and water resource management* (Valencia, 2002), which highlights the interdependencies between agricultural activities and the wise use of wetlands and notes the need to balance potential benefits and impacts of one on the other, within an integrated catchment planning approach. Agriculture and irrigation policies require widening their scope to create the trade-off.

12. Gaps are also seen in national policies and plans in terms of fully implementing Ramsar resolution VIII.1: *Allocation and management of water for maintaining the ecological functions of wetlands* (Valencia, 2002), which deals very specifically, in its Annex and the supporting Technical Paper, with the determination of water requirements for maintenance of wetland ecosystems, and addresses the allocation of water for this purpose. Implementation (for example, design of operating rules for environmental water releases from dams). The lack of policies, laws and plans to assess the cumulative impacts of disturbance to natural water flow and inability to study such impacts at EIA level was identified as a gap in mainstreaming wetland interests.

5.2 Proposed strategies and actions

5.2.1 Institutional and capacity development needs

1. Strengthening Wetland Steering Committee into a high powered all inclusive body with powers vested to ensure wetland interests are mainstreamed into policy and plans as well as to overall development process.

2. Establish a mechanism with all resources to conduct M and E for NBSAP and other plans that GOSL has committed to as a part of national commitment to environment.

3. Establish communication strategy from bottom up level to relevant organisations.

4. Re-establish regional environmental committees to address wetland related matters at regional level.

5. Collate information and establish a national data centre for environment related data including information on wetlands.

6. Develop mechanisms to integrate ecosystem continuum concepts and integrated basin management between landscapes and seascapes in plans dealing with conservation as well as development.

7. Develop an inventory of donors, funding schemes, training providers that can assist implementation of actions given in NBSAP and NAP for climate change.

8. Undertake a review of macro and sectoral policies, legislations and statutory procedures to identify options for mainstreaming wetland conservation and wise use.

9. Carry out policy studies to explore the possibilities for application of market based instruments to motivate wetland users.

10. Establish policy reforms to evaluate cumulative impacts of wetland alterations and strengthen the current EIA and IEE procedures.

11. Establish mechanisms for youth and women engagement for water and wetland related dialogues both in protected and unprotected wetlands.

5.2.2 Research needs

1. Assessment of biophysical characteristics and ground truthed distribution of selected wetland types to establish baseline data such as;

    a. Mangroves

    b. Villu ecosystems

    c. Cascade reservoirs

    d. Salt marshes

    e. Salt marshes

    f. Second and third order segments of rivers in mid elevations

    g. Water falls

2. Establishing distribution and habitat use of coastal wetlands by threatened species such as *Dugong dugong*, turtles and selected threatened avifauna

3. Establishing protocols for scientific restoration of degraded wetlands with appropriate pilot studies

4. Modelling the entry and fate of selected pollutants to urban wetlands and coral reefs

5. Assessment of roles played by women and marginal communities in use and management of selected wetlands

6. Establishing trophic status in wetlands affected by invasive fauna and flora

7. Use of wetland resources for maintenance of cultural practices and current state of such uses

8. Determination of migratory patterns of selected freshwater fish and impacts of river diversions and barriers

9. Options for enhancing the resilience of ecosystems vulnerable to climate change

5.2.3 Time table of strategies

Table 8: Time table of strategies

Strategy	Timeline						Responsible Agency
	2018	2019	2020	2021	2022	2023	
Institutional and capacity development needs							
1. Strengthening Wetland Steering Committee into a high powered all inclusive body with powers vested to ensure wetland interests are mainstreamed into policy and plans as well as to overall development process.							MoMDE CEA
2. Establish a mechanism with all resources to conduct M and E for NBSAP and other plans that GOSL has committed to as a part of national commitment to environment.							BDS
3. Establish communication strategy from bottom up level to relevant organisations.							Ministry of National Planning
4 .Re-establish regional environmental committees to address wetland related matters at regional level.							MoMDE and CEA
5. Collate information and establish a national data centre for environment related data including information on wetlands.							MoMDE/BDS
6. Develop mechanisms to integrate ecosystem continuum concepts and integrated basin management between landscapes and seascapes in plans dealing with conservation as well as development.							Department of National Planning/ Ministry of Lands and LUPPD
7. Develop an inventory of donors, funding schemes, training providers that can assist implementation of actions given in NBSAP and NAP for climate change.							MoMDE/MoSDE/ BDS/DWC/FD
8 Undertake a review of macro and sectoral policies, legislations and statutory procedures to identify options for mainstreaming wetland conservation and wise use.							MoMDE/ MoSDE/DWC/ CEA
9. Carry out policy studies to explore the possibilities for application of market based instruments to motivate wetland users.							DWC/SLLRDC
10. Establish policy reforms to evaluate cumulative impacts of wetland alterations and strengthen the current EIA and IEE procedures.							MoMDE/CEA
11. Establish mechanisms for youth and women engagement for water and wetland related dialogues both in protected and unprotected wetlands.							DoI/DoA/DoSS

Strategy	Timeline						Responsible Agency
	2018	2019	2020	2021	2022	2023	
Research needs							
1. Assessment of biophysical characteristics and ground truthed distribution of selected wetland types to establish baseline data such as; a) Mangroves b) Villu ecosystems c) Cascade reservoirs d) Salt marshes e) Salt marshes f) Second and third order segments of rivers in mid elevations g) Water falls							DWC/BDS/ Universities and Other research organisations including NGO
2. Establishing distribution and habitat use of coastal wetlands by threatened species such as *Dugong dugong*, turtles and selected threatened avifauna							DWC/BDS/ Universities and Other research organisations including NGO
3. Establishing protocols for scientific restoration of degraded wetlands with appropriate pilot studies							DWC/FD/ BDS/SLLRDC/ Universities and Other research organisations including NGO
4. Modelling the entry and fate of selected pollutants to urban wetlands and coral reefs							CEA/MEPA/ Universities and Other research organisations
5 Assessment of roles played by women and marginal communities in use and management of selected wetlands							Universities and Other research organisations
6 Establishing trophic status in wetlands affected by invasive fauna and flora							BDS/DWC/FD/ Universities and Other research organisations
7 Use of wetland resources for maintenance of cultural practices and current state of such uses							Universities and Other research organisations
8 Determination of migratory patterns of selected freshwater fish and impacts of river diversions and barriers							BDS/DWC/FD/ Universities and Other research organisations
9 Options for enhancing the resilience of ecosystems vulnerable to climate change							Climate Change Secretariat/ Universities and Other research organisations

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