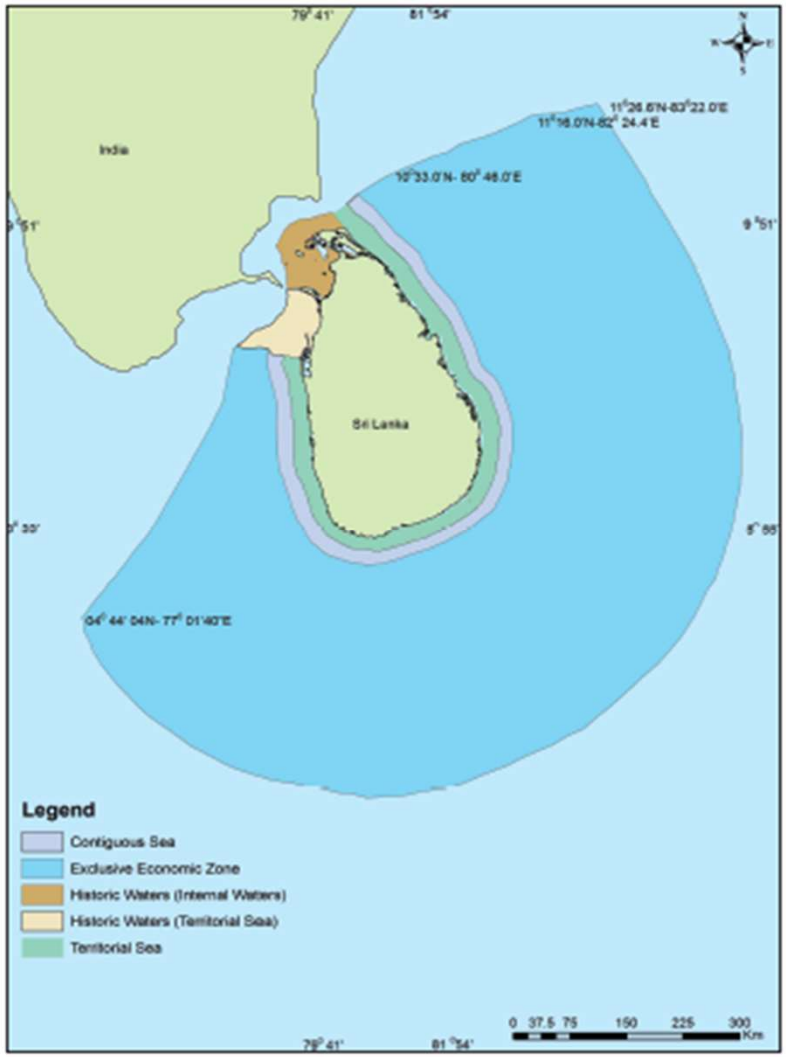
Sri Lanka's efforts to implement the Convention and the Strategic Plan for Biodiversity 2011-2020.

R.H.M.P.Abeykoon
Director, Biodiversity
Ministry of Environment
Sri Lanka.
pathma66a@gmail.com

Outline of the Presentation

1. General overview on present status of biodiversity
2. NBSAP Sri Lanka
3. Protected area
4. Challenges in implementation of NBSAP
5. Conservation recommendation from 6th NR Sri Lanka
6. Technical and financial resources provided or received from multiple sources for implementation
7. Preparation to post 2020 GBF

1. General overview on present status of biodiversity



Sri Lanka is an island country lying in the Indian Ocean and separated from peninsular India by the Palk Strait. It is located between latitudes 5°55′ and 9°51′ N and longitudes 79°41′ and 81°53′ E. The nation has a total land area of 65,610 km² terrestrial and aquatic resources.

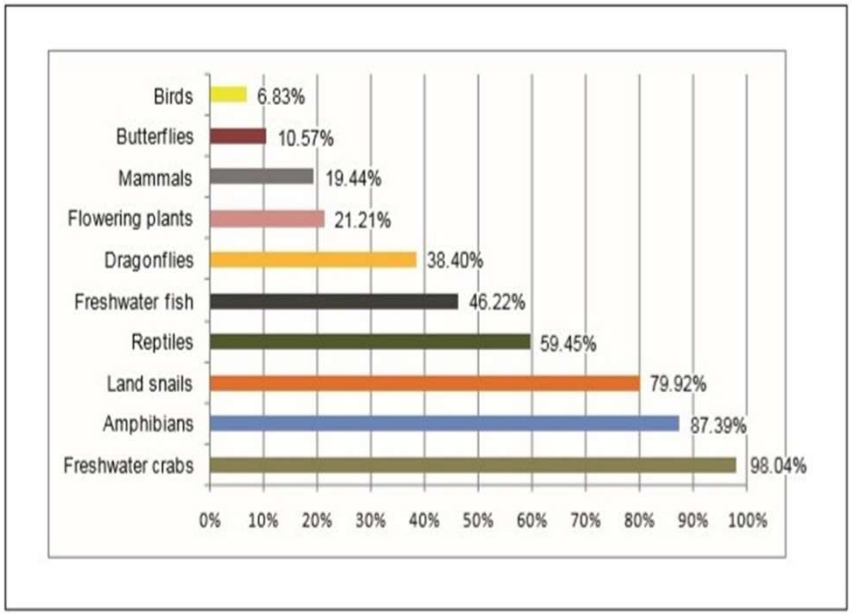
Sri Lanka one of the 36 hotspots in the world of Biodiversity.

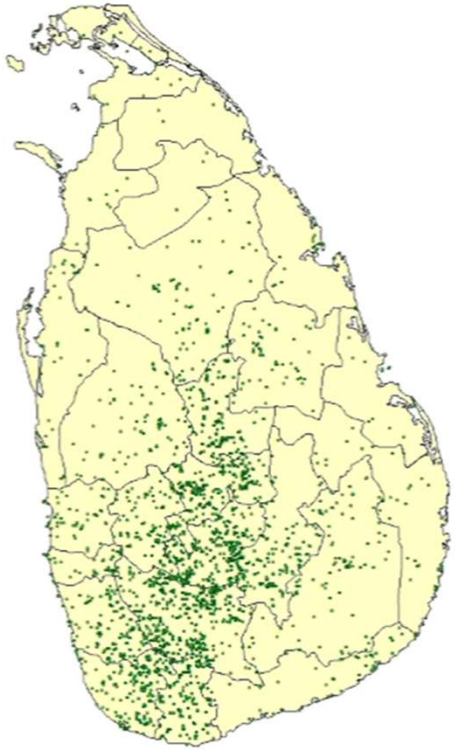
Topography of Sri Lanka

https://en.wikipedia.org/wiki/Geography_of_Sri_Lanka

Species diversity in Sri Lanka (2012 Red list)

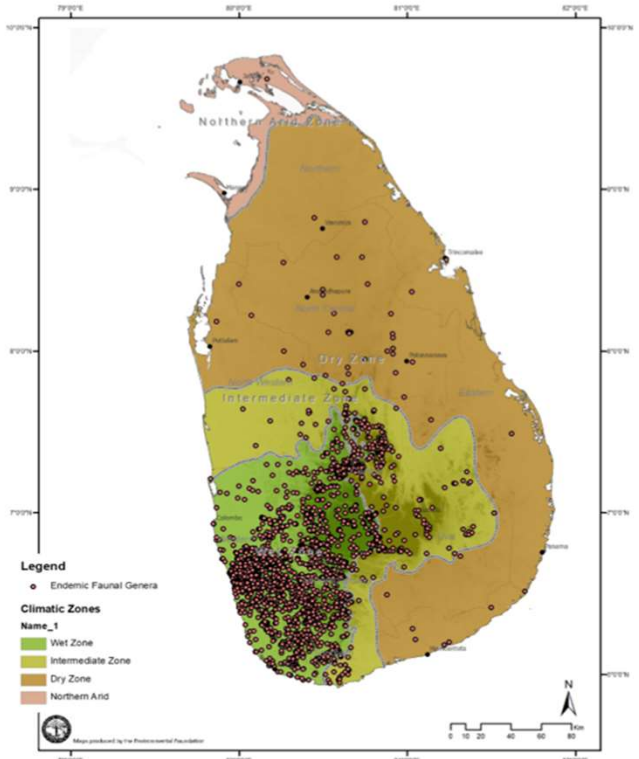
Taxonomic Group	Number of Species	Number of Endemic Species
Angiosperms	3,154	894
Gymnosperms	2	0
Pteridophytes	336	49
Spiders	501	257
Marine crustaceans	742	0
Fresh water crabs	51	50
Dragonflies	118	47
Ants	194	33
Bees	130	0
Butterflies	245	26
Leafhoppers	257	0
Dung beetles	103	21
Bivalves	287	0
Gastropods	469	0
Land snails	253	205
Marine fish	1377	0
Fresh water fish	91	50
Amphibians	111	95
Reptiles	209	125
Resident birds	237	27 + 6 Proposed
Mammals	124	21



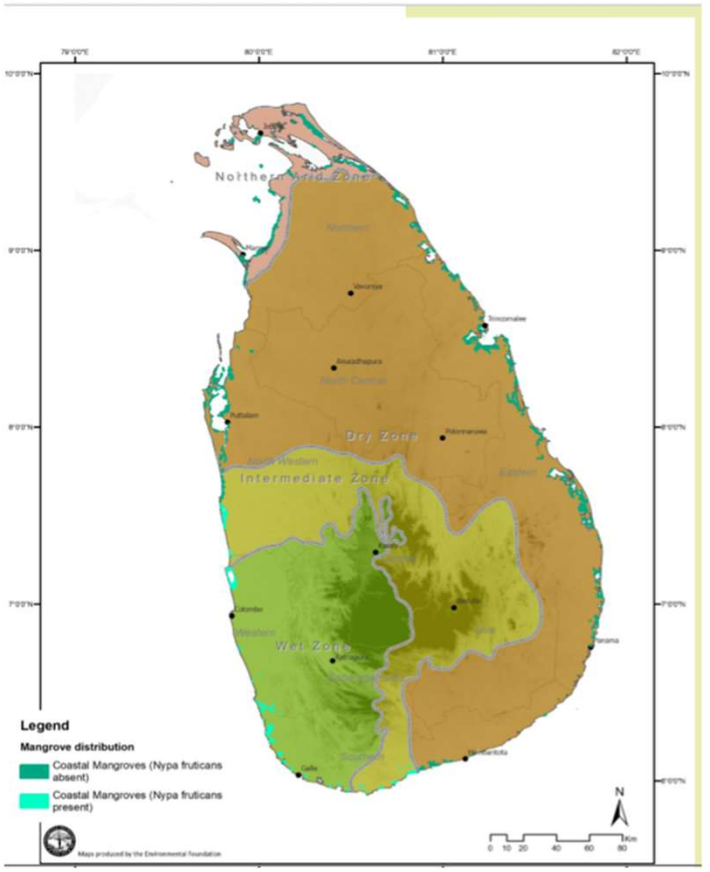


Endemic Areas in Angiosperm Flora of Sri Lanka

DSA Wijesundara and Dakshini Perera



Endemic fauna distribution – 6th NR



Mangrove distribution – 6th NR

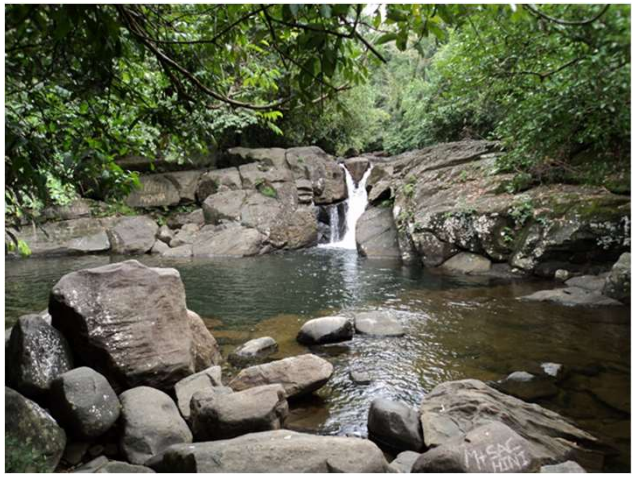
Among the endemics, there are several endemic genera representing most of the taxonomic groups. Many of these genera are in the lowland and montane rainforest ecoregions.

Forests and grasslands of the intermediate and dry zones are the main habitats of the island's large charismatic mammals such as the elephant, leopard, bear and deer which are major tourist attractions.

Sri Lanka: rivers

(Source: Jayasuriya et al., 2006)

zone forests are the
ersheds for major rivers that
vide freshwater to the nation.
anka also has a range of
lands comprising more than
major rivers and various
es of associated wetlands.
rs, wetlands and tanks
pour many endemic aquatic
cies, but many of them are
atened due to human action.



Threats

- Over exploitation,
- Bio piracy and theft
- Habitat loss, degradation and fragmentation,
- Spread of invasive alien species,
- All forms of pollution,
- Population pressure and human-wildlife conflict are the major causes that contribute to loss of biodiversity in Sri Lanka.
- New research findings indicated that impact of climate change aggravates the above threats further.

2. NBSAP Sri Lanka

To conserve and sustainable use of our globally significant rich biodiversity, Sri Lanka became a signatory to the Convention on Biological Diversity (CBD) in 1992 and ratified the Convention in 1994

- A first national action plan for biodiversity conservation under name of " Biodiversity Conservation in Sri Lanka - A framework for action " (BCAP) in 1998.
- An addendum prepared for the BCAP in 2007.
- The second NBSAP was prepared for the 2016-2022 period (MoMDE, 2016) and is being implemented through the application of the ecosystem-based approach which is more consistent with current approaches to biodiversity conservation, including biodiversity mainstreaming in national development priorities. The second plan is also linked to achieving the Aichi Biodiversity Targets and the Sustainable Development Goals (SDGs).

Vision of the NBSAP Sri Lanka

"Sri Lanka's biodiversity is valued conserved and sustainably used to benefit all its citizens"

Strategic objectives of the NBSAP Sri Lanka:

1. Ensure the long-term conservation of biodiversity;
2. Promote sustainable use of biological resources;
3. Conserve agrobiodiversity;
4. Promote equitable sharing of benefits from biodiversity; and
5. Improve human well-being through an ecosystem approach.

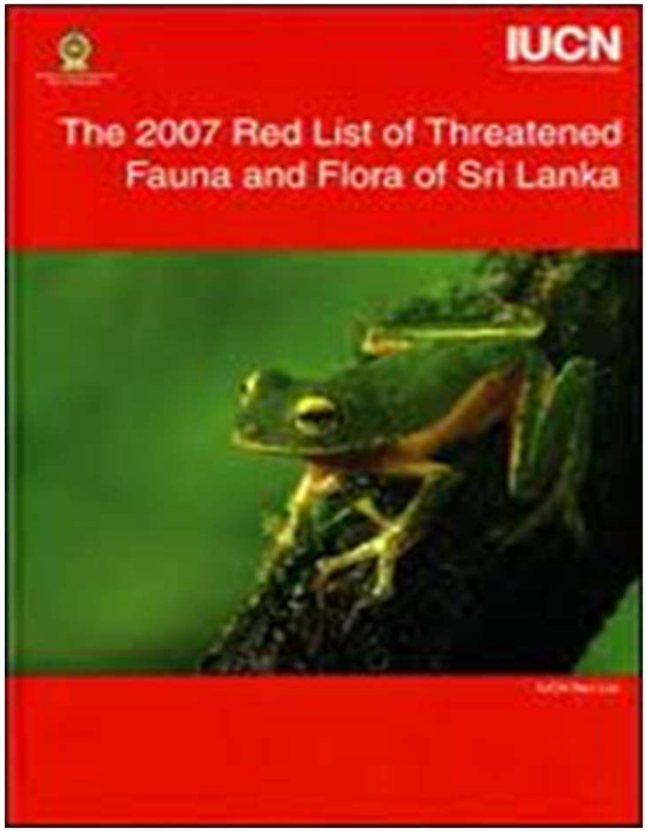
1. Ensure the long-term conservation of biodiversity;	1. By 2022, a system is established and ongoing for inventorising species (taxonomy and status) ecosystems (structure, functions, composition and distribution) their services and values, to inform conservation planning and decision-making.	
	2. By 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.	
2. Promote sustainable use of biological resources;	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	

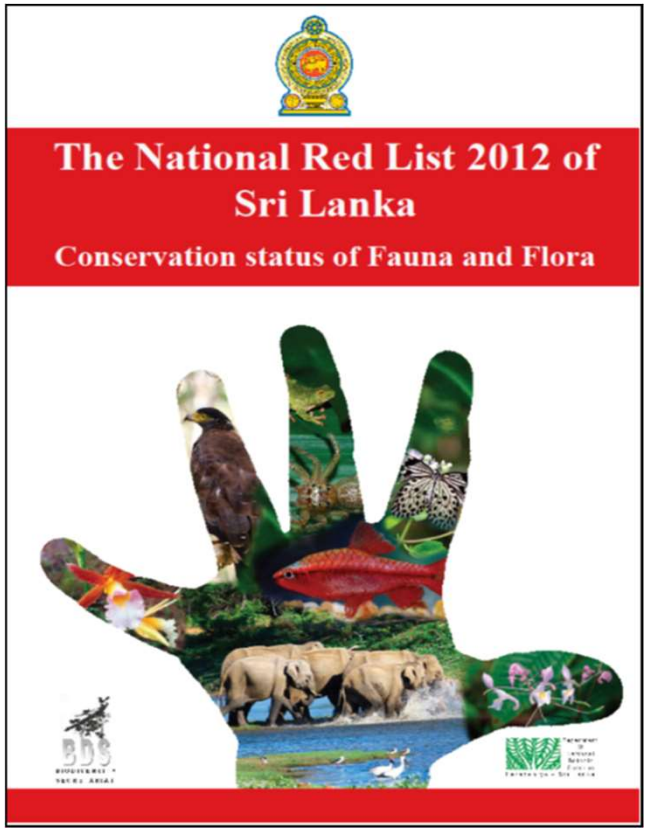
Strategic objective	Target	Status on achievement
3. Conserve agrobiodiversity;	8. By 2022, sustainable agriculture practices are promoted and established.	
	9. By 2022, genetic diversity of crop wild relatives, cultivated species and livestock are conserved	
4. Promote equitable sharing of benefits from biodiversity; and	10. By 2022, a mechanism for equitable sharing of benefits arising from biodiversity is established and implemented.	
5. Improve human well-being through an ecosystem approach.	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.	

Strategic Objective 1: Ensure the long-term conservation of biodiversity

Target 1: By 2022, a system is established and ongoing for inventorising species (taxonomy conservation status), ecosystems (structure, function, composition and distribution), their services and values, to inform conservation planning and decision making.

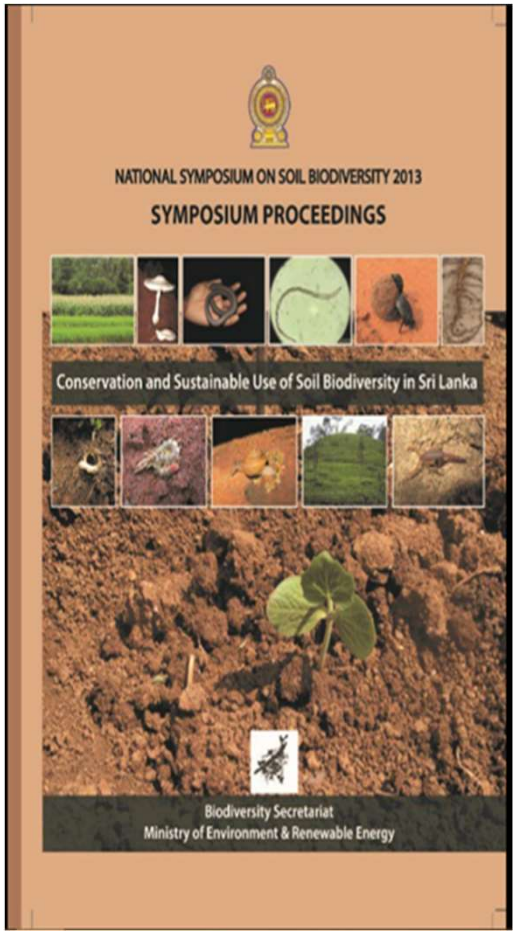
No.	Action	Indicator	Primary	Secondary	Time Frame	AT	SDGs	NT
1.	Establish a national list of species and ecosystem types with annual updating	Biodiversity Expert Group established to provide technical backstopping Species and Ecosystem Lists established and annually updated	**Biodiversity Expert Group**, BDS	DWC, FD, IEOs, NARA, DNBG, DNM, NGOs, CC&CRMD, Individual experts, Universities		19		HL2
2.	Establish a national biodiversity database to document biodiversity in all natural areas	Data base established Data entry, reporting, sharing and access protocols defined Mechanism for regular updating defined	**BDS**, DWC, FD	DNM, BEC, NARA, NGOs, Universities Individual experts		19		HL2
3.	Populate the database with existing data sets and update continuously	Database populated with all existing data sets	**BDS**, DNM, FD, DNBG, DWC, Individual Experts	IEOs, NARA, CC&CRMD, NGOs, Universities		19		HL2

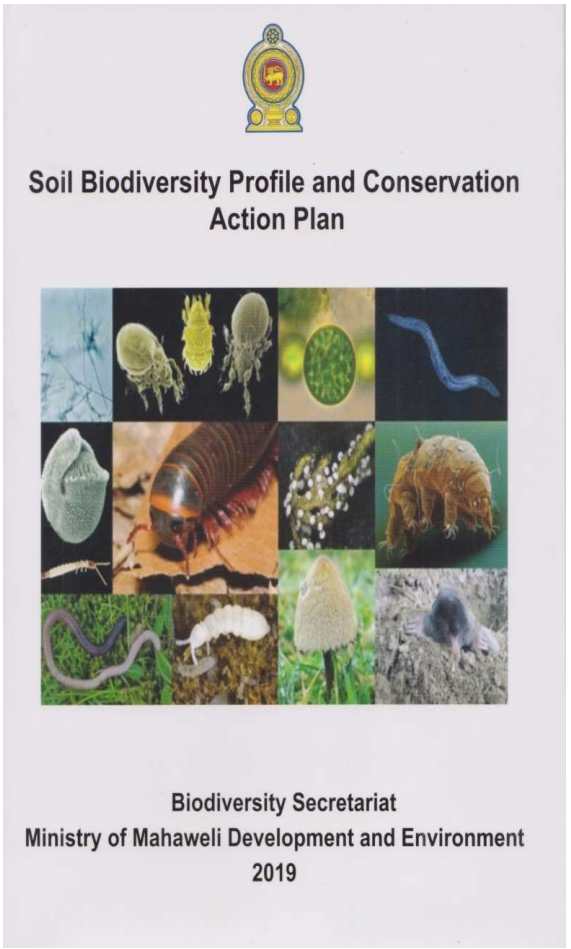

IUCN
The 2007 Red List of Threatened Fauna and Flora of Sri Lanka

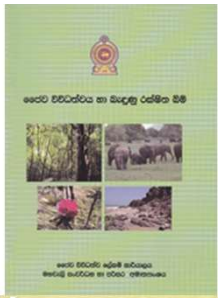

The National Red List 2012 of Sri Lanka
Conservation status of Fauna and Flora

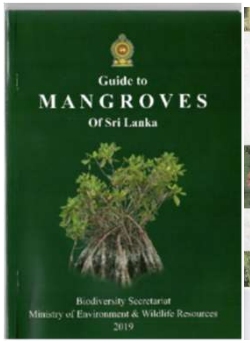
Butterfly gardens in schools

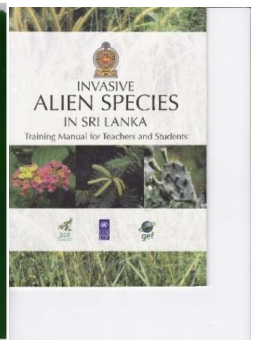
Invasive alien species management activities

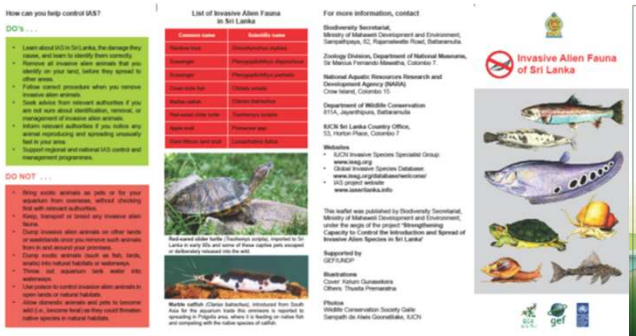

NATIONAL SYMPOSIUM ON SOIL BIODIVERSITY 2013
SYMPOSIUM PROCEEDINGS
Conservation and Sustainable Use of Soil Biodiversity in Sri Lanka
Biodiversity Secretariat
Ministry of Environment & Renewable Energy

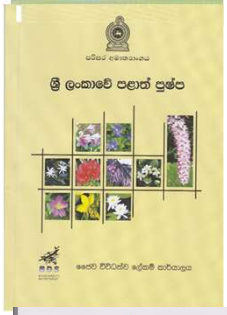

Soil Biodiversity Profile and Conservation Action Plan
Biodiversity Secretariat
Ministry of Mahaweli Development and Environment
2019

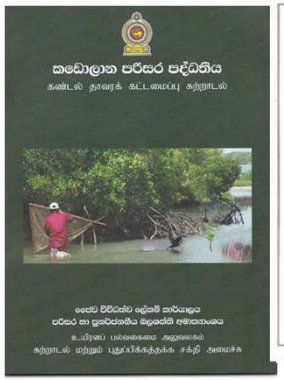


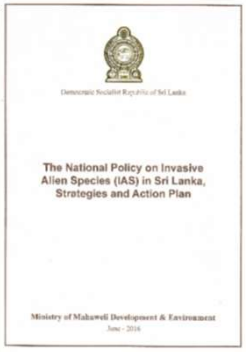


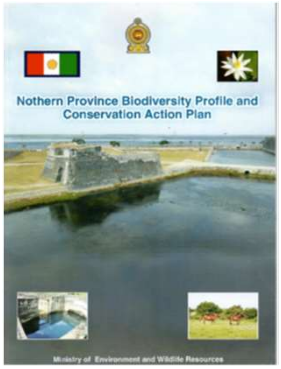


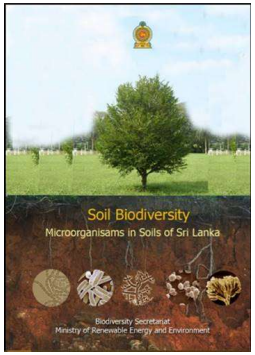


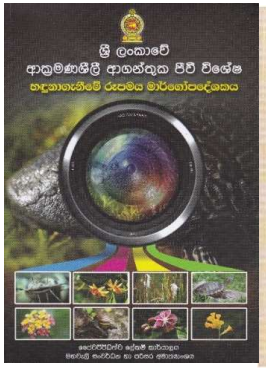


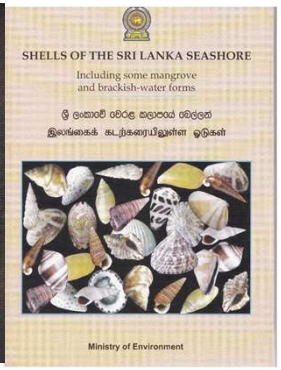


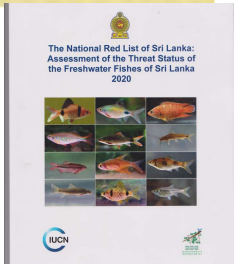




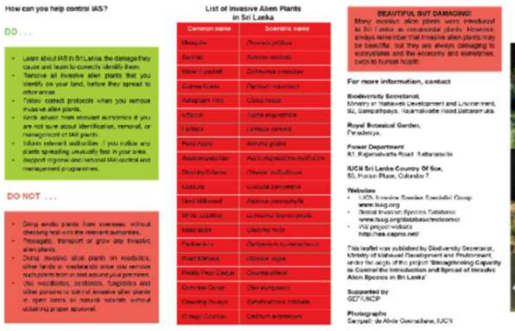


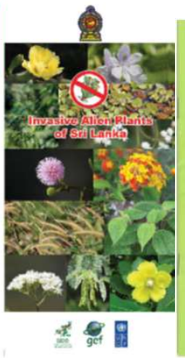






Some information materials





3. Protected area

- The Flora and Fauna Protection Ordinance (FFPO) - the DWC,
- The Forest Conservation Ordinance (FCO) - FD,
- National environmental Act implemented - Central Environmental Authority -
- The Coast Conservation Act (CCA) - the Coast Conservation and Coastal Resource Management Department (CC&CRMD),
- The Soil Conservation Act – Department of Agriculture
- Fisheries Management Areas and
- fisheries Reserves managed by the DF&AR

Total forests cover is 1,915,000 ha (29.7%) .

Total terrestrial protected area in relation to total land area is 18.7% under the FD and DWC (690,000 ha not under protected area)

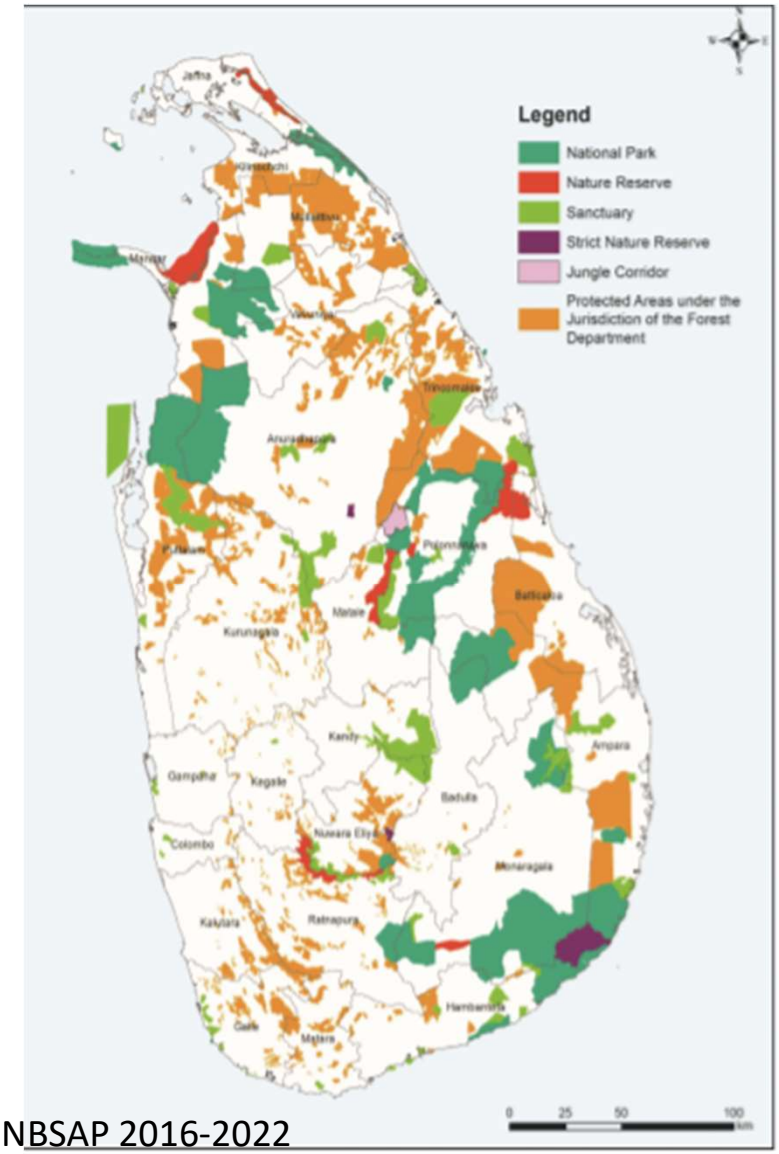
Marine protected area only 0.3%

Forests under the Forest Department (FD)
(1274363 ha)

- National Heritage Wilderness Area
- Conservation Forests
- Forest Reserve
- Forest Plantations
- Mangroves and other coastal habitats (reserves and conservation forests)

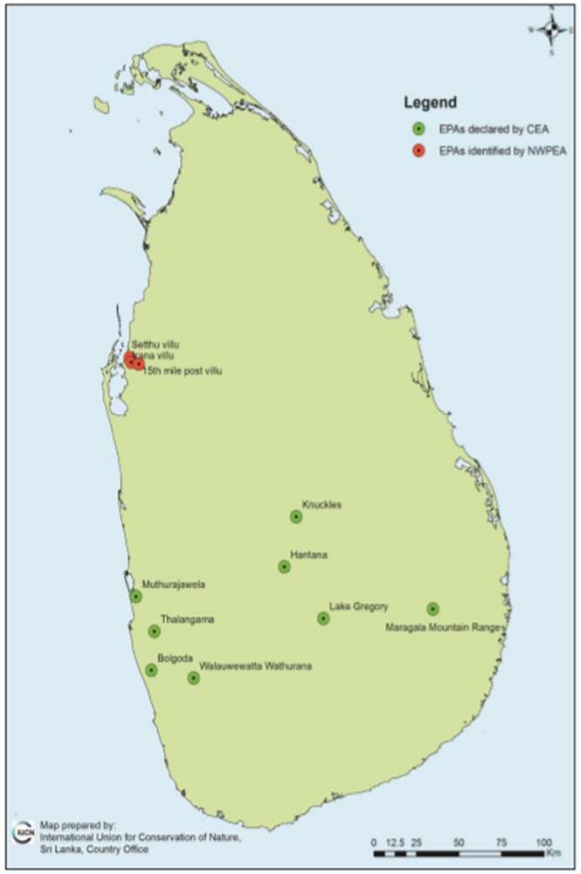
Forests under the Department of Wildlife Conservation (DWC)
(1074290 ha)

- National Parks Marine and Terrestrial
- Nature Reserves
- Sanctuaries
- Strict Natural Reserves
- Jungle Corridors
- Managed Elephant Area



NBSAP 2016-2022

Other Protected Area category



Maps NBSAP 2016-2022

- Environmental protection area
- Fisheries Management Areas and fisheries Reserves managed by the DF&AR
- Special Management Areas managed by the CC&CRMD

International protected categories

Other area based conservation measures

- Natural World Heritage Sites
(IUCN PA category X)
- Biosphere Reserves Recognised by UNESCO (Man and biosphere reserves)
(IUCN PA category IX)
- Ramsar sites

- Ecologically or Biologically Significant Marine Areas (EBSAs), namely: the southern coastal and offshore waters of Sri Lanka between Galle and Yala National Park; coastal and offshore area of the Gulf of Mannar; and Trincomalee Bay and associated ecosystems.

4. Challenges in implementation of NBSAP

- Absence of an appropriate multi-tiered structure to monitor implementation of the NBSAP.(Identification of clear roles and responsibilities among the different Government agencies, dealing with biodiversity management, at both national and subnational levels, to ensure better coordination, especially at the provincial and district levels.)
- Poor perception of potential offered by biodiversity for national development is another challenge. Hence, biodiversity receives low attention among key government policy makers, financial experts, top level administrators, bankers and business leaders. This has led to low priority for investments in biodiversity conservation and sustainable use of bio resources.
- Lack of trained staff to prepare compelling project proposals with strong justifications, links to development, and realistic budgets for submission to the budget department and external donors.
- Species and Genetic diversity within terrestrial , inland aquatic, coastal and marine habitat appears high but is incompletely known. This needs investigation from a scientific and economic point of view with more technical knowhow and financial assistance.
- Establishing an effective decision-making support system (i.e. Information Technology (IT) system) and use of scientific knowledge, including a long-term capacity-building strategy, in partnership with relavent stakeholders.
- Capacity building , knowledge sharing on taxonomy , ecology, species diversity, restoration of habitats, Strategic environmental planning etc

5. Conservation recommendation from 6th NR Sri Lanka

- 1. The threats mentioned above, unless addressed now, will result in irreversible loss of biodiversity and in turn, the direct and indirect services from species and their ecosystems. A careful look at the current polices and legislations also reveal, despite few gaps, Sri Lanka has sufficient provisions and institutional set ups to initiate strategic actions against these six threats. Hence, it is recommended that all stakeholders address these threats. This report provides the baseline as well as information regarding the severity and spread of threats specific to each taxa in each zone. It is suggested that agencies mandated to conserve biodiversity and ecosystems, allocate financial and human resources accordingly.
- 2. Synergy between agencies and open, honest discussions in engaging grass root level communities is vital. This report revealed the disparities in level of knowledge on national policies, action plans between national level stakeholders and others. Despite the presence of channels for greater engagement, a reluctance and a mistrust between developers and conservationist has often resulted in catastrophic environmental consequences. Ministry of Land and Ministry of Environment need to create a pathway for greater synergies and for win-win solutions. Most importantly, an apex body that has the power to coordinate the activities of various government departments vested with the responsibility of environment needs to be established as wildlife, forest, biodiversity and marine environments have never been under one agency.
- 3. Similarly, youth should be encouraged to be engaged and involved in decision making. Youth are under-represented and their level of awareness on biodiversity is not satisfactory. Hence, resources should be allocated to stimulate youth for greater involvement and to change their attitudes towards nature.

Conservation recommendation from 6th NR Sri Lanka cont……

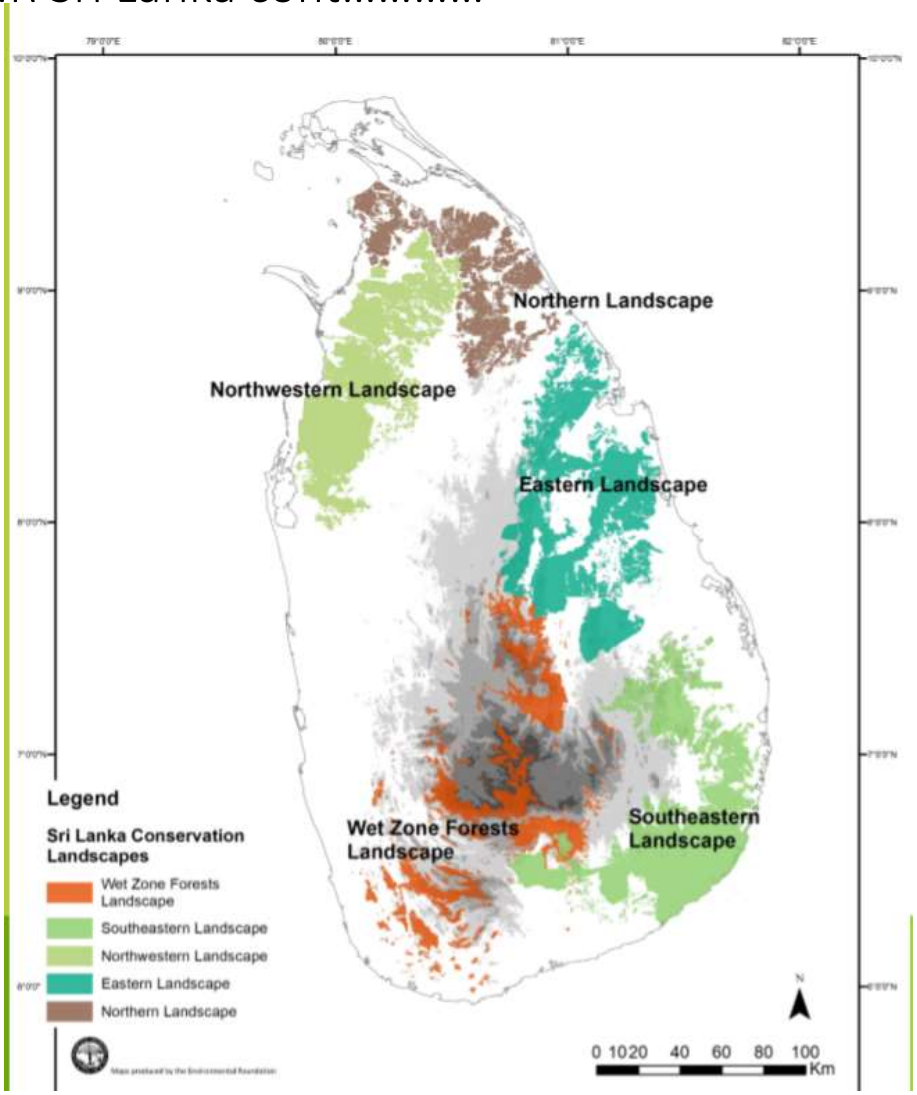
- 4. Valuation of ecosystem services and use of such data in decision making processes is vital.
- 5. Conducting strategic environmental assessments for energy, fisheries and aquaculture, irrigation, agriculture and coastal development to create synergies between institutions is vital. This will enable the formulation of an overall plan, for the development of the country whilst safeguarding the biodiversity and the services from ecosystems. As river diversions have emerged as one of the greatest threats to biodiversity, above mentioned strategic assessments will enable correct decision making.

Conservation recommendation from 6th NR Sri Lanka cont……

- 6. This report also revealed that funds are available for biodiversity and ecosystem conservation and opportunities for funding has been revealed from the Biodiversity Finance Initiative (BIOFIN). However, channeling of funding to grassroot level communities and areas of conservation importance still remains a challenge as well as sharing of income and wealth management by resource users to curb the need for constant funding by the government sector. Hence, alternative approaches such as greater involvement of national planning, banking sector as well as private entities should be encouraged and the environmental sector should cooperate with such initiatives.
- 7. Implementing the Clearing House Mechanism (CHM) and data sharing will enable implementing already existing plans and building on excising knowledge. Most urgently, an institution by mandate, should be vested with this responsibility of data governance and data transparency.
- 8. This report also recommends allocation of funding and resources for research beyond charismatics species. Research should also focus on broader ecological roles played by species, habitat needs, in-situ and ex-situ conservation, restoration of ecosystems, genetic diversity and uses.

Conservation recommendation from 6th NR Sri Lanka cont……

- 9. Greater attention to ocean, species and their conservation is also recommended. Identifying the drivers that stress the ocean and its habitants and implementing appropriate remedial measures are important.
- 10. Seeking novel pathways for protection of ecosystems is paramount. This report revealed that a greater part of endemic flora and fauna are distributed in the wet and montane zones that have the least percentage of protected areas. Hence, safeguarding biodiversity outside protected areas and systematic interventions to link and expand the five protected area clusters identified in this report should be commenced without further delay.



6. Technical and financial resources provided or received from multiple sources for implementation

According to BIOFIN findings,

Total expenditure in Core Biodiversity Agencies (CBA) has increased from 2.74 billion in 2010 to 5.12 billion in 2015 which is 86 percent growth in six years.

expenditure FD about Rs. 1 billion during the period of 2010-2015

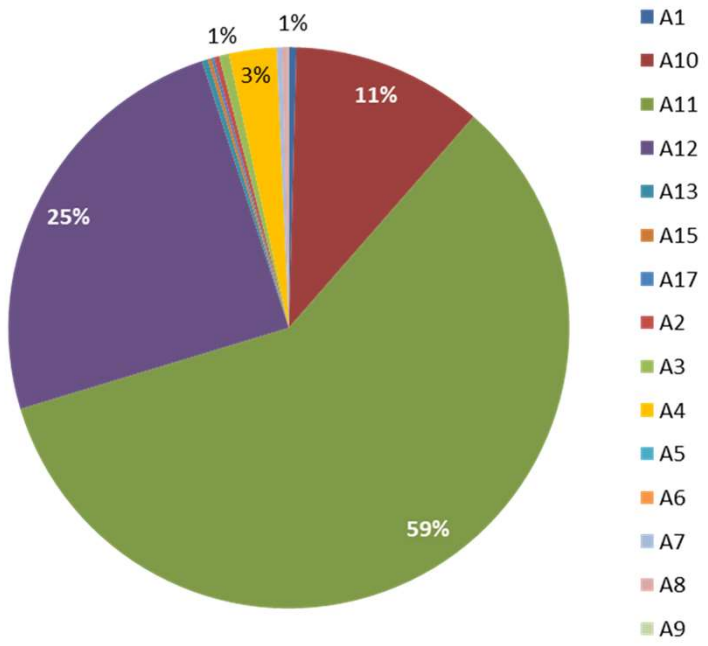
expenditure of DWC is around Rs.500 million.

Ministry of Environment Rs.472.4 million of attributed biodiversity expenditure in 2010 which has increased to Rs.1.574 Billion in 2015

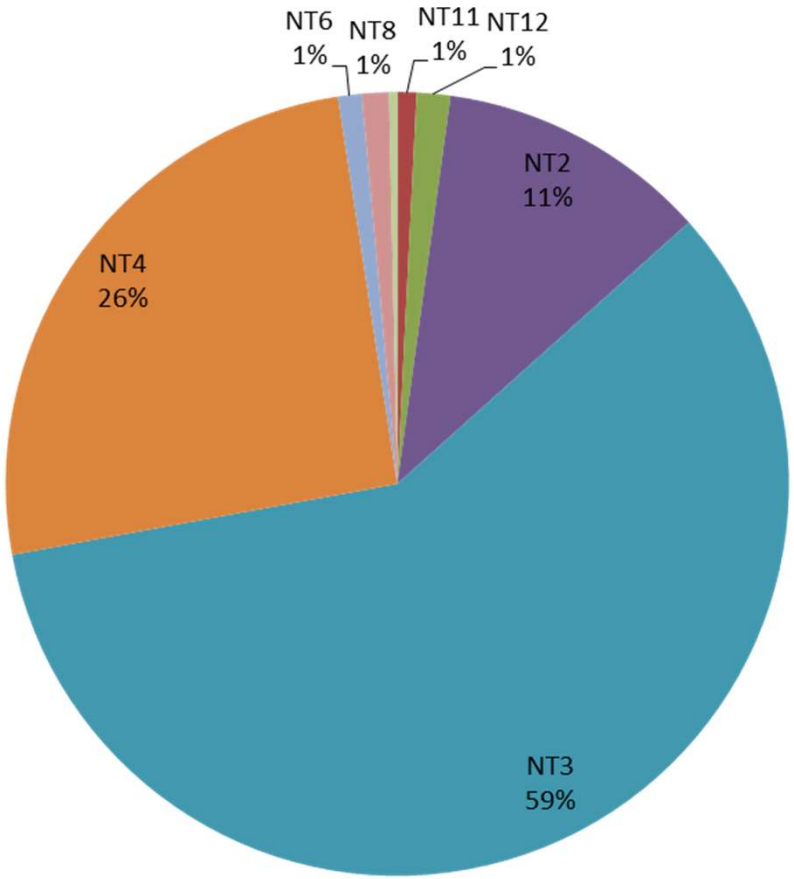
ADB, World Bank, USAID, DFID, CIDA, SIDA, KOICA, JICA, UNEP, UNDP, FAO,GEF, Green Climate fund also provided the funds for Biodiversity.

Technical and financial resources provided or received from multiple sources for implementation

Expenditure on Aichi targets



Expenditure on National targets



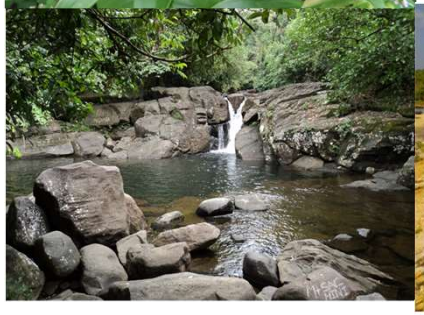
7. Preparation to post 2020 GBF

- Discussion with national expert committee on biological diversity
- Discussion with all relevant stake holders

Monitoring Elements

- Monitoring Elements
- area of forest ecosystems
- area of grasslands
- area of other terrestrial ecosystems
- area of mangroves
- area of coral reefs
- area of seagrass ecosystems
- area of other marine and coastal ecosystems
- area of wetlands
- fragmentation and quality of forest ecosystems
- species abundance





Thank you for your attention