

**REVIEW REPORTS THE TRIAL PHASE OF AN OPEN-ENDED  
FORUM FOR REVIEW OF IMPLEMENTATION OF NBSAP  
SRI LANKA**



## **Review reports the trial phase of an Open-ended Forum for review of implementation of NBSAP Sri Lanka**

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## 1.INTRODUCTION

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 area of 65,610 km<sup>2</sup> terrestrial and aquatic resources.



Sri Lanka's Location and Exclusive Economic Zone  
(Source: Map prepared by NARA accessed from Joseph, 2004)

Sri Lanka's impressive biodiversity can be attributed to its high ecosystem diversity, the result of a complex geo-evolutionary history (GOSL, 2008; Tan, 2005), geographic location, and a marked spatial variation in altitude (0 - 2,400 m) and rainfall with a rich cultural heritage of nature conservation and centuries of traditional farming. The island's indigenous fauna and flora are characterized by a remarkable endemism due to island formation about 20 million years ago.

Consequently, about 44% of the island's indigenous vertebrate species are endemic, with exceptional endemism among freshwater fishes, reptiles and amphibians (MoE, 2012). Among the 3154 flowering plants over 28% are endemic.

Variations in rainfall and altitude have given rise to many types of forests and grasslands, amongst which rainforests are the most important habitats for endemic species. Many of the endemics are also restricted to single forest locations.

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.

Further, wet zone forests are the watersheds for major rivers that provide freshwater to the nation. Sri Lanka also has a range of wetlands comprising more than 103 major rivers and various types of associated wetlands. Rivers, wetlands and tanks harbour many endemic aquatic species, but many of them are threatened due to human action.

Being a tropical island with a 1620 km of coastline and 532,619 km<sup>2</sup> of Exclusive Economic Zone the coastal areas harbour coral reefs, mangroves, seagrass beds, salt marshes, sand dunes and scenic beaches that provide a variety of marine bio-resources (Rajasuriya, 2012). The underwater reefs are particularly speciose with an array of associated organisms, comprising about 300 species of reef and reef associated fishes. The seas around the country are rich in food fishes (MoERE, 2014a; MoFARD, 2016). The mangrove ecosystem have 21 species of mangrove vegetation and many fauna species. Sri Lanka's coastal waters are also ranged by 28 species of marine mammals (Anouk Illangakoon, in Litt, 2016), including whales, dolphins and the dugong, and five species of marine turtles come periodically to nest on the island's beaches. Together, the natural and man made ecosystems in the island harbour a wide range of species that are important for various economic activities including tourism.

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.

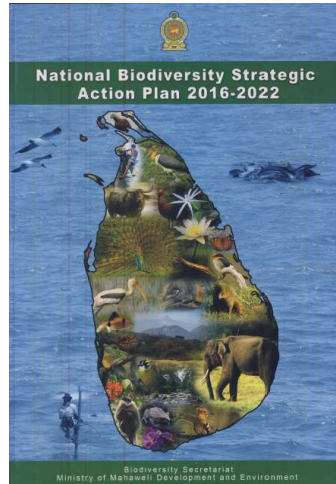
Sri Lanka's indigenous agro- and livestock biodiversity in traditional farming systems accommodate a high genetic diversity, particularly seen among indigenous fruits and vegetables, beverage crops, spices, stimulants (such as betel) and livestock (BDS and MoMD&E, 2016;). Presence of numerous traditional rice (*Oryza sativa*) varieties and 410 wild relatives of rice, vegetables and 'other crops' in farmer's fields, forests and wetlands are rich in the country. They offer significant potential for crop enhancement to ensure food security in the future, especially in the face of climate change.

These biological wealth of the country is given life and character to its people, and provided goods and services for human wellbeing and economic development. Components of the island's biological diversity, and the numerous ecosystem services they support, form the island's natural capital, essential to meet the needs of its 21 million people.

Sri Lanka, however, is vulnerable to biodiversity loss and erosion due to many factors, the socio-economic and ecological implications of which will be considerable and wide ranging. There will be inevitable negative impacts on the nation's food security, rural livelihoods, and the nutrition and health of people in the country as well.

Over exploitation, habitat loss and 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.ACTIONS THAT HAVE BEEN TAKEN TO IMPLEMENT THE CONVENTION AND STRATEGIC PLAN FOR BIODIVERSITY 2011-2020, INCLUDING LEGISLATIVE ACTIONS.**



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. Following the ratification of the CBD, Sri Lanka has prepared a Biodiversity Action Plan. The purpose of this document was to identify the means by which an action plan would be developed. Following this, in 1996, as an obligation to the CBD, the Government formulated a first national action plan for biodiversity conservation under name of “ Biodiversity Conservation in Sri Lanka - A framework for action “ (BCAP) in 1998. This BCAP proposed the establishment of the Biodiversity Secretariat, a National Steering Committee (NSC) and several Task Forces and 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).

Sri Lanka became a Party to the Cartagena Protocol on Biosafety in 2004. National biosafety framework and National policy on biosafety (2005) is in placed. The National REDD+ Investment Framework and Action Plan (NRIFAP). Readiness Plan for Implementation of Intended Nationally Determined Contributions (INDCs) 2017- 2020, National Adaptation Plan for Climate Change Impacts in Sri Lanka (2016-2025) , National Action programme for combating land degradation in Sri Lanka (2015-2024) and national policies and legislations were enacted to achieve the objectives of the CBD.

The National REDD+ Investment Framework and Action Plan (NRIFAP) is very comprehensive document was finalized after publication of the NBSAP. It encompasses specific actions for reducing deforestation and degradation of forests (including wildlife reserves), and enhancing carbon stocks in home gardens and forest plantations.

The actions of Readiness Plan for Implementation of Intended Nationally Determined Contributions (INDCs) 2017- 2020 are prepared for the Forestry sector, Agricultural, livestock, fisheries, water coastal and biodiversity sectors are directly related to Biodiversity finance processes. Further, the INDCs for other sectors (Energy, transport, Industry, waste management, irrigation, urban city planning and human settlements, tourism and recreation sectors are also relevant to reduce impact

on biodiversity. Biodiversity is considered apart from other sectors such as agriculture, coastal and forests in this document.

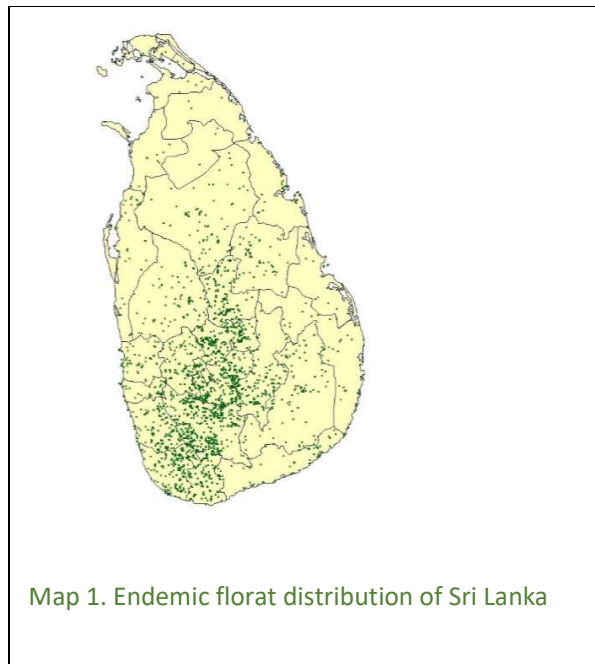
National Adaptation Plan for Climate Change Impacts in Sri Lanka (2016-2025) elaborate the national vision and strategic position to the threat of climate change. The NAP has been guided by the Policy and Strategy as well as guidelines provided by UNFCCC. The main planning approaches in the document are: mainstreaming adaptation to national development, integration of sectoral and cross-cutting national dimensions, and anticipatory adaptation. The plan considers several important sectors: Food security; water resources; coastal and marine sector; human settlements and infrastructure; ecosystems and biodiversity; tourism and recreation; export agriculture; industry energy and transportation; other cross-cutting needs for adaptation.

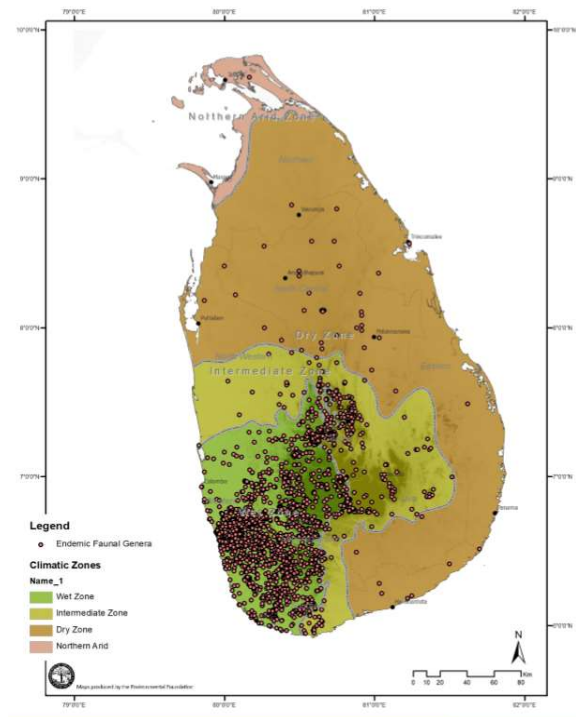
A mechanism for Implementation of Land Degradation Neutrality (LDN) and LDN Target LDN Leverage Plan is being prepared and is already worked out. The strategy being used achieve LDN targets are: Mainstream LDN into land use planning and more specifically identify and implement measures to achieve LDN targets. This is extremely important for biodiversity conservation as well.

### **3. OUTCOMES OF THESE ACTIONS AND PROGRESS MADE**

#### **3.1 ESTABLISHING AND UPDATING SPECIES DATABASES**

Establishing and updating species databases and institutionalizing the 'Red Listing' of nationally threatened species by the Ministry dealing with Environment is a significant achievement. Using species data base prepared following maps (Map 1 Endemic plant distribution, Map 2 Endemic faunal Genera distribution in Sri Lanka)





Map 2. Endemic Fauna distribution of Sri Lanka

### 3.2 IN-SITU CONSERVATION

The most important laws governing biodiversity conservation are the Flora and Fauna Protection Ordinance (FFPO) implemented by the DWC, the Forest Conservation Ordinance (FCO) implemented by the FD, National environmental Act implemented by the Central Environmental Authority, the Coast Conservation Act (CCA) implemented by the Coast Conservation and Coastal Resource Management Department (CC&CRMD), the Soil Conservation Act and Plant Protection Act implemented by the Department of Agriculture (DoA), and the Marine Environment Protection Act implemented by the Marine Environment Protection Agency (MEPA). the Coast Conservation Act (CCA) implemented by the Coast Conservation and Coastal Resource Management Department (CC&CRMD), the Soil Conservation Act and Plant Protection Act implemented by the Department of Agriculture (DoA), and the Marine Environment Protection Act implemented by the Marine Environment Protection Agency (MEPA).

The Forest Department (FD) and the Department of Wildlife Conservation (DWC) bear principal responsibility for managing the country's forest and wildlife resources. At present the country has a natural forest cover of 1.95 million ha (Table 1) amounting to 29.7% of the island. However, actions taken by the FD since the 1990s have slowed deforestation considerably. The prohibition of timber extraction from natural forests in Sri Lanka in 1990, with the acceptance that they should be conserved rather than exploited, is one of the most important milestones in the recent history of biodiversity conservation in the country.

The Protected Areas managed by the FD comprise Reserved Forests, one National Heritage and Wilderness Area (NHWA) and Conservation Forests, all of which are on State land. The DWC is responsible for the management Strict Natural Reserves, National Parks (including four Marine National Parks), Nature Reserves, Jungle Corridors, Sanctuaries and Managed Elephant Areas. The latter two categories may occur on both state and private lands, but the others are on State land. Environment Protection Areas (EPA) under the Central Environmental Authority (CEA) can be on both State and private lands. Awareness programmes and boundary marking of most forest and wildlife reserves through various projects have helped reduce forest encroachments in the wet zone.

Table 1

Forests category	Total forest area Ha in 2010
<b>Closed canopy dense forest</b>	1,438,275
<b>Open canopy sparse forest</b>	429,485
<b>Total natural forest cover</b> <i>(including mangroves and savannah)</i>	1,951,473

With in the Coastal and marine areas, fisheries management areas have been introduced, consequent to which other species too derive indirect protection in these areas that are community managed under supervision of the Department of Fisheries and Aquatic Resources (DFAR). Furthermore, about 30 Special management areas have been identified to step-up integrated management in the coastal zone, are promoted by the Coast C&CRMD. Further, three areas in Sri Lankan waters have been identified and agreed on as 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.

The National Environmental Act (NEA) No. 47 of 1980 and its subsequent amendments make provision for the protection, management and enhancement of the environment and for the prevention, abatement and regulatory control of pollution.

The number of farmers are cultivating traditional rice varieties and vegetables and promoted by department of Agriculture(DoA). There have been several joint projects between the Ministry of Environment (Biodiversity Division) and the Department of Agriculture for 'in- situ conservation of Crop Wild Relatives Project, for information management and enhanced field application in 2004-2009; "Mainstreaming Biodiversity Conservation and Sustainable Use for Improved Human Nutrition and Wellbeing", "Mainstreaming Agro-biodiversity Conservation and Use in Sri Lankan Agro-ecosystems for Livelihoods and Adaptation to Climate Change".

Overall, the National Physical Planning Policy and Plan prepared by the National Physical Planning Department (NPPD) aims to provide the policy framework for integrated physical planning in the country. It identifies "fragile or sensitive" (i.e., the hill country and coastal belt which are respectively vulnerable to impacts from landslides and coastal erosion, tsunamis, etc. Under the



elements of the plan it includes, Conservation of valuable environmentally sensitive areas, Protecting valuable rural areas along with agricultural lands, Protecting the forest reserves, wildlife sanctuaries and archaeological reserves etc.

### **3.3 Ex –Situ Conservation**

There is also a rise in research and outputs by the DoA about the benefits and uses of traditional fruits/vegetables and organic farming, etc. Facilities for ex-situ conservation of indigenous wild plant species as well as agricultural crops have been enhanced over the years.

The Department of National Botanic Gardens (DNBG) aims to establish botanic gardens in all major 15 floristic regions of the island, and has already established 5 Gardens, including 2 new gardens established since 2008. There are also several herbal gardens and a medicinal garden at Ganewatte and several privately run arboreta. The newly set up Botanic Gardens at Seethawaka and Hambantota focus significantly on ex-situ conservation of indigenous species. The role of the DNZG for ex-situ conservation has increased.

### **3.4 DETAILS OF THE LAWS THAT ARE MOST IMPORTANT FOR BIODIVERSITY CONSERVATION DIRECTLY OR INDIRECTLY AS FOLLOWS**

There are over 30 state institutions involved with the conservation of biodiversity in Sri Lanka, either directly or indirectly. A total of 53 institutions and 17 stakeholder groups are identified in the NBSAP as having primary responsibility for implementing its 87 recommendations

The Forest Department (FD) and the Department of Wildlife Conservation (DWC) are mandated with conserving forest and wildlife biodiversity respectively. The Central Environmental Authority (CEA), also under the MoMD&E, houses the Wetland Unit which implements the Wetlands Policy. The Marine Environment Protection Authority (MEPA) and Coast Conservation and Coastal Resources Management Department (CC&CRMD) are the main agencies for conservation of marine and coastal systems. They too are also under the MoMD&E, and this has facilitated better coordination between each other and with the MoMD&E. The Department of Fisheries and Aquatic Resources (DFAR), the National Aquatic Resources Development Agency (NARA), and the National Aquaculture Development Agency (NAQDA) which have a stake in conserving fisheries and aquatic biodiversity are under the Ministry of Fisheries and Aquatic Resources Development (MF&ARD).

Policies, plans and programmes in the forestry and wildlife sub-sectors reflect concern for biodiversity conservation, and significant steps have been taken to better manage forest and wildlife biodiversity. The FFPO and the FCO provide the main legal framework for establishment and management of Protected Areas, while The FFPO also protects selectively listed animal and plant life wherever they are found. Both provide measures to control the export of wild biodiversity. The Forest Policy of 1995, the Wildlife Policy of 2000 together with the Forestry Sector Master Plan of 1995 provide the main policy and strategic direction for conservation of forests, wildlife and species. The National Wildlife Policy of 2000 (DWC, 2000) addresses biodiversity conservation, while the National Forest Policy of 1995

The draft National Policy for Access and Benefit Sharing from Biological Material is nearing completion. It addresses developing and maintaining appropriate policy, legal measures,

mechanisms and capacity to regulate Access to Biological Material and enable its sustainable use, while ensuring fair and equitable benefits from providing 'Access'. While there are no special laws concerning access to genetic resources, the existing legal framework provided by the FFPO and the FCO and some other laws are deemed adequate.

Policies to ensure biosafety and control the entry, establishment and spread of Invasive Alien Species (IAS) have been established Sri Lanka enhanced capacity for biosafety through the UNDP/GEF funded Biosafety Framework Project which led to ratifying the Cartagena Protocol on Biosafety in 2004 and participating in the UNEP/GEF regional project for Building Capacity for Effective Participation in the Biosafety Clearing House (BCH) mechanism. the National Biosafety Policy of 2011 provide a strong basis to ensure biosafety in the country. A project to implement the Biosafety Framework has commenced.

The Coast Conservation Act (CCA) No. 57 of 1981 and its subsequent amendments legislate for governance of the coastal zone and controls development in it. The periodically revised Coastal Zone Management Plan (CZMP) also forms an important legal instrument once gazetted after receiving Cabinet approval. Although its main focus is on increasing fish production and welfare of the fishers, Integrated management of coastal resources with the support of local people through Special Area Management (SAM) planning was initiated by the CC&CRMD (then CCD) at Rekawa and Hikkaduwa in 1991. This approach was not adequately incorporated into coastal zone management despite wide stakeholder consultation, attributed to problems of institutional coordination that preclude effective implementation of the CZMP (MoENR, 2007b). Special Management Areas are now established under the CCA of 2011.

The Fisheries and Aquatic Resources Act No. 2 of 1996 (and its amendments) deal with conservation and sustainable use of fish and other aquatic resources in marine and inland areas. The National Fisheries and Aquatic Resources Policy of 2006 (MoFARD, 2006) prepared while seeking to meet national nutrition requirements, and increase productivity from the fishery sector, addresses conservation of the aquatic environment through environmentally friendly management of the fishery.

The Department of Agriculture (DoA) is responsible for conservation of agro-biodiversity; covering fruits and vegetables, other field crops, and rice through its agencies such as the Plant Genetic Resources Centre (PGRC) and several crop research institutes. Its Natural Resources Management Centre (NRMC) implements the Soil Conservation Act, while the Seed Certification section and Plant Protection service deals with plant quarantine and protection, ensuring high quality of seeds that reach farmers, and regulating pesticide use through the Office of the Registrar of Pesticides. The research stations of the Department of Export Agriculture (DEA) breed minor export agricultural crops to display desirable traits using wild/traditional varieties of crops. The Department of Animal Production and Health (DAPH) and the Veterinary Research Institute (VRI) facilitate livestock biodiversity conservation and sustainable use through use of indigenous animal germplasm for livestock breeding. It also deals with animal quarantine. Both DoA and DAPH function as central government agencies. There is a Director of Agriculture positioned in each District Secretariats to play a monitoring and coordinating role. The agriculture and livestock activities are implemented at the ground level by provincial ministries and departments handling agriculture and livestock.

### **3.5 SOME ACHIEVEMENTS THROUGH NBSAP IMPLEMENTATION AS EXTRACTED FROM 6<sup>TH</sup> NATIONAL REPORT**

#### **3.5.1 PROTECTED AREA HABITAT**

Nayaru Nature Reserve and Nandikadal Nature Reserve gazetted in 2017 (Gazette Extraordinary no.2003/ 10) by the DWC. Status assessment has been conducted by NARA where Little and Great Besses have been identified as sensitive sites and DWC have received cabinet approval to be declared as a Marine sanctuary and to expand Kahala Pallekele Sanctuary, Kayankerni Marine Natural Reservation, to declare 25 ha around Kotuaththalawa Tank in Kurunegala District as Kotuaththalawa Sancturay, to declare 134 ha in Akurela Forest in Galle District as a Wildlife Sanctuary, to declare 12 ha of Kodigahakanda forest area in Kalutara District as a Wildlife Sanctuary and to declare new boundaries for the Maadu River Sanctuary in Galle District. A marine unit has been established at the DWC. Protected area network mapped out . Kala Wewa Kahalla-Pallekele Protected Area Complex Management Plan 2017-2022 and Wilpattu Strategic Management Framework have been developed by DWC. Central Environment Authority declared Warathenna-Hakkinda area in Kandy district as an Environmental Protection area (EPA) as it contains a highly sensitive riparian ecosystem that provide habitats for a number of threatened flora and fauna. Marine Conservation Centre in Dodanduwa has been established in 2017 by DWC. Special Monitoring and Reporting Tool (SMART) patrolling training have been provided to DWC staff and patrolling has been initiated in the Southern and Uva wildlife regions. Some endemic and wetland plant species being planted in the premises as a part of conservation activities being conducted within the park. Diyasaru Wetland Park Which is located in Thalawathugoda maintained by SLLRDC and provide habitats for many endangered and endemic fauna.

Areas of high palaeobiodiversity are identified by the BDS. Biodiversity Sri Lanka (BDSL) (Private Sector) BSL partnered with Dilmah Conservation and the Lanka Institute of Cave Science (LICAS) in August 2017, to address lack of information on caves by conducting rapid biodiversity surveys of 20 caves in Sri Lanka.

#### **3.5.2 BREEDING PROGRAMME AND SPECIES CONSERVATION**

Galleries and research facilities in Natural History Museum (DNM) are upgraded to improve ex-situ conservation. Number of threatened sp. are already successfully bred. New three breeding centers have been proposed for construction and construction of one breeding centre has started (DNZG) ( By 2019 there will be conservation centers in Gonapola and Rideeyagama Safari Park and breeding centers will be established and expected to expand to Pinnawala by 2020). Regulations have been drafted by the DWC for regularizing activities of private sea turtle conservation and study centres

Biodiversity Protection Unit of Sri Lanka Custom (SLC) carry out active screening to identify illegally traded flora and fauna and takes appropriate action in any violation is detected. Department of Fisheries is tracking multi day boat by using vessel monitoring system, E-log book system and Port State Measures to prevent illegal and destructive fishing . Private sector (e.g. Jetwing Hotels) fund projects that conserve habitats for endangered endemic species and conduct biodiversity research awareness programs.

Inland fishing guidelines have been prepared and a programme has been conducted in Kalpitiya to promote best practices to minimize the destructive harvesting methods by DWC.

Seed banks have been established in Milaniya, Giribawa and Udukumbara sites under the Biodiversity for Adaptation to Climate Change (BACC) project. DoA and PGRC are improving facilities to enhance the germplasm conservation and utilization (e.g. establishing seed testing and certification laboratories in Paranthan and Murunkan for conserving plant and genetic material, conducting training for officers for identifying genetic enrichment and identifying pea variants).

National Aquaculture Development Authority (NAQDA) has established a "Fish Genetic Resource Development Centre" in Dambulla in 2017. NAQDA will start breeding two threatened fish sp. using this facility. "Fish Sperm Bank" is being established and this facility could be used to preserve fish sperms for longer periods and facilitate artificial breeding programs.

PGRC is conducting the following programmes for conservation and sustainable utilization of traditional genetic resources such as Characterization of rice germplasm for drought tolerant , Molecular Characterization of Annona germplasm, Tagging of Yellow Vein Mosaic Virus (YVMV) resistance gene in wild Okra , Analysis of Genetic Diversity of Nai miris , Molecular characterization of selected Dioscorea accessions , Genetic variation in Anthurium, Varietal screening for virus vectors (Bitter gourd) , Brinjal genotypes for resistance/tolerance to shoot and fruit borer, Screening of Banana planting material against panama disease, Identification of genetic diversity in Kolikuttu banana , Development of transgenic papaya through Agrobacterium mediated transformation.

### **3.5.3 AWARENESS, RESEARCH AND EDUCATION**

Special wetland conservation projects have been implemented by SLLRDC in the "Diyasaru Uyana" to create awareness about wetland biodiversity and endangered animals like the fishing cat. Urban Fishing Cat Conservation Project is conducted in collaboration with Sri Lanka Land Reclamation and Development Corporation (SLLRDC) and DWC.

MoMD&E has carried out awareness programs for the government teachers on environment education introduced under the new syllabus (2017-2021). Updates on teacher guidelines have been carried out by the National Institute of Education (NIE). Research on Biological Diversity involving access to Genetic Resources has been developed.

### **3.5.4 POLICY**

Draft National Policy on access to Biological Resources and Benefit Sharing is being finalized by the Ministry of Mahaweli Development and Environment (MoMD&E). Commercial and non-commercial Material Transfer Agreement have been prepared and used by forests department. Code of Ethics for Bio-cultural community protocol for Kitul (*Caryota urenus*) has been identified for conservation of traditional practices.

### **3.5.5 CLIMATE CHANGE ADAPTATION**

Department of Irrigation is developing a basin investment plans following modeling of flood and drought risk in ten river basins identified on priority basis. Comprehensive basin wide investment plans that incorporate competing risks of both flood and drought are expected to be produced under this project. Addressing Climate Change Impacts on Marginalized Agricultural Communities Living in the Mahaweli River Basin of Sri Lanka.

Home Gardening Promotion Program was implemented in 14,784 villages covering all the districts throughout the country by the Ministry of Agriculture. Objective of the project was to select 20 women beneficiaries from one village and establish 295,680 sustainable home gardens at the end of the year 2016. Project was implemented through beneficiaries in both urban and rural areas. As an encouragement to begin the program small pack of vegetable seeds and 5 fruit plants were provided free of charge to the beneficiaries. Many reforestation activities were conducted by the FD.

CC&CRMD has conducted participatory coastal zone restoration and sustainable management of coastal resources by in the Eastern Province. Green belts have been established and disaster risk reduction activities have been carried out in Trincomalee, Ampara and Batticaloa districts (Annual Report 2016, 2017 – MoMD&E).

Project of “Sludge Removal, Rehabilitation and Renovation of 1500 Small Tanks” has been implemented by the Department of Agrarian Development in the year 2017, with the objective of promoting sustainable agriculture, reduce impacts of climate change on agriculture. Data is being collected to assess the vulnerability of selected crop production systems in the dry zone of Sri Lanka. Additionally, steps have been taken to re-cultivate 938 ha of abandoned paddy lands by providing subsidies to rehabilitate lands with poor soil fertility. LUPPD has initiated preparation of land restoration plans for selected micro watersheds in Badulla, Nuwaraeliya and Kandy districts in Central Highlands under degraded agricultural lands rehabilitation project. LUPPD also conducted the “Punarudaya” National Environmental Conservation Programme to restore watersheds, river banks, tank catchments in selected districts (Ratnapura, Nuwaraeliya, Matara, Kalutara). BDSL (Private Sector) joined hands with the FD, IUCN Sri Lanka and HSBC to conserve the Puwakpitiya Oya mini watershed in August 2015.

#### **4. TECHNICAL AND FINANCIAL RESOURCES PROVIDED OR RECEIVED FROM MULTIPLE SOURCES FOR IMPLEMENTATION**

The Biodiversity Expenditure Review (BER) conducted through the project on BIOFIN Initiative in Sri Lanka. Review of expenditure on biodiversity indicates that Sri Lanka has spent Rs.7.15 billion on conservation of biodiversity in the country in 2015 by the public sector only. This amount represents 125 percent growth over the expenditure on biodiversity reported in 2010. These figures are estimates based on reported allocations and expenditures extracted from various secondary sources that were refined with the support of stakeholders from main agencies involved in BER process in Sri Lanka.

Financial resources provided or received from multiple sources for Implementation is attached (Attachment 1 , Attachment 2 and Attachment 3) Technical support also provided through those project and public sector.

#### **5. ANY NEED FOR ADJUSTMENTS OF THE CURRENT NBSAP**

- a). Present implementation mechanism given in the NBSAP can be reviewed to have an efficient coordination and monitoring institutional framework (including relevant Task Force and Working Groups) to facilitate and track NBSAP implementation.
- b). Re-establishment of the district Environmental Committees (DEC) to monitor the implementation of NBSAP. This could be used as “vehicle” to mainstream biodiversity conservation and promote adherence to national policies at district level.
- c). Capacity should be built for communication and negotiation to assist mainstreaming and holistic integration of biodiversity concerns into other sectors, and to communicate the NBSAP recommendations and other biodiversity related policies and plans to all relevant target groups. This needs implementing a comprehensive communication strategy that follows due process and avoids common communication mistakes.
- d). It is necessary to encourage the engagement of the business sector to make them viable partners for biodiversity conservation, supported by messages that communicate a business case for investing in biodiversity conservation.

## **6. UNRESOLVED CHALLENGES IN IMPLEMENTATION**

- a). Absence of an appropriate multi-tiered structure to monitor implementation of the NBSAP.
- b). 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.
- c). Lack of trained staff to prepare compelling project proposals with strong justifications, links to development, and realistic budgets for submission to the Department of National Budget, National planning Department and external donors.

## 7. REFERENCES

1. National biodiversity strategic action plan 2016-2022 sri Lanka
2. 6<sup>th</sup> national report for Convention on Biological Diversity, Sri Lanka
3. Volunteer Peer Review Sri Lanka.
4. The Policy and Institutional Review Sri Lanka (Biodiversity Finance Initiative, Sri Lanka)
5. Biodiversity Expenditure Review of Sri Lanka (Biodiversity Finance Initiative, Sri Lanka)
6. Biodiversity finance plan 2018 – 2024 (Biodiversity Finance Initiative, Sri Lanka)

**Attachment 1 : Recurrent and capital allocations and expenditures in Core biodiversity Agencies (CBAs)**

Organization/ Type of expenditure	Rs. Million											
	2010		2011		2012		2013		2014		2015	
	Alloc.	Expend.	Alloc.	Expend.	Alloc.	Expend.	Alloc.	Expend.	Alloc.	Expend.	Alloc.	Expend.
<b>Forest Department</b>												
<b>Recurrent</b>	741.10	718.09	822.37	791.91	852.70	814.41	909.57	839.86	904.82	885.58	1,198.59	1,188.99
<b>Capital</b>	284.50	283.76	387.25	382.92	413.25	374.92	453.90	452.17	749.50	747.01	847.75	843.03
<b>Total</b>	1,025.60	1,001.85	1,209.62	1,174.84	1,265.95	1,189.33	1,363.47	1,292.04	1,654.33	1,632.60	2,046.34	2,032.02
<b>Department of Wildlife Conservation</b>												
<b>Recurrent</b>	453.06	433.27	430.70	428.30	483.07	480.68	531.61	527.12	653.03	652.16	973.62	956.15
<b>Capital</b>	552.95	518.43	513.29	403.14	737.35	424.15	642.90	469.74	810.65	591.41	658.00	587.08
<b>Total</b>	1,006.01	951.70	943.99	831.45	1,220.42	904.84	1,174.51	996.86	1,463.68	1,243.56	1,631.62	1,543.23
<b>Department of National Zoological Gardens</b>												
<b>Recurrent</b>	133.94	133.31	146.73	146.42	150.11	146.15	172.20	172.08	221.75	219.99	299.78	299,080
<b>Capital</b>	267.35	237.88	677.90	207.72	763.425	149.52	647.03	351.42	516.98	163.31	596.65	564.15
<b>Total</b>	401.29	371.19	824.63	354.13	913.54	295.67	819.23	523.50	738.73	383.31	896.43	863.23
<b>Department of National Botanical Gardens</b>												
<b>Recurrent</b>	154.18	149.64	158.760	154.97	174.88	174.32	226.95	208.29	236.54	236.46	337.21	332.79
<b>Capital</b>	150.59	148.98	438.11	249.24	360.25	311.46	598.15	424.44	425.30	419.55	369.30	349.22
<b>Total</b>	304.77	298.62	596.88	404.21	535.13	485.78	825.10	632.73	661.84	656.01	706.51	682.01



**Attachment 2.** Recurrent and capital allocations and expenditures in Plant genetic resources centre and National plant quarantine service

Organization/ Type of expenditure	Rupees. Thousands											
	2010		2011		2012		2013		2014		2015	
	Alloc.	Expend.	Alloc.	Expend.	Alloc.	Expend.	Alloc.	Expend.	Alloc.	Expend.	Alloc.	Expend.
<b>Plant Genetic Resources Centre (PGRC)</b>												
<b>Recurrent</b>	9,921.40	8,569.80	10,746.00	10,099.21	11,306.00	10,838.72	13,321.13	12,322.01	13,436.0	12,566.93	9,703.33	9,596.29
<b>Capital</b>	3,095.00	2,813.51	3,480.00	2,765.85	2,580.00	2,170.52	3,345.00	3,070.20	3,145.00	2,481.14	5,016.00	5,015.83
<b>Total</b>	13,016.40	11,383.30	14,226.00	12,865.06	13,886.00	13,009.24	16,666.13	15,392.20	16,580.96	15,048.07	14,719.33	14,612.12
<b>National Plant Quarantine Services (NPQS)</b>												
<b>Recurrent</b>	5,354.06	4,217.02	62,080.00	5,431.46	7,502.00	6,846.10	8,974.33	8,142.54	11,339.72	11,095.63	12,155.00	11,021.04
<b>Capital</b>	4,921.10	2,874.33	68,110.000	3,410.04	6,278.00	3,130.84	7,033.00	3,696.35	7,435.95	3,288.03	12,152.78	10,353.36
<b>Total</b>	10,275.16	7,091.34	130,190.00	8,841.50	13,780.00	9,976.94	16,007.33	11,838.89	18,775.68	14,383.66	24,307.78	21,374.40

**Attachment 3 : Allocation of funding for biodiversity related projects by GEF and IUCN grant facilities to Non-Governmental Organizations (NGOs)**

Area of the project	Number of projects	Value Range Min-Max (US\$)	Yearly values of grants (US\$ and Rs. Mn)											
			2010		2011		2012		2013		2014		2015	
			US\$	Rs.Mn	US\$	Rs.Mn	US\$	Rs.Mn	US\$	Rs.Mn	US\$	Rs.Mn	US\$	Rs.Mn
<b>BE reported by NGOS on IUCN request</b>			<b>2.66</b>		<b>2.18</b>		<b>2.12</b>		<b>3.28</b>		<b>4.13</b>		<b>7.78</b>	
<b>GEF Small Grants Program</b>														
<b>Biodiversity</b>	41	13,728-50,000	278,142	31.43	41,600	4.6	21,407	2.73	97,936	12.64	590,986	77.15	339,184	46.08
<b>International waters</b>	7	2,000-46,598	47,012	5.31	114,017	12.6			46,598	6.01	2,000	0.26		
<b>Multi-focal</b>	6	14,400-50,000	82,741	9.35									149,994	20.38
<b>Land degradation</b>	5	28,008-50,000			28,008	56.32			81,286	10.49	39,038	5.1	50,000	6.79
<b>Chemical</b>	1	41,512									41,512	5.42		
<b>Total</b>	<b>60</b>		<b>407,895</b>	<b>46.09</b>	<b>183,625</b>	<b>73.52</b>	<b>21,407</b>	<b>2.73</b>	<b>225,820</b>	<b>29.14</b>	<b>637,536</b>	<b>87.93</b>	<b>539,178</b>	<b>73.25</b>
<b>IUCN Grants Program</b>														
<b>Biodiversity</b>	46	1,888-22,291			99,829	11.03	61,692	7.87	59,250	7.65	75,249	9.82		
<b>Total (for grant programs)</b>	<b>106</b>		<b>407,895</b>	<b>46.09</b>	<b>283,481</b>	<b>84.55</b>	<b>83,099</b>	<b>10.6</b>	<b>285,070</b>	<b>36.79</b>	<b>748785</b>	<b>97.75</b>	<b>539,178</b>	<b>73.25</b>

