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**VOLUNTARY PEER REVIEW OF THE REVISION AND IMPLEMENTATION OF THE
NATIONAL BIODIVERSITY STRATEGIC ACTION PLAN 2016-2022 OF SRI LANKA**

Information Note by the Executive Secretary

I. INTRODUCTION

1. The Executive Secretary is pleased to circulate herewith, for the information of participants in the third meeting of the Subsidiary Body on Implementation, an information document on the voluntary peer review of the revision and implementation of the National Biodiversity Strategic Action Plan 2016-2022 of Sri Lanka.
2. The attached report on the voluntary peer review has not been formally edited or formatted. It is being circulated in the form in which it was received.

* CBD/SBI/3/1.

VOLUNTARY PEER REVIEW (VPR) – SRI LANKA

Preface

The review team for the voluntary peer review (VPR) of the revision and implementation of Sri Lanka's National Biodiversity Strategic Action Plan 2016-2022 wishes to acknowledge the generous support provided by the governments of Japan, through the [Japan Biodiversity Fund](#), Norway and Switzerland, which enabled this exercise to be conducted.

The team particularly wishes to express its sincere gratitude to Mrs. Pathma Abeykoon (CBD National Focal Point), Biodiversity Secretariat, and Mr. Wasantha Dissanayake, Ministry of Mahaweli Development and Environment, for their committed support to the VPR exercise throughout the length of the process. It also wishes to thank Mrs. Hemamali Herath and Mrs. Surani Pathirana for the support provided during the in-country visit.

In addition, the team would like to thank all of the stakeholders consulted during the in-country visit for their cooperation and valuable input to discussions.

The team also acknowledges with appreciation the support provided by the CBD Secretariat, especially Mr. Nicolaas Van Der Werf and Ms. Monique Chiasson, throughout this process.

It is anticipated that the information contained in this review report is a helpful assessment of the implementation of the National Biodiversity Strategic Action Plan (2016-2022) and that the recommendations contained herein can serve to build capacity at the national and subnational levels to further implementation efforts.

Contents

1. VPR background and methodology	5
2. Key facts.....	7
2.1 Introduction.....	7
2.2 Species and endemism	8
2.3 Protected areas.....	8
2.4 Environmental legislation	9
3. Analysis and recommendations.....	10
3.1 Strategic Objectives.....	10
3.1.1 Strategic Objective 1: Ensure long-term conservation of biodiversity	10
3.1.2 Strategic Objective 2: Promote sustainable use of natural resources	13
3.1.3 Strategic Objective 3: Conservation of Agrobiodiversity	16
3.1.4 Strategic Objective 4: Promote equitable sharing of benefits from biodiversity	19
3.1.5 Strategic Objective 5: Improve human wellbeing through the restoration and enhancement of key ecosystems	20
3.2 Cross-cutting issues	21
3.2.1 Sharing of data.....	21
3.2.2 Awareness, communication and outreach	21
3.2.3 Budget.....	22
3.2.4 Mainstreaming strategy for implementing partner agencies.....	23
4. Peer learning (Sri Lanka).....	24
5. Policy response to recommendations	25
5.1 General policy response to the VPR Sri Lanka	25
5.2 Policy response on recommendations.....	25
6. Peer learning (VPR Team)	28
Annex - Stakeholders consulted	30

List of Acronyms

ABNE	African Biosafety Network of Expertise
ABS	Access and Benefit Sharing
AU	African Union
BACC	Biodiversity for Adaptation to Climate Change
BCAP	Biodiversity Conservation Action Plan
BCH	Biosafety Clearing-House
BCP	Biocultural Community Protocols
BDS	Biodiversity Secretariat
BIOFIN	Biodiversity Finance Initiative
BLG	Biodiversity Liaison Group
BSL	Biodiversity Sri Lanka
CBD	Convention on Biological Diversity
CC&CRMD	Coast Conservation and Coastal Resource Management Department
CEA	Central Environmental Authority
CSS	Centre for Sustainability Solutions
DFAR	Department of Fisheries and Aquatic Resources
DNBG	Department of National Botanic Gardens
DNM	Department of National Museums
DoA	Department of Agriculture
DoAyur	Department of Ayurveda
DWC	Department of Wildlife Conservation
EPA	Environmental Protection Areas
FAO	Food and Agriculture Organization
FD	Forest Department
GAP	Good Agriculture Programme
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIAHS	Globally Important Agricultural Heritage System
GIZ	German Society for International Cooperation

GMO	Genetically Modified Organisms
ICRAF	World Agroforestry Centre
IPHT	Institute of Post-Harvest Technology
IUCN	International Union for Conservation of Nature
LMO	Living Modified Organism
MASL	Mahaweli Authority of Sri Lanka
MEA	Multilateral Environmental Agreement
MoFE	Ministry of Forestry and Environment
MoH	Ministry of Health
MoMDE	Ministry of Mahaweli Development and Environment
MPA	Marine Protected Areas
NBEC	National Expert Committee of the Biodiversity
NBSAP	National Biodiversity Strategy and Action Plan
NPPD	National Physical Planning Department
NRC	National Research Council
NSF	National Science Foundation
PGIA	Post Graduate Institute of Agriculture
PGRC	Plant Genetic Resources Centre
SADC	Southern African Development Community
SDGs	Sustainable Development Goals
SEA	Strategic Environmental Assessment
UDA	Urban Development Authority
UGC	University Grants Commission
UNDP	United Nations Development Programme
UNEP-WCMC	UN Environment Programme World Conservation Monitoring Centre
UNESCO	United Nations Educational, Scientific and Cultural Organization
VPR	Voluntary Peer Review
VTS	Village Tank System
WHO	World Health Organization

1. VPR background and methodology

Background

In 2015, further to decision XII/29 of the Conference of the Parties to the Convention on Biological Diversity (CBD), the CBD Secretariat established an Informal Working Group comprised of 17 experts nominated by Parties from different regions to develop a methodology for a Voluntary Peer Review (VPR) process under the Convention. Several meetings were organized, and the resulting methodology was tested by Parties in two countries (Ethiopia and India) in 2015 and 2016, respectively, before being piloted in November 2017. To date, three countries have been reviewed under the pilot phase (Montenegro, Sri Lanka, and Uganda) in 2017, 2018 and 2019, respectively. Financial support for the reviews has been provided by the Governments of Japan, through the Japan Biodiversity Fund, Norway and Switzerland.

Notably, in 2018, the Conference of the Parties, in decision 14/29, welcomed the progress made in the development of a VPR mechanism and the positive result from the pilot phase and decided to include the VPR as an element of the multidimensional review approach under the Convention.

The third meeting of the Convention's Subsidiary Body on Implementation (SBI-3) will consider options for enhancing review mechanisms under the Convention, with a view to strengthening implementation as a part of the process underway for developing the post-2020 global biodiversity framework. Recommendations agreed by the Subsidiary Body will be submitted to the third meeting of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework for its consideration. Subsequently, recommendations of the Subsidiary Body and of the Open-ended Working Group will be submitted to the fifteenth meeting of the Conference of the Parties for its consideration. The fifteenth meeting is expected to adopt a global biodiversity framework for the post-2020 period.

Methodology

The voluntary peer review of the preparation or revision and implementation of national biodiversity strategies and action plans (NBSAPs) has the following objectives: to assess national progress towards the implementation of the Strategic Plan for Biodiversity (2011-2020) and its Aichi Targets, and produce specific recommendations for the Party under review; to provide opportunities for peer learning; and to create greater transparency and accountability to the public and other Parties.

The VPR exercise assesses capacity-building needs and therefore can contribute significantly to the long-term strategic framework for capacity-building beyond 2020 and to implementation of the biodiversity-related conventions. The process has the potential to be effective in improving collective and individual capacities for implementation at all levels of governance and within all sectors and stakeholder groups. Particular emphasis is placed on raising awareness among authorities in the finance and planning ministries of the role biodiversity conservation can play in achieving sustainable development.

Significantly, the VPR is the only peer-to-peer review process that currently exists under the Convention. This process fosters mutual respect and understanding among peers thereby creating an

environment of trust which is conducive to learning and assessing implementation for the benefit of the country under review. The VPR process is transparent and inclusive and does not compare or “grade” implementation among participating countries.

Further details are provided on the CBD website at: <https://www.cbd.int/nbsap/vpr/>

Review team

Following the selection of Sri Lanka as a country for review, a review team was assembled by the CBD Secretariat to carry out the review. The team comprised Mr. Thangapandian Rabikumar (Team Leader) from India, Ms. Marina von Weissenberg from Finland, Mr. Eduardo Queblatin from the Philippines, and Dr. Jonathan Mufandaedza from Zimbabwe. Support from the CBD Secretariat was provided by Mr. Nicolaas Van Der Werf (SCBD Programme Officer), Ms. Monique Chiasson (SCBD Programme Assistant), Mr. Maroun Abi-Chahine (SCBD Programme Assistant), and Ms. Oumaima Zaki (Independent Contractor).

Desk study

Prior to the in-country visit, a desk study was implemented by the review team which consisted of an in-depth analysis of the National Biodiversity Strategic Action Plan (2016-2022) adopted in 2016, and a review of the fifth national report prepared in 2014, along with a significant number of other documents located online or submitted by the Biodiversity Secretariat upon request from the CBD Secretariat. The NBSAP is guided by the following five strategic objectives: to ensure the long-term conservation of biodiversity; to promote the sustainable use of biological resources; to conserve agrobiodiversity; to promote the equitable sharing of benefits from biodiversity; and to improve human well-being through an Ecosystem Approach. Within this framework, 12 national biodiversity targets to 2022, each associated to respective actions, have been set. Notably, each action is linked to the achievement of relevant Aichi Biodiversity Targets and SDGs, among other frameworks.

The desk study produced a “scoping document”. It had been agreed by the review team that a matrix format would be used and that the country’s 12 national biodiversity targets to 2022 would serve as an appropriate framework against which comments and observations could be inserted (targets were assigned to team members according to their areas of expertise). The review team and the CBD Secretariat met various times via teleconference to discuss this approach, share preliminary assessments and prepare for the in-country visit. Further exchanges took place by e-mail.

In-country visit

The in-country visit took place in Colombo and Kandy from 31 October to 6 November 2018. In-person interviews were conducted with a wide range of officials and stakeholders from environment/biodiversity-related ministries and departments, including the National Planning Department and the Land Use Policy Planning Department, FAO, IUCN, academia, NGOs, Indigenous Peoples and Local Communities, a youth organization, and a national platform entirely owned and driven by the private sector and which is a member of the Global Partnership for Business and Biodiversity. The interviews conducted allowed the review team to verify the results of the desk study and obtain other relevant data and information. A list of stakeholders consulted is provided in the annex to this report.

2. Key facts

2.1 Introduction

Sri Lanka is a continental island country located in the Indian Ocean, off the southeast coast of the Indian subcontinent. Its topography consists of three peneplains, with the first rising from sea level to 300 m, the second to 1,500 m and the third to the country's highest peaks of over 2,200 m above sea level (Survey Department, 2007). The central mountains intercept two monsoon systems (the southwest monsoon and the northeast monsoon) influencing the island's climate and distribution of biodiversity. Two broad climatic zones are generally recognized which are the wet zone in the southwest and the dry zone throughout the rest of the island. The former is characterized by a mean annual rainfall of 2,500 mm and mean daily temperatures of about 27° C in the lowlands to around 16° C in the montane areas. The dry zone receives 1,250 mm to 1,900 mm of annual rainfall, which is unevenly distributed, and has a dry period which lasts about 5 months. The mean daily temperature is about 30° C. Two small coastal areas in the northwest and southeast form an arid zone, with a mean annual rainfall of less than 1,250 mm (Survey Department, 2007). Almost all perennial rivers originate in the central mountains and radiate out, forming a wagon wheel of watersheds. An ancient agrarian-based civilization in the dry zone has been sustained by storing water from the major rivers in a complex system of over 10,000 irrigation reservoirs. Many of these reservoirs have now become 'naturalized' and provide perennial and seasonal water for both wildlife and humans. Other than these reservoirs (or 'tanks'), Sri Lanka has no large natural lakes.

Sri Lanka is a lower-middle-income country of approximately 21.4 million people (Department of Census and Statistics) and has a GDP of USD 4,073 (2017) per capita. The country has ambitions of becoming a higher-middle-income country within 15 years (UN Country Team in Sri Lanka). Following the end of thirty years of civil war in 2009, Sri Lanka's economy grew at an average annual rate of 5.8% from 2010 to 2017. This growth was largely driven by rehabilitation in the Northern and Eastern Provinces. The economy is transitioning from a predominantly rural-based economy towards a more urbanized economy oriented around manufacturing and services. The country has made significant progress regarding its socioeconomic and human development indicators. Today, its social indicators rank among the highest in South Asia and compare favourably with those of middle-income countries.

Comprising a total area of 65,610 km², Sri Lanka is one of the most densely populated countries in the world. The main ethnic groups include the Sinhalese, Sri Lankan Tamils, Moors or Muslims, Burghers and Malays.

Over the past decades, economic transformation and poverty have accelerated the rate of environmental degradation. Recognizing an increase in problems associated with deforestation, biodiversity loss, climate change, pollution, chemicals, health hazards, floods and droughts, the Government adopted its National Environment Act in 1980, and subsequently established the Central Environment Authority, and the Ministry of Mahaweli Development and Environment (now the Ministry of Environment and Wildlife Resources). As a result of the rapid transition from an agriculture-based rural economy to a more commercial economy, investments in infrastructure (e.g. construction of dams and irrigation systems) were prioritized by successive governments; and, with the end of the civil war, an expansion of the road network and export-led productive sectors, investments in infrastructure are expected to triple. The trade-offs are likely to negatively impact the environment should mitigation plans not be put in place.

Agriculture represents 8.7% of the national GDP (World Bank, 2015) and continues to be an important source of livelihood, employing approximately 30% of the total economically-active population. Yet productivity is low, with yield levels of domestically-grown food crops, including rice, having stagnated during recent times. All districts surveyed under the 2015 Vulnerability Assessment Programme were found to be vulnerable to a loss of agricultural production (and hence to a loss of income as well) due to severe weather events.

2.2 Species and endemism

Sri Lanka is recognized as one of the 35 global biodiversity hotspots. The combination of variable rainfall, geological isolation from the continent and dissected terrain in the three mountain ranges of the central massif, has resulted in speciation and in an increase in the high number of endemic species. The moist forests of the southwestern region and the central montane region harbour the highest endemism. Overall, more than 75% of the known endemic species are restricted to the wet zone. A few known endemic animals and plants are also found in the isolated rock outcrops (inselbergs) scattered throughout the dry zone (MoMDE, 2016). The dry zone however supports rich megafauna, including one of Asia's largest elephant (*Elephas maximus*) populations, an endemic subspecies of the common leopard (*Panthera pardus kotiya*) and the sloth bear (*Melurus ursinus*). Compared to the subcontinent, the large mammalian fauna of Sri Lanka is depauperate, however the regionally-distributed large mammal populations can contribute to global conservation priorities, and are also national priorities because of their flagship status and strategic importance for wildlife tourism.

2.3 Protected areas

There are 22 national parks in Sri Lanka which are open to the public and wildlife research. The country's designated protected areas comprise between 23.3% and 28% of the total land area. Over 28% of the total land area is reserved and administered by the Forest Department (16.1%) or the Department of Wildlife Conservation (12.4%). Under the provisions of the National Environmental Act, ten environmentally-sensitive areas have been declared Environmental Protection Areas (EPAs). The protected area system is central to conserving wildlife and biodiversity, thereby contributing to supporting rural economies (through, for example, the provision of watershed protection and ecotourism, and scientific and educational opportunities).

There are several threats to the designated protected areas, including increasing population density, the incidence of poverty, dependence on subsistence agriculture, habitat degradation, overexploitation of biological resources, and the spread of invasive alien species. Some of the forest loss is attributed to land clearing for irrigation schemes through the Mahaweli Development Project, and activities related to hydro-electric power generation.

Sri Lanka has 1,620 km of coastline with diverse marine and coastal biodiversity. Although the country has six Marine Protected Areas (MPAs), only two have been declared marine sanctuaries (this has been done especially to protect the coral reefs). They are the Hikkaduwa Marine Sanctuary (1979) and the Bar Reef Marine Sanctuary (1992). These two MPAs also have Special Area Management Plans which allow the communities to have a certain degree of involvement in planning and managing the sanctuaries.

2.4 Environmental legislation

Sri Lanka's environmental actions are guided by national strategies, such as the Haritha (Green) Lanka Strategy, the National Climate Change Adaptation Strategy, and the National Cleaner Production Strategy which, together, promote a vision for a greener, safer and cleaner environment. The National Environment Act, Forest Ordinance, Flora and Fauna Protection Ordinance, Coast Conservation and Coastal Resource Management Act are some of the main environmental legislations in Sri Lanka.

The country was an early signatory to the Convention on Biological Diversity and prepared its "Biodiversity Conservation of Sri Lanka – A framework for Action" (BCAP) in 1999 (MoFE, 1999), and an addendum for the BCAP in 2007. The BCAP identified conservation priorities to halt the erosion of biodiversity, with its major recommendations aiming to: identify critically important hotspots and include them in the protected areas system (this was especially relevant since the existing protected areas system was not representative of the island's ecosystems); assess the need for ecological linkages among the core areas (i.e. protected areas) and conserve them; and prepare and implement species recovery plans.

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. It is not a Party to the Nagoya Protocol on Access and Benefit-sharing.

3. Analysis and recommendations

The overall objective of the CBD voluntary peer review (VPR) process is to help Parties improve their individual and collective capacities to more effectively implement the Convention. The specific objectives are to: assess the development and implementation of national biodiversity strategies and action plans (NBSAPs), in the context of the Strategic Plan for Biodiversity 2011-2020, and produce specific recommendations for the Parties under review; provide opportunities for peer learning for Parties directly involved and other Parties; and create greater transparency and accountability for NBSAP development and implementation to the public and other Parties. The review team assembled for this exercise in 2018 conducted an in-depth review of Sri Lanka's second NBSAP, fifth national report (2014), along with a significant number of other documents located online or submitted by the Biodiversity Secretariat. The VPR exercise did not take into consideration the sixth national report received in 2019.

Biodiversity and natural resources in Sri Lanka are protected by the Constitution in national policies, several Acts and Regulations. However, loss of biodiversity remains a concern. Some of the legislation governing bio-resources are archaic and it is not very clear how synergistic these would be in implementation alongside new legislations.

The issues contributing to the loss of biodiversity in Sri Lanka are identified and analyzed below, under each of the strategic objectives contained in the NBSAP, with reference made to the identified barriers. The identified shortcomings in the implementation of plans, and their weak integration into plans, policies and programmes of the development sector, are enumerated. Recommendations have also been made under each of the strategic objectives, based on the analysis of the identified issues, while drawing upon the experiences of other Parties addressing similar issues.

Many of the issues identified fall under more than one strategic objective. However, in order to avoid repetition, such issues are placed under one strategic objective only (i.e. the strategic objective that is most directly relevant). Certain cross-cutting issues, such as communication, education and public awareness, capacity-building, resource mobilization, are dealt with separately.

3.1 Strategic Objectives

The NBSAP of Sri Lanka has five strategic objectives. These objectives are further divided into 12 targets with 87 prioritized actions. The review team did not examine the final assessment of progress of the targets against their indicators, as this would be done by the Party in its sixth national report which, as previously noted, was not taken into consideration in this exercise. The NBSAP has identified barriers that prevent progress towards achievement of the targets. The barriers identified include lack of financial resources, inadequacy of staff arising from a lack of expertise, and the absence of coordination among the agencies involved.

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

This objective deals with ensuring long-term conservation of biodiversity through the documentation of species and their respective ecosystems and conservation in Sri Lanka. This includes formulating strategies for effective management, and reduction in loss of species, which entails curbing habitat loss and degradation, as well as establishing a representative PA network. This also includes area-based conservation measures, species recovery programmes, addressing habitat fragmentation and degradation, and species loss. This strategic objective has 42 prioritized national

actions. The primary stakeholders identified include the BDS, DWC, FD, DNM, DNBG, NSF, NRC, UGC, Universities, CEA, NPPD, UDA, CC&CRMD, DOA, DFAR, among others.

As previously noted, Sri Lanka is a tropical island, high in endemism. A high proportion of these endemic species are listed as threatened. Degradation, deforestation and fragmentation of habitats are identified as major drivers of species loss in Sri Lanka. The coastal and marine biodiversity is also an important component of the biodiversity richness of Sri Lanka. However, these resources are under constant pressure from various development activities, such as tourism and fishing. Decentralized land use planning, where decisions are made independently, based on sectorial priorities, often serves cross purposes with biodiversity conservation. Hence, the protection of the coastal and marine biodiversity, without a national-level land use policy, has been a challenge.

Coral reefs are home to 25% of all marine life on the planet. With an estimated 2 million species living in these environments, coral reefs rival even the incredible diversity of the rainforests. As of 2016, 35% of terrestrial and 0.3% of marine areas are legally protected in Sri Lanka. The Government of Sri Lanka has established a Marine Division to look after marine affairs in the Department of Wildlife Conservation. Despite this, there remain serious shortcomings in the country's ability to contribute to achieving the global target of 10% marine protected areas.

There are 501 protected areas in Sri Lanka. The protected areas falling under the supervision of the Forest Department include forests defined in the National Heritage Wilderness Area Act (1988), forest reserves and forests managed for sustainability. The Sinharaja Forest Reserve is an example of a National Heritage Forest and, notably, has also been declared a UNESCO World Heritage Site.

However, protected areas are not adequately represented in all the eco- or bio-geographical regions. Grazing is a problem in many of the country's protected areas. Seventy percent of persons charged with wildlife-related offenses are convicted in Sri Lanka. Conducting periodic status assessments of protected areas and the effectiveness of actions taken to manage them requires adequate technical expertise, data and resources. Sri Lanka has not yet assessed the effectiveness of management plans for protected areas.

As an island nation, Sri Lanka faces concerns regarding invasive alien species and their management. Although the National Policy, Strategies and Action Plan on Invasive Alien Species (2016) emphasizes the need to establish a sustained mechanism to identify and prioritize IAS, the identification of the root causes of invasive alien species is still a problem. The issue has become problematic in many protected areas in regard to both fauna and flora. For example, in Bundala National Park, thorny trees (*Proposis Juliflora*) are spreading across the landscape like wildfire and choking the natural vegetation. It has been found that all the Palu (*Manilkara hexandra*) trees close to this species are dying. The cactus *Opuntia* (*Opuntia delenii*), which has large thorns, is also invading protected areas. The DWLC is attempting to rid the park of this menace. Further information on this issue is available on Sri Lanka's Clearing-House Mechanism (http://lk.chm-cbd.net/?page_id=354).

The absence of an integrated land use plan or framework at the national, provincial and divisional levels is a challenge. Planning practices in Sri Lanka are decentralized, which means that without a general land use plan in place, decisions are made independently, at the local level, which may be harmful to overall biodiversity and the protection of coastal and marine areas.

A national land use framework for Sri Lanka, taking into account the need to protect and effectively manage terrestrial and coastal and marine biodiversity is required. Many government ministries, such as the Ministry of Mahaweli Development and Environment, Ministry of Land

Resources and the Ministry of Agriculture, are involved in biodiversity conservation. In recent years, the Government has piloted approaches for ecosystem-based planning (for example, such activities have been carried out in the Kala Oya River basin). The NBSAP is also being discussed in several pilot districts with a view to localization of strategies. Although discussion and collaboration in activities at the national level are on the rise, coordinating implementation of policy decisions at the provincial, district and divisional levels is equally important.

Obstacles to the implementation of national policies are due to issues pertaining to development, foreign investment, tourism, fishery and coastal practices, lack of human and financial resources, and lack of stakeholder involvement and political will. Integration of community-based conservation efforts into larger landscape management, through a *sui generis* system, should be looked into. Integrating traditional natural resources management and agricultural systems, such as the Kandyan Home gardens with the existing protected areas, could improve the connectivity and integrity of landscapes. Agricultural biodiversity not only provides food and income, but also raw materials for clothing, shelter, medicines, breeding new varieties, as well as performs other services, such as maintenance of soil fertility and biota, and soil and water conservation, all of which are essential to human survival.

Sri Lanka has updated its biodiversity profile, through a participatory process, in its sixth national report which was received after the VPR exercise was conducted. The country has also initiated various conservation programmes for the protection and conservation of endemic species, particularly of certain fish, through different private partnerships. The lessons learned from these good practices could also be scaled up to large-scale implementation at the provincial or national level.

Recommendations

- (1) 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.
- (2) Identification and prioritization of invasive alien species based on their impact on the environment and preparation of a strategy for their management (similar to the Norwegian Black List of Invasive Alien Species). Use of DNA barcodes or virtual biobanks can be more effective and an efficient method of surveillance, monitoring and management of invasive alien species in Sri Lanka. For instance, in Zimbabwe, the National Biotechnology Authority has initiated a regional training programme for the SADC region on the development and use of DNA barcodes in monitoring and surveillance of invasive alien species.
- (3) Preparation of a National Integrated Land Use Framework (including standards) that will guide the zonation of different land uses for agriculture, infrastructure, fisheries, tourism, forests, etc., to enable subnational- and district-level planning to follow a uniform land use pattern. For this purpose, build on the experience and lessons learned from current efforts to pilot the ecosystem-based approach for land use planning.
- (4) Accelerate the completion of the national ecosystem conservation plan, as contemplated under Target 2 (actions 2 and 3), as contributing elements to the National Integrated Land Use Framework described above. That will in turn guide subnational land use planning and enforcement at the subnational levels. Consider also embedding the NBSAP strategies in the development of relevant guidance for subnational authorities, building on the feedback from

the recent subnational discussions on the sixth national report. The experience of Vietnam and the Philippines may be considered in this regard¹.

- (5) Preparation of adaptive management plans using resources from GEF for designated protected areas that do not have management plans in place. Establishing a management effectiveness protocol for protected areas and periodic management effectiveness assessments. The experience of India may be considered in this regard².
- (6) An important objective for Sri Lanka is to be ecologically sustainable which means to sustainably manage and use natural resources. This also relates to the need to address connectivity between protected areas and other important areas. Indicators to measure implementation are under development. Such efforts need to continue and will also be relevant to implementation of the 2030 Agenda for Sustainable Development and its SDGs, and the post-2020 global biodiversity framework. An effective science-policy interface, broader use of scientific knowledge, and the development of a science-based monitoring system with indicators, are recommendable. 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 IUCN and other stakeholders, is important.
- (7) Improving synergies among the biodiversity-related MEAs, including by having periodic meetings of the NFPs of these MEAs, as outlined in CBD decisions and the work done by the Biodiversity Liaison Group (BLG), are recommendable. Many countries have national biodiversity working groups, involving the other MEAs, for improving coherence and reducing costs associated with biodiversity implementation and eliminating duplication of work. Information available on the United Nations Information Portal on Multilateral Environmental Agreements ([InforMEA](#)) and the work conducted by UNEP-WCMC on synergies (<https://www.unep-wcmc.org/resources-and-data/biodiversitysynergies>) may be useful in this regard.

3.1.2 Strategic Objective 2: Promote sustainable use of natural resources

Mainstreaming biodiversity in socioeconomic decisions, incentivizing the sustainable use of natural resources, and promotion of traditional uses of biodiversity, are the components under this strategic objective. It includes 18 actions, with the BDS, PGIA, DCS, DOA, DFAR, NSF and MoH, among others, identified as primary stakeholders responsible for implementing these actions.

Since 2005, awareness of the value of ecosystem conservation in Sri Lanka has been on the rise. This presents a good opportunity for integrating actions for biodiversity management and ecosystem conservation in national plans and national accounting procedures, which can be facilitated through their initial integration in the national planning and budgeting process. Actions identified under Targets 5 and 6 are noteworthy in terms of orientation. However, the baselines as per the fifth

¹ The Philippines and Vietnam have initial experience on localizing the NBSAP into the local land use planning processes. Both countries have encountered both challenges and new opportunities. The Philippine experience can be gleaned from the Philippine Biodiversity Partnership Project: http://www.ph.undp.org/content/philippines/en/home/operations/projects/environment_and_energy/Biodiversity-Partnerships-Project.html. The completed Vietnamese project is entitled “Developing National Biodiversity Strategy and Action Plan and Mainstreaming Biodiversity Conservation into Provincial Planning” (information may be obtained from UNDP Vietnam <https://erc.undp.org/evaluation/evaluations/detail/7868>).

² [Management Effectiveness Evaluation \(MEE\) of Tiger Reserves in India: Process and Outcomes 2010-2011](#)

national report and NBSAP are sketchy, and hence make it difficult to clearly identify the gaps that would then guide the focus of human and financial resources required to address them.

Some ecosystem valuation studies were done in the past and additional valuation studies are being proposed to be undertaken under the BIOFIN initiative. Ecosystem benefits are being presented in planning processes. In scrutinizing public expenditure on activities being carried out for achieving the Sustainable Development Goals, the Auditor General observed that such proactive action is likely to also have positive impacts on the implementation of the NBSAP. There is a need to intensify efforts to communicate available results of ecosystems valuation studies to decision-makers at national and subnational levels.

The protection of traditional knowledge and provision of safeguards under IPR present challenges given the desire to accelerate the modernization of productive industries. The promotion of bioprospecting has a huge potential in Sri Lanka for both plant and animal genetic resources, since the country possesses both a large number of endemic species and rich associated traditional knowledge. However, popularizing local breeds of cattle and poultry and recommending traditional varieties of fishes is challenging due to a lack of adequate guidance available on this subject. FAO is working with communities to popularize traditional varieties of rice and other significantly-used commodities, such as curry. Additionally, a GEF-funded project is being implemented in Sri Lanka to better understand the link between biodiversity, food and nutrition, including the promotion of traditional cooking methods³. Linking tourism with local cuisine, through pursuits similar to such ventures, might be worth exploring and current efforts could be expanded.

Recently, the traditional village tank system (VTS) was given international recognition as a Globally Important Agricultural Heritage System (GIAHS) by an FAO-led consortium of UN partners and affiliates. Sri Lanka has thousands of village tank systems, based on a centuries-old method for water conservation and management in the semi-arid areas. This recognition was based on the remarkable landscape provided by this system that, simultaneously, promotes food security and livelihoods, agrobiodiversity, local knowledge and beneficial social belief systems.

In addition to the village tank system, the Kandyan home gardens also have the potential to be recognized as important agricultural heritage, at least nationally (analogous to the declaration of the village tank system as a global heritage).

Sri Lanka has four groups of IPLCs which work on traditional knowledge pertaining to health, agriculture and traditional irrigation systems. Hela Veda, an indigenous system of health care similar to Ayurveda in India, is protected by the IPLCs. IPLC representatives are openly appreciative of the explicit provisions of the NBSAP that express concern and support for traditional knowledge. A draft policy for the strategic conservation and sustainable as well as equitable use of traditional knowledge is under final review.

Sri Lanka had initiated a direct transfer of benefits on the use of chemical fertilizers to farmers, which was later withdrawn. This scheme reportedly had a very positive impact on the use of chemical fertilizers in Sri Lanka. Sri Lanka uses a significant quantity of imported agrochemicals, and there is increasing awareness among the stakeholders of the need to reduce reliance on them and identify efficient ways to reduce their consumption.

³ Sri Lanka is an active participant in a global initiative on biodiversity, food and nutrition: <https://www.biodiversityinternational.org/news/detail/healthy-foods-you-havent-heard-of-yet-the-biodiversity-for-food-and-nutrition-database/> The database is accessible through <http://www.b4fn.org/resources/species-database/>.

There has been a reduction in the use of chemical fertilizers over the last five years. Site-specific fertilizer application efficiency (leading to lesser use of chemical fertilizers) is being piloted through an initiative of the Department of Agriculture/FAO. IT-enabled tools, such as mobile applications, are being used for this piloting purpose. The health impact of using chemical fertilizers has been largely documented. Of serious concern are kidney-related complications arising due to application of pesticides in the northwest province. This has imposed indirect costs on the Government. Fertilizers and pesticides are a threat to the agricultural practices (rice and tea plantations) in Sri Lanka today; and should be studied and taken very seriously. A comprehensive cost-benefit analysis would be helpful to understand the implications of fertilizer subsidies, and implications on soil biodiversity. Regulations regarding pesticides and fertilizers, which have documented health hazards to humans and endemic species, can be backed by scientific evidence corroborated independently by WHO, health authorities, and other UN agencies, including FAO.

A number of growers in the plantations industry have adopted organic agriculture approaches. However, the rice and other crop-based industries are only beginning to adopt organic agriculture on a pilot scale, however demand for organic products is gradually increasing. One third of agricultural land in Sri Lanka is degraded, increasing the income gap of farmers and adding to the challenge of promoting organic agriculture. Implementation of organic certification systems and market linkages are equally important challenges. The existing infrastructure capacity to produce organic fertilizers may be a challenge to meet the increasing demand of organic fertilizers. The increasing demand for organic fertilizers in Sri Lanka has to be matched with an increase in the adoption of technologies for the production of organic fertilizers (research is being conducted to develop solutions for this, however more work may need to be undertaken).

Biodiversity Sri Lanka (BSL) is a platform established in Sri Lanka registered as a non-profit organization. UNDP and GIZ are associated members and technical partners of this platform, which mainstreams biodiversity concerns in the respective areas of work of its members (including possibilities for business estates to contribute to biodiversity connectivity through the establishment of biodiversity corridors), thereby contributing to NBSAP implementation. Popular activities promoted by BSL include, among others, tree planting and sustainable banking initiatives.

Based on BSL's track record to date, there is encouraging potential for industry-wide uptake of the concept of biodiversity-friendly enterprises. The tourism industry, for instance, would be a good target. However, constraints and opportunities perceived by businesses need to be addressed. These include both positive and negative shifts in corporate culture, as observed by green business pioneers. Dialogues with government and business entities also need to be accelerated to lead to a more enabling environment for businesses who want to adopt biodiversity-friendly business practices.

Land use planning guidelines have been drawn out with support from local communities. Steps have been undertaken to ensure that plans do not contradict one another. An ecosystem-based disaster risk reduction approach is being promoted in district planning. The constraints in this area relate to funding and access to policymakers.

Recommendations

- (1) Identify the top 10 environmental issues/opportunities, conduct appropriate environment and economic analyses and produce policy briefs on those sectors with existing appropriate implementation instruments to affect change. Disseminate the findings widely, including to policy- and decision-makers and the general public. Special attention could be given to, for

example, research on perverse incentives involving fertilizers and their impact on human health, the value of traditional agricultural systems, such as the Village Tank System, or the contribution of community forestry to biodiversity corridor integrity.

- (2) Accelerate the review of the draft policy on the strategic conservation and sustainable as well as equitable use of traditional knowledge and promulgate the policy to support traditional knowledge. Pinpoint specific agencies that can implement provisions at both national and subnational levels. Propose the inclusion of provisions to nurture the “demand side” for conservation to enhance the prospect of sustainability (for example, relate traditional systems to modern-day concepts, promote wellness, slow food movements, culinary heritage, sustainable cultural tourism)⁴.
- (3) To further support recommendation 2 above, expand current efforts to identify and develop a network of champion farmers (from among IPLCs) to disseminate good practices in natural resources management and agriculture (including traditional knowledge), that support biodiversity conservation and encourage peer-learning. Consider structuring scientific and agricultural extension programmes with a focus on embedding multi-disciplinary perspectives in district- and divisional-level actions, so that they can have an impact at the grassroots level.
- (4) Address the disconnect between planning at the national and divisional levels.
- (5) District environmental committees exist in some of the districts, which is having a positive impact on biodiversity conservation. These committees should be formed in all 25 districts.

3.1.3 Strategic Objective 3: Conservation of Agrobiodiversity

The third objective has two targets aimed at promotion of sustainable agriculture practices and conservation of genetic diversity of crop wild relatives, cultivated species and livestock. The NBSAP appears to work on the premise that sustainable agriculture can provide the platform for agrobiodiversity while agrobiodiversity, in turn, is an ideal ingredient for successful forms of sustainable agriculture. Multiple benefits can be expected from agrobiodiversity conservation. In the Sri Lankan context, these benefits include: a) improvement of on-farm productivity and resilience; b) conservation of cultural heritage; and c) development of new value-added enterprises, such as those that support alternative culinary experiences and health and wellness. Eleven prioritized actions are listed under this strategic objective, with the DoA, BDS, DoAyur, PGRC, DWC and IPHT identified as primary stakeholders responsible for the implementation of the actions identified.

The Ministry of Agriculture is responsible for increasing production in a sustainable manner, through propagation of novel technologies and transferring them to farmers. Under the Directorate of Agriculture, various divisions and numerous technical centers exist, each dealing with different matters, which presents coordination challenges. Some of the important plantation crops, such as tea, coconut and cashew, do not fall under the jurisdiction of the Ministry of Agriculture.

Overall, there are at least five current trends that could enable the gradual transition to sustainable agriculture and, in the process, contribute to the conservation and sustainable use of agrobiodiversity. The first trend would be efforts by the Ministry of Agriculture to promote a

⁴ The Ark of Taste (<https://www.fondazione Slow Food.com/en/what-we-do/the-ark-of-taste/>) is part of a global trend on initiatives to conserve food tastes derived from traditional food systems, supported by urban-based consumer movements concerned with wellness.

site-specific nutrient management approach to fertilizer use, particularly in rice lands. Plans are underway to expand on the results of earlier successful piloting efforts. This could represent the first important step, at the small-farm level, towards the gradual reduction of the rate of land degradation due to chemical pollution.

The second trend involves the conversion of large tracks of plantation crop lands into multi-species agroforestry. Accordingly, this includes about 90,000 ha of rubber and tea plantations which are degraded. It is estimated that about 6,000 hectares are degraded annually. Tea plantations are being abandoned and reforestation is proposed to be undertaken on these lands. With the aim to increase productivity and to keep the option for sustainable tourism development in these restored areas, diversified plantations with perennial tree crops including avocado and jackfruit on a commercial scale on these lands are being proposed. The World Agroforestry Centre (ICRAF) is advising the Government of Sri Lanka on this matter.

Environmental impact assessment of commercial-scale avocado and jackfruit production is needed. An unprecedented international appetite, particularly from countries in South America, for avocado, for instance, is indirectly fueling illegal deforestation⁵ and environmental degradation. This problem is created by the fact that it is more profitable for farmers in Mexico, for instance, to grow avocados than most other crops. Avocado plantations need repeated cycles of chemical inputs and also use a great deal of irrigation water, putting pressure on local water reserves. By one estimate⁶, it takes 272 liters just to grow about half a kilogram of avocado (equal to two or three medium-sized avocados). Additionally, it is important that plantations not only benefit the health and wellbeing of people abroad, but also the communities that grow the fruit.

The third trend relates to efforts to enable the sustained use of traditional knowledge and practices in relevant current niches (village tanks, Kandyan home gardens, etc.) and to expanding their application. These could serve as “buffer zones” between protected and commercially-used areas where diversified species provide income through agro-ecological practices that broaden the concept of organic farming and culinary heritage (Sri Lankan cuisine). Food heritage is part of the Sri Lankan identity, and it is important to understand traditional lifestyles and preserve this heritage. This culinary heritage is driven by the country’s incredibly diverse landscape. Certified organic crops and systems are developing globally because people are keen to know the origin of the food and the nutritional benefits derived from it.

The recent recognition of the Village Tank System as a globally important agricultural heritage system (GIAHS) could set the tone for strengthening support systems for these types of traditional practices (village tank system, Kandyan home gardens). Such support could include action research, deployment of holistic extension and support systems that respect indigenous knowledge, strengthen farmers' seed systems and assist in linking to niche markets.

The fourth trend is linked to actions to embed organic agriculture in rice and non-plantation crop production (the initial adoption of said practice occurred in the plantation sector where there was a readier export market). Sri Lanka is self-sufficient in rice. The role of traditional varieties is recognized, and niche markets exist. However, they are currently produced in small quantities due to economic factors, which is in part due to lack of appropriate support services, such as extension services, market support, clear and affordable certification processes. The Department of Agriculture

⁵ Source: <https://www.theguardian.com/lifeandstyle/2016/aug/10/avocado-illegal-deforestation-mexico-pine-forests>

⁶ Source: <https://nationalpost.com/avocados-are-the-pits>

recently took the decision to establish a Centre of Excellence on Organic Agriculture, which will require ample technical guidance and human resources support.

The fifth trend is also very noteworthy and relates to actions being carried out to create special zones for agrobiodiversity (crop wild relatives) within the existing protected areas system, as indicated under Target 9.5. This will help ensure connectivity or creation of biodiversity corridors while, at the same time, support community livelihood needs.

The conservation and enhancement of agrobiodiversity can be an important element in initiatives carried out in relation to the five trends elaborated above. In terms of agrobiodiversity conservation, planned actions in the NBSAP appear to have a good balance of *in situ* and *ex situ* measures. There is currently a lack of science-based work, especially as relates to plant genetic resources. The current development of gene banks and requisite laboratory infrastructure appears challenging. Important science-based information on the value of sustainable agriculture and agrobiodiversity needs to be more effectively communicated to policymakers.

Belowground biodiversity is discussed in Sri Lanka. Information on the health of soil at farm level, including the status of soil biodiversity, would be of utmost importance to farmers and have a positive impact on the use of fertilizers in agriculture. The establishment of plant health clinics in agriculture farming communities would help build required capacity and expertise in Sri Lanka. Similarly, some activities have been initiated on an *ad hoc* basis to enhance pollination services, however no specific long-term action has been planned yet.

As an island nation, Sri Lanka is highly vulnerable to threats linked to climate change. Despite numerous actions relating to the mitigation of the impacts of climate change, current action on adaptation is deemed inadequate. Climate change adaptation and farm conservation adaptation are being dealt with through various actions, such as those under the Biodiversity for Adaptation to Climate Change (BACC) project under GEF. There is a strategic plan to promote on-farm conservation through BACC, among other plans.

Recommendations

- (1) Accelerate the development of databases as contemplated in the NBSAP for the recognition and dynamic conservation of traditional knowledge on biodiversity conservation, including in traditional production landscapes, traditional forest management and traditional ecological agriculture⁷.
- (2) For the Ministry of Agriculture and related agencies to consider the demonstration, at the district level, of the integrated application of measures that promote sustainable agriculture and agrobiodiversity. These include actions described above related to: i) on-site specific fertilizer application; ii) conversion of some plantation lands to multi-species agroforestry; iii) enhancing genetic conservation and the viability of existing niches of traditional agriculture; iv) promoting organic agriculture to fully tap into ready niche markets; and v) creating special zones for agrobiodiversity (crop wild relatives) within the existing protected areas system. This can be piloted in some of the six selected districts where the

⁷ This initiative may consider the documented experience and learnings of communities worldwide that have successfully used traditional natural resources management for improving livelihoods. Such information is available on the website of the Indigenous Community Conservation Alliance (ICCA) (<https://www.iccaconsortium.org/>). Also, information on traditional agriculture and forest landscapes systems, documented through FAO's Globally important Agricultural Heritage systems (GIAHS) initiative, is available at <http://www.fao.org/giahs/giahsaroundtheworld/en>. The Sri Lankan Village Tank System is included in this global database.

NBSAP has been discussed extensively, and also take advantage of the regular district land use and development planning process as an entry point. The experiences of and lessons learned by the Philippines and Vietnam in mainstreaming their respective biodiversity concerns in local land use plans may be considered in this regard.

- (3) To support the demonstration (5 items under Recommendation 2 above), it is recommended that the Biodiversity Secretariat (Ministry of Environment) and the Ministry of Agriculture, and other stakeholder agencies, collaboratively plan to translate the above 5 initiatives into more specific achievable action programs, particularly on the part of the Ministry of Agriculture and key agencies, as well as by pilot subnational authorities. Such a plan can build on relevant NBSAP targets, as well as other targets that were not cited during NBSAP preparation but are considered important today. Reflect these plans in the midterm review of the NBSAP.
- (4) For the Ministry of Agriculture to include, in the context of ongoing discussions to strengthen agricultural extension, practical concerns related to sustainable agriculture and agrobiodiversity, building on the gains made so far by science and local knowledge. District-level Agricultural Extension Officers could support the vital link between technology development and farmers, in support of sustainable agriculture and biodiversity. The experience of India regarding the Krishi Vigyan Kendra agricultural extension centre⁸, located at the district level, may assist in this regard.
- (5) Actively involve the Ministry of Plantations in planning for the implementation of the remainder of the NBSAP.

3.1.4 Strategic Objective 4: Promote equitable sharing of benefits from biodiversity

This strategic objective has only one target with five actions. The Biodiversity Secretariat is the primary stakeholder for its implementation.

Sri Lanka is not a Party to the Nagoya Protocol on Access and Benefit-sharing.

Patents are obtained on biological resources from Sri Lanka by foreign companies on species like *Salacia reticulata*, outside of Sri Lanka. Many patents have also been obtained on Ceylon Tea and Ceylon cinnamon across the globe. Sri Lanka does not have any legislation to regulate this matter and may be missing out on the benefits that can be derived from such activities due to the absence of legal mechanisms.

IPLCs see a distinct role for themselves in conservation and recognize the fact that both IPLCs and Government have responsibilities towards conservation. Certain customary rights exist with the IPLCs through which many conservation-related issues could be addressed. Biocultural Community Protocols (BCPs) are recognized as a tool for biodiversity conservation. There are few BCPs documented in Sri Lanka (an example is the snake bite treatment BCP). The IPLCs see ABS as a complex and challenging concept to implement.

⁸ [Krishi Vigyan Kendra Knowledge Network \(India\)](#)

Recommendation

- (1) In the absence of a legal framework, the development of best practices and guidelines to be followed by different stakeholders, such as researchers, industries, among others, is recommended. Being an island nation with high endemism, both in flora and fauna, with associated traditional knowledge, the development of holistic ABS legislation will go a long way in ensuring the achievement of the objectives of the Convention.

3.1.5 Strategic Objective 5: Improve human wellbeing through the restoration and enhancement of key ecosystems

This strategic objective includes two targets (Targets 11 and 12) on the enhancement of the capacity of ecosystems to deliver goods and services and provide protection from hazards, and on biosafety. It has 10 actions with CSS, FD, MASL, DoA and BDS identified as responsible primary stakeholders for their implementation.

The Ministry of Environment is the nodal ministry for biosafety issues. There is a National Coordinating Committee on Biodiversity to address potential issues between the Ministry of Environment and the Ministry of Agriculture. Synthetic biology is a new area that is under discussion. Sri Lanka is a Party to the Cartagena Protocol on Biosafety. However, there is no law on GMOs. The country's biosafety framework is under preparation. GMOs are not legally allowed in Sri Lanka. Testing of samples shows little evidence of GMOs. Imported soya oil could be of GMO origin. Importing any food with GMO origin is banned in Sri Lanka and is regulated under the Food Act. Sri Lanka needs to adopt legal instruments, use modern science-based methodologies, conduct laboratory analyses, prepare guidelines on risk assessment, and develop a Biosafety Clearing-House (BCH) to disseminate information related to biosafety.

For the purpose of afforestation, both indigenous and exotic species are used outside natural forests. Sri Lanka is a net importer of timber. A number of research studies are being undertaken on the effects of climate change on forests. However, no real conclusions have been drawn so far. A long-term phenological study, coupled with other studies on, for example, genetic erosion of species, has to be conducted for Sri Lanka. The national budget does not contain provision for forest ecosystem evaluation. So far, only an incomplete study has been carried out. Financing is however available from the national budget for awareness-raising. Biosafety activities are in a state of initiation in Sri Lanka. Biosafety mainstreaming in key sectors has not yet begun. Synthetic biology and biosafety are new emerging issues. Identifying experts in these fields is a challenge.

Recommendations

- (1) There is an urgent need to develop science-based guidelines and regulations for biosafety issues. Until exclusive biosafety legislation is developed, regulation under the existing environmental and other relevant legislations could provide minimum legal support. For instance, South Africa has already initiated a programme to regulate e-commerce and products which are imported through e-based routes. The African Union, through the African Biosafety Network of Expertise (ABNE), is also spearheading a programme dealing with promotion and regulation of synthetic biology and gene-drive-based products for AU member states.

- (2) There is an urgent need to set up a biosafety authority office with the autonomy to handle and process information for all sectors in Sri Lanka. This will go a long way in establishing a robust biosafety system for Sri Lanka.
- (3) There is a lot of traffic of products and services which use e-commerce or e-trade. E-trade calls for new biosafety guidelines and procedures. Therefore, Sri Lanka is encouraged to set up guidelines to deal with e-commerce products.

3.2 Cross-cutting issues

Biodiversity is a cross-sectoral subject. In Sri Lanka, many ministries, departments and institutions are involved in biodiversity conservation. The Ministry of Mahaweli Development and Environment, Ministry of Agriculture, Ministry of Plantations, Ministry of Planning, Ministry of Finance, and institutions under them, are responsible for the implementation of the NBSAP.

The NBSAP has a dedicated chapter on the coordination and monitoring of its implementation. The National Biodiversity Experts Committee (NBEC), comprised of representatives from various ministries, is expected to meet at fixed intervals to monitor the implementation of the NBSAP. The Committee is convened by the Biodiversity Secretariat of the Ministry of Mahaweli Development and Environment, comprising experts on biodiversity, including scientists from the public and private sectors, and relevant stakeholders, including members of NGOs. Although there are mechanisms in place at the national level for coordination among ministries, such coordination at the provincial and district levels is limited. The sharing of data, coordination among the various arms of the Government dealing with biodiversity issues, lack of awareness, need for capacity-building for relevant stakeholders and resource mobilization, are some of the cross-cutting issues which are discussed in this chapter.

3.2.1 Sharing of data

The ministries of the Government, departments and institutions hold valuable data which is generated while implementing various development projects. The data generated are at times required by other agencies of the Government. In the absence of access to such existing data, agencies are required to procure them, on a basis of payment, or generate such data which results in the use of additional resources and time. During discussion with various stakeholders, it was very clear that there is restriction on data-sharing, even among Government agencies. This is perhaps due to the fact that the Ministry of Finance is encouraging other ministries to mobilize resources. In the long run, such a situation would lead to more expenditure for the Government. There should be easy access to data among stakeholders, especially Government agencies. The cost of not sharing the data is much higher than the revenue that would accrue with such commercialization. The sharing of data among stakeholders is very important and should be encouraged.

Recommendation

The Government may establish a clear policy on the sharing of data. Government-to-Government sharing of data should be encouraged.

3.2.2 Awareness, communication and outreach

The NBSAP of Sri Lanka does not have a specific target on awareness, capacity-building, communication and outreach. However, there are specific actions identified under various targets that are aimed at capacity-building. In Sri Lanka, biodiversity and environmental issues are included as parts of school and college curriculums.

Article 27 (14) of the Sri Lankan Constitution mandates the State to protect, preserve and improve the environment for the benefit of the community. Article 28 (f) of the Constitution reinforces that every person has a duty to protect nature and conserve its riches.

The NBSAP includes a section on communication and outreach aimed at using advertising and marketing methods to: brand and promote NBSAP targets among the public, create clear understanding about the needs for biodiversity conservation, engage all sectors to make them recognize the national significance and value of understanding actions recommended in the NBSAP, and promote the use of innovative tools, such as social media.

There is awareness about issues concerning biodiversity among various ministries. The NBSAP clearly identifies different stakeholders and specific expected results. Indicators have also been identified to evaluate progress. However, many of the proposed actions have not been undertaken as per the set timeframe. Lack of financial and technical human resources are major limitations. Notably, Sri Lanka was awarded a prize for the quality of its Clearing-House Mechanism (<http://lk.chm-cbd.net/>) at COP-14 in Sharm El-Sheikh.

Recommendation

Some of the issues that require immediate capacity-building are database maintenance and protocols for data storing, training on lesser-known taxa, training at the local level on strategic environmental assessment (SEA), preparation of a management plan for production areas, capacity-building on the development of a web portal for creating awareness on threatened species, reintroduction and rehabilitation of wildlife, incorporation of biodiversity ecosystems in planning, capacity-building to prepare sound budgetary proposals for submission to the Treasury Department, community training on base practices, capacity-building for molecular research, training for officials of the Department of Wildlife Conservation on conservation of crop wild relatives, on-farm conservation training for farmers, training on bioprospecting programmes, and training on biosafety-related issues.

3.2.3 Budget

Aichi Biodiversity Target 20 deals with resource mobilization. Sri Lanka's NBSAP does not include a specific target on resource mobilization. However, the lack of adequate financial resources is identified as one of the major barriers to achieving the NBSAP targets.

Financial resources for biodiversity conservation flow through two different channels, namely, the national planning process and grants provided through the finance commission. It is surprising to note that the Department of National Planning and Treasury Department were not involved in stakeholder consultations during the NBSAP development process. The financial needs assessment undertaken under the BIOFIN project estimates that LKR 13.44 billion is required to achieve the goals of the NBSAP. The biodiversity expenditure review (2015) estimates that LKR 7.15 billion was received from the public sector for biodiversity conservation.

BIOFIN recommends considering financial solutions that include, among others, realigning expenditure, preventing future expenditure and generating revenue to fill gaps. In Sri Lanka, financial centralization dominates the country's public financing system, which can result in a situation where revenue generated by agencies involved in conservation is ultimately not allocated to their respective budgets. Certain agencies, such as the Department of Botanic Gardens, have laws which provide for trust funds to be used for *ex situ* conservation activities, including research and surveys. The DWC is also permitted to retain revenue generated for conservation purposes. Although these funds are small in comparison to the total budgetary needs, they play a critical role in conservation, provided

access to them is streamlined and does not entail a lot of bureaucratic intervention. This can also serve as an incentive to such agencies to generate more revenue, thereby reducing the gap on expenditure for action on biodiversity conservation.

3.2.4 Mainstreaming strategy for implementing partner agencies

The NBSAP's 12 targets and the actions under each will be implemented by a wide range of stakeholders. Implementation of each discrete action is meant to introduce new knowledge and practices to the concerned agency so that these can be mainstreamed into the main programmes of the agency, to ensure sustainability and attainment of outcomes during and beyond the NBSAP implementation period.

The NBSAP includes a stakeholder analysis that describes the likely interest and influence level of each agency participating in NBSAP implementation. At the same time, the NBSAP identifies communication and capacity-building actions for the attainment of specific actions under each target. These are valuable steps that can help the coordination and monitoring of implementation of tasks allocated to partner agencies. On the whole, however, there is limited articulation in the NBSAP as to how the new knowledge and practices will be systematically mainstreamed and sustained in each of the agencies concerned, particularly those agencies that are working in the production sectors. This is a concern because the Ministry of Mahaweli Development and Environment, including the Biodiversity Secretariat, have very small staff resources and the successful implementation of many targets is largely dependent on the agencies to which targets have been allocated.

Recommendation

During the midterm review of the NBSAP, it is proposed that the Ministry of Mahaweli Development and Environment and the Biodiversity Secretariat, together with concerned ministries and departments, facilitate the development of agency-specific action plans that would elaborate on the target actions allocated to each of the selected agencies. This may be done for selected ministries and departments that cover multiple targets. The Ministry of Mahaweli Development and Environment and the Biodiversity Secretariat may conduct regular collaborative planning and assessments with the planning offices and concerned technical offices of the concerned ministry or department. The exercise would aim to help the concerned agency implement relevant targets. It would also aim to guide the design of training and communication activities for NBSAP implementation which can: a) deepen awareness of issues among agency personnel; b) facilitate assessment of experience, good practices and learnings; and c) incorporate the same into the knowledge system, attitudes and practices (KAP), and eventually into the strategic programmes of the agency concerned.

4. Peer learning (Sri Lanka)

The VPR provided an excellent opportunity to work with an international team that has experience in different NBSAP areas, gained from activities carried out in their home countries and other countries. All members of the team and supporting CBD Secretariat staff contributed to the exercise, providing proper guidance to assist us in collecting all information required on the NBSAP process and in preparing for interviews. As a result, the VPR will support us in sharing knowledge related to NBSAP implementation and in regard to undertaking future reviews of NBSAPs.

Most of the recommendations were developed with consideration given to the experiences of the review team in their home countries in implementing policies, strategies and action plans, and the experiences shared by stakeholders during consultations.

All stakeholders provided important opportunities to learn about other experiences related to biodiversity (other than in relation to their core subjects) and exchanged respective knowledge during the VPR period. As a result, local stakeholders, the review team and supporting CBD Secretariat staff were able to enhance their expertise in regard to biodiversity policy, strategies and action plan preparation, implementation and review.

The VPR provided a valuable opportunity to enhance our skills in relation to identifying gaps and prioritizing NBSAP targets according to existing financial and human resources.

5. Policy response to recommendations

5.1 General policy response to the VPR Sri Lanka

Sri Lanka has a rich biodiversity due to varied factors that has resulted in high ecosystem, species and genetic diversity, and exceptional endemism among its wild fauna and flora. The diverse species and ecosystems and numerous ecosystem services of biodiversity form the natural capital of the Island, contributing considerably to the country's economy and the wellbeing of the Sri Lankan people. Despite its importance, Sri Lanka's biodiversity is faced with many threats, such as: habitat degradation, fragmentation and loss; invasive alien species; over-exploitation and destructive extraction of bio-resources; pollution; and impacts of climate change.

The existing Constitution, legal and sectoral policy framework, laws and policies in Sri Lanka adequately support biodiversity conservation, sustainable utilization and implementation of the National Biodiversity Strategic Action Plan.

In line with Article 27, subsection 14, of Sri Lanka's Constitution which declares that "The state shall protect, preserve and improve the environment for the benefit of the community", the national environment policy, national forests policy, among others, which aim to conserve and sustainably use all-natural resources, have been prepared and implemented.

Institutional mandates, visions and missions of agencies important for biodiversity conservation are well formulated and enable biodiversity conservation in natural and agricultural systems. Even agencies traditionally known as "impactors" on biodiversity are now beginning to consider biodiversity in their work programmes through the Environmental Impact Assessment process, etc. However, the absence of an appropriate structure to monitor implementation of the NBSAP is a gap in the institutional setup at the national level, as well as a gap that exists between the national and subnational levels.

There should be an efficient coordination and monitoring institutional framework to facilitate and track NBSAP implementation with a high-level apex mechanism to monitor environmental conservation.

Technical capacity should be built among staff in conservation agencies to prepare and implement policies and strategies, in collaboration with other national and subnational stakeholders, to prevent overlapping policy and management situations and to ensure cooperation and collaboration.

5.2 Policy response on recommendations

Strategic Objective 1: Ensure long term conservation of biodiversity

Regarding recommendation 1, relevant Government organizations, private sector organizations and NGOs contributed to the preparation of the NBSAP and institutions have been identified as the main and secondary responsible agencies for each activity described in the NBSAP. As the National Focal Point to the Convention on Biological Diversity, the Ministry coordinates with other Government agencies, especially at the national level, in relation to biodiversity management. However, a coordination mechanism at both national and subnational levels needs to be strengthened.

As mentioned in recommendation 2, the use of DNA barcodes or virtual biobanks can be more effective and an efficient method of surveillance, monitoring and management of invasive alien species in Sri Lanka. Sri Lanka has initiated training on DNA barcoding through the CBD Global Taxonomy Initiative for selected officers of stakeholder institutions (though mainly focused on plant quarantine officers). However, this exercise is time-consuming and costly. Therefore, technical and financial assistance needs to be continuously provided to strengthen the capacity of dedicated laboratories and officers.

Regarding recommendation 3, a rational land use planning system will be established under the land use policy as a National Integrated Land Use Framework to guide the zonation of different land uses for agriculture, infrastructure, fisheries, tourism, forests, etc.

Regarding recommendations 4 and 5, the Fauna and Flora Protection Ordinance and the Forests Conservation Act provided guidance to prepare conservation management plans for all designated protected areas. Features of the conservation management plan and the adaptive management plan can be embedded to this conservation management plans instead of preparation of several plans.

We agreed with recommendations 6 and 7.

Strategic Objective 2: Promote sustainable use of natural resources

We agreed with recommendation 1 (identify top 10 environmental issues/opportunities).

Regarding recommendation 2, the National Policy on Traditional Knowledge and Practices has been finalized and there are provisions within the strategies to nurture the demand side for conservation and sustainability. After getting the approval of the Cabinet of Ministers, a detailed action plan will be prepared embedding all requirements.

We agreed with recommendation 3.

Regarding recommendations 4 and 5, the Government has already started to re-establish and strengthen the District environmental committees.

Strategic Objective 3: Conservation of Agrobiodiversity

Regarding recommendations 1 to 5, the Ministry of Agriculture and the Department of Agriculture are implementing several activities in relation to these recommendations. An example is the Good Agriculture Programme (GAP).

Strategic Objective 4: Promote equitable sharing of benefits from biodiversity

Regarding recommendation 1, the ABS policy and implementation mechanism have been finalized. Regarding the legal framework related to ABS, a gap analysis and activities to strengthen the existing legal framework need to be carried out.

Strategic Objective 5: Improve human wellbeing through the restoration and enhancement of key ecosystems

Regarding recommendations 1 and 2,

Science-based guidelines for the following aspects related to biosafety have been prepared and are ready for use. Training programmes will be conducted to raise awareness among officers of relevant authorities.

- Guidelines for the safe use of Living Modified Organisms (LMOs) in the laboratory
- Guidelines for environmental risk assessment of LM plants
- Guidelines for the conduct of confined field trials of LM plants
- Guidelines for the safety assessment of foods derived from LM plants
- Guidelines for testing of genetically modified mosquitoes
- Guidelines for institutional biosafety committees
- Risk analysis framework

The National Biosafety Act has been drafted and biosafety regulations will be finalized after the draft Act is enacted. A Biosafety Authority office or Competent Authority is proposed in the draft Act.

Regarding recommendation 3, a guideline will be established in the future for the development of e-trade related to biotechnology.

6. Peer learning (VPR Team)

The VPR exercise provided an opportunity for the team to share their expertise as well as experience on biodiversity governance gained in their countries, and acted as a platform for peer learning. This exercise is a collaborative team effort where shared experiences result in the hybridization of knowledge for individual and collective learning. The VPR will continue to play an important role in peer learning.

The in-country visit to Sri Lanka and the interaction with the experts and the Biodiversity Secretariat (BDS) helped the team to learn more about the functioning of the BDS and the processes involved in the preparation of the NBSAP. There was no restriction in interacting with the stakeholders during the in-country visit, which is an important component of the VPR process and which was well organized by the authorities in Sri Lanka as well as well coordinated by the CBD Secretariat. The VPR exercise provided an opportunity to interact with stakeholders and assisted in viewing biodiversity governance from different perspectives. Some of the potential learnings for other Parties are:

- (a) Sri Lanka's NBSAP 2016-2022 is a well drafted document which identifies key barriers for degradation and the drivers of degradation. There was active involvement of various stakeholders in the preparation of the NBSAP. During the interaction with key ministries and departments of the Government of Sri Lanka, it was observed that they were aware of the process of preparation of the NBSAP and the role of their respective ministry in the implementation of the NBSAP.
- (b) The NBSAP of Sri Lanka includes a clear national strategy, targets and actions. It provides specific indicators against each of the actions for the monitoring of the implementation of the NBSAP. There are specific timeframes for the monitoring of the progress of different targets.
- (c) Overall, the NBSAP has a well-established institutional mechanism for the monitoring and evaluation of the implementation of the NBSAP. Opportunities exist that can be utilized to further strengthen the monitoring system, particularly within each participating agency and institution. The BDS established within the Ministry of Mahaweli Development and Environment coordinates the overall implementation of the NBSAP. There is a Biodiversity Expert Committee, with representation from different ministries of the Government that play a role in the overall supervision of the implementation of the NBSAP.
- (d) The Biodiversity Secretariat is a small but well-functioning body which interacts with key ministries and agencies on biodiversity-related issues. The BDS has a good working relationship with other ministries dealing with biodiversity.
- (e) The Biodiversity Sri Lanka platform is another mechanism and innovative way to involve the private sector in the conservation of biodiversity in the country and thereby assist in implementing the NBSAP.
- (f) NBSAP implementation requires the further capacity-building of different stakeholders, additional resources and input, especially in regard to line agencies and local authorities. A needs assessment process with an implementation timeframe is provided in the NBSAP.
- (g) The communication strategy for outreach is another tool which, if implemented properly, is likely to motivate stakeholders to actively participate in the implementation of the NBSAP.
- (h) It is worth mentioning that the updating of the biodiversity profile of Sri Lanka, as part of the preparation of sixth national report, was a broad-based exercise involving experts at different levels.

The experience gained in regard to the VPR also served to improve the process of peer review, and will assist in carrying out future VPRs in other countries.

The composition of the team was well balanced, both in terms of expertise and regional representation. This helped in formulating recommendations which are drawn from existing practices in the experts' countries thereby avoiding theoretical or hypothetical recommendations.

The exercise also helped the team to devise processes, such as the debriefing session held at the end of each day during the in-country visit. During these daily sessions, the team was able to assess and reorient stakeholder consultations during the in-country visit.

Annex - Stakeholders consulted

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