

National Policy on Conservation and Sustainable Utilization of Mangrove Ecosystems in Sri Lanka

Ministry of Environment and Wildlife Resources

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1. Policy Name

NATIONAL POLICY FOR CONSERVATION AND SUSTAINABLE UTILIZATION OF MANGROVE ECOSYSTEMS IN SRI LANKA

2. Effective Date

3. Introduction

I. Background

Amongst the different ecosystems in Sri Lanka, mangroves represent a unique collection of specialized fauna and flora adopted to survive in brackish water conditions and intertidal zones. As per the estimates of Department of Forests (2010), 15,669 ha of Sri Lanka is covered with mangroves. In Sri Lanka, around 21 true mangrove and several mangrove associated flora have been identified. Most importantly, this represents one third of the world mangrove species diversity.

Mangroves play a crucial role in maintaining the ecological integrity of the coastal zone. Mangroves contribute towards all ecosystem services - provisioning, regulatory, supportive and cultural services. Due to their position, at the boundary between land and sea, mangroves receive extensive amounts of particles emitted from rivers through estuaries, as such mangroves act as a buffer zone between the coastal and inland ecosystems and survive as a natural filter from both sides. From the landward side, upland sediment and other organic and inorganic matter are deposited within mangrove ecosystems preventing direct release of sediments and nutrients to sensitive coastal ecosystems such as sea grass beds and coral reefs. From seaward side, effects of tides, storm surges, tsunamis and salt wedges to fresh water ecosystems are ameliorated, hence, salt water sensitive ecosystems, lives of people and their properties are protected. The role played by mangrove ecosystems as carbon sinks mitigate climate change which is globally highlighted as a prime need for conserving mangroves. Biologically, mangrove ecosystems provide feeding and breeding habitats for species that permanently inhabit such ecosystems and also for those temporarily migrate for nesting and survival purposes. Economically, mangroves provide

livelihood opportunities for the coastal communities through fisheries and ecotourism opportunities. Fish, shellfish and other food items obtained from mangroves play a vital role in the food and nutritional requirements of the coastal communities.

II. Need

These essential services provided by mangroves are being degraded due to haphazard clearance of mangrove forests, land grab, conversion of mangrove swamps to aquaculture systems and salterns, reclamation projects and other coastal developments. These threats result in habitat fragmentation and deterioration, leading to loss of species, and degradation of ecosystem functions and services. Increased levels of inorganic ions from agriculture and organic compounds from untreated sewage disposal have accelerated nutrient pollution in mangrove ecosystems; and material both from natural and xenobiotic sources have caused solid waste problems and health hazards. As mangroves cover less than 0.23% of land area in Sri Lanka, unless a national policy is present for the conservation and sustainable utilization, this ecosystem will be further deteriorated. Though there are several policies such as National Forest Policy, National Environment Policy, National Wetland Policy, they are inadequate to cover all required policy needs. Similarly, if the current management measures fail to protect the mangrove ecosystems in Sri Lanka, the resilience of the mangrove system, well-being of the communities and their future survival will be challenged.

III. Purpose and Context

Keeping in line with the article 27 subsection 14 of Sri Lanka's constitution "The state shall protect, preserve and improve the environment for the benefit of the community". Accordingly, the National Policy on Conservation and Sustainable Utilization of Mangrove Ecosystem in Sri Lanka" is prepared aiming at conserving the mangrove ecosystem and sustainable utilization. This policy is intended to provide consistent guidance to the government, in particular to the ministry handling the subject of environment, and all other stakeholders.

Following notes should be considered in implementing the proposed policy;

1. The National Policy for Conservation and Sustainable Utilization of Mangrove Ecosystems in the Democratic Socialist Republic of Sri Lanka is a part of the responsibility to our national commitment to environment, mandated in the Constitution in Article 27 Sub article 14.
2. The National Policy for Conservation and Sustainable Utilization of Mangrove Ecosystems in Sri Lanka seeks to extend the coverage, and fill in the existing gaps in light of present knowledge and accumulated experience. It does not displace, but builds on the related policies given in Annex I.
3. It is expected that this policy shall create and stimulate inter-institutional linkages nationally and internationally, partnerships among all stakeholders and final outcomes represent the joint and consented achievements of stakeholders.
4. The policy is expected to facilitate the formation of new institutional mechanisms and the reviewing of existing mechanisms, as well as amendments and creation of legislations that will enable the implementation of the policy.

IV. Rationale

Overarching legal and policy frameworks that support and provide the right enabling conditions for effective mangrove management should be encouraged as a precursor to good management. These frameworks should establish policy and legislation for mangroves at the national level, ensure that laws and regulations are enacted and enforced, clearly define and accept the rights of ownership, define access and use of mangrove forests, enhance human capacity, and also technical, legal and financial capacity for mangrove management at different levels and ensure these measures, including subsidies and other incentives that lead to mangrove degradation or loss are removed.

Although limited provisions are presented in the current policies regarding mangroves, a cohesive, purpose driven and mangrove ecosystem focused policy framework is absent. These gaps have consequently affected effective governance through appropriate legal

provisions and voluntary commitments. Additionally, coordinated action towards the protection and restoration of mangroves needs should be embedded within the international policy arena, notably under biodiversity, wetlands, sustainable development and climate change agreements in particular under the UN Framework Convention on Climate Change, Sendai Framework for Disaster Risk Reduction and Ramsar Convention for which Sri Lanka is signatory.

Management and restoration of mangrove ecosystems should be recognized as an achievable and cost-effective way to help ensure food security for many coastal communities. Healthy mangrove forests contribute to the food and nutritional security through the production of numerous fishery and forest products, by supporting commercial coastal and offshore fisheries and aquaculture. Policies are also required to recognize the strong link between mangrove ecosystem degradation and persistence of poverty.

Absence of a policy to address these diverse needs have affected the effective governance of mangroves in Sri Lanka, hence, an upgraded new policy is needed.

4. Vision

A healthy mangrove ecosystem with rich biodiversity supporting the nation with direct and indirect services.

5. Policy Goals

1. Human and ecological well-being is established in areas where mangroves are present and mangrove ecosystems including living and non-living resources and their interactions function optimally through conservation.
2. Concerns regarding mangrove ecosystems are applied into policies, legislation, plans, programmes and projects through which efficient resources are established to minimize adverse environmental impacts to mangrove ecosystems.
3. Traditional knowledge is protected and social capital for mangrove conservation is empowered through mutually beneficial multi-stakeholder partnerships between

local communities, public agencies, academic and research community, investors, and multilateral and bilateral development partners hence equitable access to mangrove ecosystems inter and intra generationally is established.

4. Nationwide support for mangrove conservation is formed through awareness among both resource users and general public.

6. Policy Statements

1. Ensure recognition of mangrove ecosystems as entities of “incomparable” values.
2. Encourage prioritization in allocation of economical and social resources for mangrove conservation without consideration of direct or immediate economic benefits.
3. Establish consideration of mangrove ecosystems as state properties irrespective to land ownership thus ensuring same legal protection and habitat management.
4. Encourage liberation of mangrove ecosystems from illegal settlements and developments and prevention of further land encroachment.
5. Recognize the importance of periodical update of the extent of mangrove cover, flora and fauna and their population dynamics as well as genetic diversity.
6. Encourage intra and inter institutional linkages for the conservation and sustainable utilization of mangroves as well as for collecting and sharing information.
7. Encourage public and private partnerships in managing mangrove ecosystems and promotion of mutually beneficial systems.
8. Ensure maintenance and improvement of natural water flow and water quality in mangrove ecosystems.

9. Safeguard the dependencies of humans for services provided by mangrove ecosystems and ensure their viability and availability inter and intra generationally.
10. Encourage stakeholders to promote the plantation of the correct species of mangroves.
11. Ensure, further development of the voluntary mangrove carbon market and other sources of investment that reflect carbon credentials and wider public benefits to deliver a landscape with more mangroves.
12. Publicize the conservation of mangroves through awareness, empowerment of stakeholders and reduction of dependencies that threaten sustainability.
13. Ensure the health of mangrove ecosystems by recognizing the importance of maintaining by preventing the entry of dissolved organic and inorganic pollutants, suspended solids, solid wastage and toxic gases to water soil and air.
14. Promote environmental offsetting and restoration of degraded mangrove ecosystems with the aim of rebuilding lost environmental services with scientifically sound techniques.
15. Ensure the right of access to mangrove ecosystems for its aesthetic beauty in the right manners that does not jeopardize mangroves and their functions.
16. Recognize the right to sustainable development with environmental protection being constituted as an integral part of development in mangrove ecosystems, and ensure application of all environmental impact assessments irrespective of the size and nature of the development.
17. Ensure necessary actions as a precautionary approach when credible information is present, regarding threats and irreversible damages to mangrove ecosystems regardless of scientific data.

18. Ensure financial, timely and logistical support for research on developing tools, methods/technologies to conserve, restore and for sustainable use and to establish status of ecosystems for a scientifically backed decision processes.
19. Warrant international cooperation to conserve and sustainably manage mangroves to develop human and physical capacities.

7. Applicability and Scope

Scope

The scope of the policy extends to conservation, research, land use, land conversions, sustainable resource extraction and restoration of mangroves of Sri Lanka.

Applicability

The policy will direct and strengthen the regulations, goals, objectives, strategies, actions and roles of all government and non-governmental organizations working directly or indirectly on mangrove ecosystems and will have applicable provisions in this policy. The national policy for conservation and sustainable utilization of mangrove ecosystems in Sri Lanka is to be adopted by all agencies that have a stake in mangrove ecosystems both in already protected mangrove habitats and mangroves outside protected areas.

8. Policy Implementation

I. Strategies

1. Devise reforms to the legislative framework and regulatory institutions of stakeholder agencies.
2. Capacitate all levels of stakeholders from policy makers to grass root communities through focussed awareness.
3. Improve access to data through establishment of a database and an inventory with continuous updating.

4. Institutionalize causal analysis and identify most significant and important threats and issues as well as mechanisms to elevate the conservation status of species and ecosystems.
5. Facilitate institutional mechanisms for key stakeholder participation in mangrove management.
6. Establish Monitoring and Evaluation mechanism with measurable, benchmarked indicators for activities when implementing the policy.

II. Responsibility and Authority

The Ministry responsible for the subject of environment will be responsible to enact the policy and coordinate the relevant departments and stakeholders with a national level committee to implement the provisions of policy through various legislature of stakeholder organizations.

III. Monitoring and Evaluation

Biodiversity Secretariat in the Ministry responsible for the subject of environment through a duly appointed national steering committee comprising Forest Department, Department of Wildlife Conservation, Department of Coast Conservation and Coastal Resources Management, Department of Fisheries and Aquatic Resources, Marine Environment Protection Authority and Central Environmental Authority, experts and community based organizations can participate in monitoring and evaluation.

9. Glossary

Abiotic: Non-living, applied to the physical and chemical aspects of an organism's environment (Townsend, Begon, & Harper, 2008)

Abundance: The total number of individuals of a taxon (Hassan, Scholes, & Ash, 2005)

Adaptation: Adjustment in natural or human systems to a new or changing environment (Hassan et al., 2005)

Anthropogenic impacts: Impacts resulting from human activities (The Economics of Ecosystems and Biodiversity (TEEB), 2016)

Biodiversity offsets: Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure and ecosystem function and people's use and cultural values associated with biodiversity (BBOP, 2012)

Biodiversity: Biological diversity means the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems (CBD, 1992)

Cultural Services: The non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experience, including, e.g. knowledge systems, social relations, and aesthetic values (Hassan et al., 2005)

Ecosystem: A system, or a group of interconnected elements, formed by the interaction of a community of organisms with their environment.

Habitat degradation: A decline in species-specific habitat quality that leads to reduced survival and/or reproductive success in a population. (Sodhi & Ehrlich, 2010)

Habitat fragmentation: The 'breaking apart' of continuous habitat into distinct pieces (Sodhi & Ehrlich, 2010)

Mangrove: A mangrove is the tidal habitat in the intertidal zone of marine, coastal and estuarine margins comprising such trees and shrubs and other organisms specialized to inhabit.

Sustainable use: Sustainable use means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations -Article 2 of Convention on Biological Diversity (CBD, 1992)

Viable population: A self-supporting population with sufficient numbers and genetic variety among healthy individuals and breeding pairs that are well enough distributed to ensure a high probability of survival despite the foreseeable effects of demographic, environmental and genetic events, and of natural catastrophes.

Annex I

List of related policies

1. National Forest Policy (1995)
2. National Wildlife Policy (2000)
3. National Environmental Policy (2003)
4. National Sand Policy (2005)
5. National Policy on Wetlands (2006)
6. National Fisheries Policy (2006)
7. National Soil and Mineral Policy (2007)
8. National Policy on Climate Change (2012)
9. National Coastal Resource Management Plan (2016)
10. National Policy on Invasive Alien Species (2016)