THE BIODIVERSITY FINANCE INITIATIVE

BIOFIN
SEYCHELLES

Financial Needs Assessment

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Executive Summary

Seychelles National Biodiversity Strategy and Action Plan (2015-2020) was endorsed by the government mid-2015 following a review by the NBSAP forum and the BIOFIN Global Team, which ensured that the NBSAP was aligned to Aichi Biodiversity Targets and that it was detailed enough to have well defined activities. In the NBSAP, 31 projects have been identified and prioritized. NBSAP projects are incremental to biodiversity conservation business-as-usual activities implemented by national stakeholders.

This Financial Needs Assessment (FNA) presents the detailed costing of the NBSAP that took place in 2015 through an iterative process of stakeholder and expert consultation. The total cost of the NBSAP was estimated at 320 Million SCR over its five years implementation period. Thirty-six percent of the total cost of the NBSAP related to sustainable use strategies, reflecting the fact that the Seychelles are highly dependent on biodiversity resources, while protection and restoration strategies accounted for 21% and 22% of the total respectively. The average annual cost of implementing the NBSAP is 0.84% of the 2015 national budget and 1.32% of the annual revenue generated by Tourism in 2014 and financing for part this amount will be explored through the development of the Seychelles Biodiversity Finance Plan

A specific financial gap for biodiversity was not quantified since the NBSAP is incremental and not comprehensive and those cannot be directly compared with the results of the Biodiversity Expenditure Review (BER) conducted by the Seychelles BIOFIN team.

1. Introduction

The Seychelles National Biodiversity Strategy and Action Plan 2015-2020 (NBSAP) was prepared in 2012-2013 through an iterative process of stakeholder consultation and approval. Following an international independent review carried out by the NBSAP forum and the BIOFIN Global Team of the draft NBSAP, it was decided to re-align its content to the CBD's Aichi Biodiversity Targets and identify costable activities – a process which was undertaken in 2014. The NBSAP was endorsed by the government mid-2015.

2. The National Biodiversity Strategy and Action Plan (2015-2020)

Seychelles is home to significant biodiversity with high endemism: 50-85% for different animal groups and approximately 45% for plants in general. The country is recognized as a biodiversity hotspot by Conservation International and a centre of plant biodiversity by the International Union for the Conservation of Nature (IUCN) and the World Wildlife Fund (WWF).

Seychelles' biodiversity is described in three main categories namely: Forest Biodiversity, Inland Waters Biodiversity and Marine and Coastal Biodiversity. The main threats to terrestrial biodiversity are invasive alien species (IAS) and loss of habitat/change in land use. Climate change is a cross-cutting threat and a complicating factor in assessing priority threats to terrestrial biodiversity. In marine ecosystems, the primary threat is that of overfishing. There is strong evidence showing significant and progressive overfishing of the demersal fishery and "fishing down" of the food chain, which can destabilise ecosystems. Climate change is also a major threat to the conservation and sustainable use of marine biodiversity and particularly so with regard to the most biodiverse habitat of coral reefs, which suffered severe loss of live coral cover in the 1998 ENSO-related bleaching event. The effects of overfishing and raised sea temperatures compound each other in terms of the impact on reef systems.

Seychelles' key biodiversity successes, which reflect the focus of conservation action over the last 40 years, are:

- The eradication of IAS from, and the rehabilitation of, small island ecosystems, which has resulted in remarkable success stories, particularly in the conservation of endangered endemic land birds;
- The Protected Area Network (PAN) which covers some 46.6% of the country's landmass and includes world class protected areas like Aldabra, Cousin Island, Aride Island and the Vallee-de-Mai which have yielded enormous conservation benefits, not least the ongoing recovery of turtle rookeries on Aldabra and Cousin Island.

However, the analysis indicates that the policy and regulatory framework for biodiversity conservation needs to be strengthened to mainstream biodiversity, ensure effective management of biodiversity resources, and establish sustainable financing mechanisms.

The vision of the NBSAP is:
"To contribute to the realisation of the nation's economic, social and cultural potential through an innovative, knowledge-led approach, being mindful of the need to conserve the integrity of the Seychelles natural environment and heritage for present and future generations."

The Mission statement is:
***"*To effectively implement the Convention on Biological Diversity within the Seychelles context through the integrated conservation and sustainable use of biodiversity and the equitable sharing of benefits arising from the use of genetic resources."**
The NBSAP has a 6-year duration (2015-2020). A National Biodiversity Partnership Forum (NBPF) will be established to ensure Stakeholders interaction and, for various purposes and transparent and equitable implementation of the NBSAP. An implementation unit will oversee and coordinate the implementation of the NBSAP and serve as secretariat to the NBPF. The funding and establishment of the implementation Unit is considered a critical factor for the successful implementation and mainstreaming of the NBSAP.

2.1 NBSAP projects

Thirty-one projects have been identified, prioritised and aligned to Achi targets, and activities and expected results have been identified. The summary table below gives an overview of the 31 projects. NBSAP projects are incremental to business-as-usual activities implemented by national stakeholders.

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
1	**Revision and Consolidation of Protected Area Legislation**	Development, finalisation and promulgation of new Protected Area legislation	1) Revised Draft Bill 2) Cabinet approves Memorandum. Bill debated and passed by National Assembly. 3) Public informed of scope, implications and timeline for coming into force of new PA legislation. 4) Legislation under enforcement.	1) Generate 1st draft and review through stakeholder consultation. 2) Finalise 2nd draft for approval by stakeholders, Environment Department and AG's office, amend as necessary. 3) Submit to executive and legislative approval mechanisms, amend as necessary. 4) Commence PE&A campaign to advice public and stakeholders of the timeline for the coming into force of the legislation and its ramifications. 5) Gazette legislation	2014-2019	1	Protection
2	**Enabling Informed Extension of Protected Area Network**	To optimise the representative nature and viability of biodiversity covered by the PAN utilising best current information.	1/2) Report collating and mapping existing biodiversity data. 3) Maps of priority areas for PA expansion. 4) Stakeholder workshop proceedings and consultation records. 5) Final report on national priority areas for	1)Desk review and collation of maps on current PAs 2) Desk study of Seychelles Biodiversity and occurrence of endemic and threatened species. 3) Collate information and mapping of spatial	2014-2015 (Outer Islands & MSP process2015-2019)	2	Protection

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			PA expansion.	information on biodiversity. 4)Present and amend information through iterative process of stakeholder consultation. 5) Define targets and map priority areas for PA expansion using biodiversity conservation planning methodologies and MARXAN software package.			
3	**Effective Protected Area Management**	PAs are managed effectively based on sound scientific research and management monitoring regimes that inform adaptive management cycles	1) National PA Policy under implementation. 2/3) Management and administration priorities identified for all PAs. 4) Standardised PA Management Plan format. 5) All PAs have updated or new Management plan under implementation by 2020. 6) Common training standards are in place for training of PA professionals.	1) Establish a cooperative governance structure incorporating all PA stakeholders to steer the implementation of the National PA policy and development of standardised measures for the PA planning cycle (Identification, justification, designation) review and assessment. 2) Review biodiversity status of each PA and assess specific contributions each can make to the national conservation and	2015-2020	2	Protection

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
				sustainable use of Biodiversity. 3) Review existing PA management plans and their status of implementation. 4) Develop standardised format for PA management plans – including: - findings from PA Sustainable Financing project, - Referencing international commitments, - Robust adaptive management procedures. 5) Develop through stakeholder consultation new management plans for all PAs. 6) Develop and implement a programme of PA staff training for management, administration of cooperative governance.			
4	**Seychelles Protected Area Finance Project**	To ensure sustainable financing of PAs in the short and medium-	1) Coordination mechanism for the PA network is in place.	1) strengthening the coordination of the PA management system	2016-2019	2	Protection

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
		term through the establishment of a consolidated framework for the financial, operational efficiency and coherency of the PAN	2) Cost and conservation effectiveness measures are implemented. 3) Legal framework for PA investment is developed. 4) The PA network is sustainably financed.	2)site level cost effectiveness and conservation effectiveness are identified and established 3) Develop at legal framework for implementing a system-wide investment programme 4) Build capacity for PA finance management 5) Develop tracking systems, transparency and a re-investment plan 6) support revenue diversification, investment and co-management 7) Assist in the establishment of debt nature swap mechanism 8) Build capacities of PA managing entities to identify, access, combine and sequence different sources of PA finance			
5	**Prioritised Management of**	Priority species and related critical	1) National endemic and threatened species	1) Compile and review existing information and	2015-2020 (and open ended)	1	Restoration

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
	Endemic Species, Threatened Species and Critical Habitats.	habitats are identified and management/recovery plans developed and under implementation	assessment produced and available on line. 2) Top 20 species/taxa from each class identified. 3) Priority habitat report with 10 (5 terrestrial & 5 marine) specific priority habitats for management identified. 4) At least 10 new species plans developed and under implementation by 2020. 5) At least six habitat plans under implementation by 2020.	assessments on endemic and threatened species, for both marine and terrestrial ecosystems, in Seychelles. 2) Identify priority listings through stakeholder consultation for action to whatever taxonomic level is appropriate. 3) Cross-reference these priority listings with habitats to identify key habitats. 4) Identify priority taxa and habitats for action and develop action plans as part of a new national conservation programme. 5)Undertake pilot projects to implement priorities and progressively refine and implement priority management and recovery plans.			

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
6	**Ex-situ Conservation Program in Support of Species and Habitat Recovery**	To identify and develop the required capacity for a structured and prioritised national exsitu conservation programme.	1) Pragmatic scope for application of ex-situ conservation in Seychelles identified. 2) Current ex-situ capacity assessed with recommendations for prioritisation and/or development as appropriate. 3a) Regulations promulgated 3b) National Policy approved and operational. 4)Prioritised national ex-situ conservation agenda/plan 5) Implement Ex-situ capacity development (if appropriate) in line with plan and recommendations.	1) Assess current and projected medium-term need for and feasibility of ex-situ programmes to support species conservation and habitat rehabilitation projects. 2) Review current national ex-situ activities (nurseries, gene banks, captive breeding programmes) and related research capacity relative to identified feasible needs. 3) Develop, refine and finalise through stakeholder consultation, and in line with international best practice, national policy and regulations for ex-situ conservation and captive breeding programmes. 4) Identify pragmatic ex-situ programme in line with and to support priorities identified under	2015 - open ended	2	Restoration

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
				endemic/ threatened species and critical habitats project 5) Develop or re-align, as appropriate, national ex-situ capacity to meet national priority in-situ conservation needs			
7	**Prevention, Control, Mitigation and Eradication of Invasive Alien Species**	Effective implementation, monitoring, review and adaptive management of the National Invasive Alien Species (Biosecurity) Strategy for Seychelles	1)Shortcomings identified and remedial actions proposed 2/3) New administration and/or steering structure and mechanism, as appropriate. 4)Revised IAS (Biosecurity) strategy under proficient implementation by 2016.	1). Review implementation, oversight and administration of IAS strategy. 2). Identify key shortcomings in implementation and recommend solutions. 3). Review solutions with key agencies and/or stakeholders as appropriate to determine best way forward. 4). Re-initiate implementation of National IAS Strategy, revised as appropriate, with required monitoring and review of implementation and report to NBSAP implementation Unit and SSDS process.	2015 review (opened ended implementation)	1	Restoration

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
8	**The Safe Management of LMOs and Biotechnology**	To ensure the safe handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health.	1/2)Designated Authority and NCC steering LMO management. 3) By 2017, Biosafety Bill/regulations1passed by National Assembly and promulgated. 3). By 2017, National Policy adopted 4) The importation, handling and use of LMOs is effectively governed as per the Cartagena Protocol 5) Law and policy under implementation by appropriately trained staff. 6) International expertise links established. Correspondence 7) Stakeholder and Public awareness improved.	1) Reconstitute the National Coordinating Committee (NCC) and review and update 2004 the NBF. 2) Identify and establish designated authority. 3) Develop, promulgate and implement policy and legislation in line with provisions of the Cartagena Protocol. 4) Manage and control the introduction and use of LMOs through the development of “black and white lists” and use of the Advanced Informed Agreement (AIA) process. 5) Assess and build national capacity, as appropriate, in the identification, safe handling and use of LMOs and their products. 6) Build partnerships with international centres of expertise, particularly those focused on SIDS.	2015 - open-ended	3	Mainstreaming

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
				7) Increase public awareness of the issues relating to the handling and use of LMOs.			
9	**Promotion of Ecologically Sustainable Tourism**	To mainstream ecologically sustainable tourism requirements and practices into the Tourism development and operational cycles	1) Tourism impacts quantified and mitigation measures proposed. 2) Environmental considerations and costs properly integrated into strategic tourism planning and enforced during and after development. 3) At least 3 Carbon neutral tourism Pilot projects under implementation by 2020. 4)At least 5 new tourism-supported biodiversity projects under implementation by 2020. 5) Environmental sustainability criteria are properly integrated into the tourism development cycle.	1) Identify and assess the environmental impacts of tourism activities. 2) Undertake strategic Tourism carrying capacity studies incorporating consideration of biodiversity and environmental economic valuation. 3) Investigate the scope for development of carbon neutral tourism and design and implement pilot projects. 4) Investigate scope for Tourism to support the conservation and sustainable use of Biodiversity. 5) Mainstream sustainable tourism into development and investment standards.	2014 - 2020	3	Sustainable use
10	**Sustainable Water Use and**	To manage catchment areas for optimal	1) Draft best practice guidelines developed.	1) Investigate and model representative	2015 – open-ended.	2	Restoration

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
	Catchment Management	water catchment/retention and biodiversity value.	2) Peak and mean flow indices cross-referenced with rainfall, catchment area, topography and vegetation type/cover. 3a) Best practice guidelines tested, revised and finalised. 3b) At least 3 pilot projects on different catchment types under implementation by 2020. 4) Upstream IAS issues quantified. 5) Ambient water quality indices established and informing antipollution activities. 6) Enhanced management and biodiversity status of catchment areas and reduction of flooding risks	catchment systems to generate best practice guidelines for water management and the integration of biodiversity conservation. 2) Undertake, on a priority basis, surveys of water availability throughout key and representative water courses. 3) Implement catchment Pilot projects to test and refine management guidelines. 4) Investigate aquatic IAS issues in catchments and watercourses. 5) Investigate water quality to identify point sources of pollution in key and representative water systems. 6) Guidelines published, available digitally and under implementation in Forestry practice.			
11	**Protection and Rehabilitation**	The conservation and restoration of lowland	1) Wetlands mapped and assessed for biodiversity	1)Undertake comprehensive mapping	2014-2020	2	Restoration

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
	of Inland Waters (Freshwater Marshes)	and highland wetlands.	interest and potential. 2) Wetland monitoring regimes established and under implementation. 3) Key wetlands are incorporated into the PAN. 4) Wetland rehabilitation programmes are initiated on at least 4 priority lowland wetlands and 2 highland wetlands. At least 3 wetland creation projects are initiated to meet conservation objectives by 2018. 5) Wetland management guidelines revised following Pilot project findings and printed. 6)National Wetlands Policy incorporating International commitments and best current practice	and detailed biodiversity assessments of inland waters on the larger granitic islands. 2) Establish long term monitoring regimes on wetlands on the 4 main islands. 3)Incorporate key wetlands not currently protected into the PAN to form a national network of representative managed and protected wetlands. 4)Develop and undertake prioritised programme of wetland rehabilitation and where feasible creation to ensure the long-term conservation of Seychelles' wetland biodiversity. 5)Research and develop guidelines for good practice in freshwater wetlands management including IAS management. 6) Review and upgrade			

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
				Wetlands Policy through a process of stakeholder consultation in line with international commitments and best practice.			
12	**National Forest Policy, Management and Restoration Programme**	Establish economically viable and ecologically sustainable forestry management regimes.	1a) Plantation area and proportion actively managed assessed. b) Standing stock, status of rotation and productivity timeline. c) Priority areas for management identified, including planting area and species required for viable and sustainable forestry production. d) Areas for forestry or environmental objectives identified. e)Economic analysis of area, rotation, 2) Priority threats (incl. disease/vector issues), research and management measures identified. 3) Policy and guidelines sets out required standards and means for: a)the forestry	1)Survey forestry lands (ongoing in part) to assess areas of forestry plantation and proportion of which is under active management. 2) Undertake assessment of existing and new threats that are barriers to forest management objectives. 3) Develop and adopt a Sustainable Forestry Policy and guidelines. 4) Develop and implement forest management guidelines. 5) Develop catchment area management plans for priority areas. 6) Develop management plans for priority forestry areas. Management Plans. 7)Implement	2016-2020 and open-ended	4	Sustainable use

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			management cycle to ensure sustainability, soil and water catchment management and biodiversity integration. b) Co-management, outsourcing and forestry lease options. 4)National forestry guidelines set out criteria for forestry management cycle, integrating technical standards for sustainable forestry, environmental concerns and restoration of degraded areas. 5/6/7) Management plans under implementation for at least 3 priority: forestry, catchment and restoration areas by 2020 8) Capacity building requirements factored into sustainable financing plans for progressive expansion.	management plans through state and private sector means including forest rehabilitation pilot projects. 8) Assess SNPA capacity building requirements to administer and implement national policy, plans and co-management agreements			
13	**Seychelles**	Develop a national	1) Research needs and	1) Review research	2015-2016	2	Enhancing

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
	Biodiversity Research Policy, Strategy and Management.	biodiversity research policy and strategy that encourages, fosters and facilitates research.	data gaps in context of CBD implementation identified 2) Representative biodiversity indicators for Seychelles' habitats and ecosystems identified. 3) National Biodiversity Research Policy and Strategy that encourages, fosters and facilitates biodiversity research published. 4) National Biodiversity Research Committee formed, empowered as appropriate, and operational, by end of 2016.	undertaken and identify gaps in available data, in particular with regard to enabling national implementation of the CBD. 2) Identify key national biodiversity indicators through stakeholder consultation and review of available literature. 3) Develop through stakeholder consultation and partnership with NISTI, a national biodiversity research policy and strategy that encourages and facilitates biodiversity research. 4) Establish a representative multi-stakeholder national biodiversity research committee to oversee implementation of the Biodiversity Research Policy and Strategy.			
14	**Seychelles Biodiversity Data Gathering**	Establish national data gathering and management	1) Recommendations on developing data gathering protocols.	1) Review and assess existing datasets and data gathering protocols.	2017 - open-ended	2	Enhancing

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
	and Management	mechanisms to optimise the collection, management, utility and accessibility of national biodiversity datasets.	2)Standardised protocols and guidelines. 3a). National Biodiversity database established. 3b) National biodiversity monitoring programme. 4) Model data sharing agreements developed in accordance with national law. 5) Metadata available from operational Biodiversity CHM by 2018. 6a) National biodiversity monitoring programme under implementation by 2019. 6b) Databases managed and maintained.	2) Develop, through stakeholder consultation, data collection protocols and guidelines building upon established protocols. 3) Develop, where practical, common or harmonised biodiversity monitoring programmes and data management systems to form a national biodiversity database. 4) Review and develop as appropriate, through stakeholder consultation, model data sharing agreements. 5) Link national biodiversity database to national biodiversity clearing-house mechanism and integrate with NEDIP. 6) Train research agency staff in data collection, management and analysis, as appropriate.			
15	**Promotion of Sustainable Agriculture**	Minimise the ecological footprint of Agriculture	1) Best current information identified. Priorities for research	1) Review current knowledge on soil biodiversity and	2015-2020	3	Sustainable use

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			identified. 2)Sustainable soil management protocols integrated into agricultural guidelines. 3)Usage of chemical fertilizers and pesticides reduced by 30% by 2020. 4a) Sustainable agricultural guidelines including sustainable soil management protocols integrated into agricultural practice. 4b) All registered farmers introduced to and trained in application of sustainable agriculture protocols by 2020. 1-4) Reduction of detrimental environmental impacts (ecological footprint) of agriculture.	ecosystem management in Seychelles. 2) Develop and produce guidelines for agricultural sustainable soil management. 3)Promote organic farming methods including integrated pest management. Decrease in chemical fertilizer usage. Increase in production of organic fertilizers. 4)Produce, distribute and provide training on guidelines and protocols for sustainable agriculture			
16	**Conservation and Sustainable Use of Agro-Biodiversity Including Key Pollinators.**	Preserve agricultural biodiversity	1)Priority action plan for agrobiodiversity conservation drawn up and under implementation. Plan by 2018. 2) Key pollinator species identified.	1) Review the status of previous programmes to conserve Seychelles' agro-biodiversity. Identify and redress any key shortcomings. 2)Assessment of the importance and	2019-2020	4	Sustainable use

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			3a). Pollinator species requiring further research identified. 3b) Conservation action plans developed for key pollinators	economic value of pollinator species. 3) Identify key pollinator species/populations for further research and/or conservation/restoration.			
17	**Integrating Biodiversity Conservation in National Emergency Plans**	To effectively integrate biodiversity conservation in to national emergency Planning	1) Risk and Vulnerability maps incorporate biodiversity information and issues. 2) Inter-departmental liaison built into operation procedures and information exchange enhanced. 3) Emergency plans, updated as appropriate. 4) Capacity to undertake environmental monitoring, vulnerability and risk assessments in key environment and socioeconomic sectors enhanced.	1) Review and incorporate pertinent sectoral biodiversity data (e.g. fisheries, forestry, KBA, pest infestation) into risk and vulnerability maps. 2) Enhance information exchange and liaison between Climate Change, Risk and Disaster Management and Environment Departments including civil society Biodiversity agencies and expertise. 3) Review emergency plans in light of revised maps and amend where feasible to incorporate Biodiversity concerns into risk and disaster management. 4) Build capacity to undertake environmental	2018-2020	4	Mainstreaming

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
				monitoring, vulnerability and risk assessments in key environment and Socioeconomic sectors.			
18	**Integration of Biodiversity into existing Climate Change Adaptation Programmes**	Climate change adaptation programmes are amended to integrate Biodiversity issues.	1) Key biodiversity gaps in National Climate Change Strategy (NCCS) identified. 2)Biodiversity integrated into revised NCCS and new Ecosystem Based Adaptation Projects. 3) Implementation Unit ensures proper integration of Biodiversity into NCCS and its implementation.	1) Analyse the National Climate Change Strategy and identify opportunities for integration of biodiversity adaptation programs. 2) Propose mechanisms for the inclusion of biodiversity issues into the main national adaptation program. 3) NBSAP Implementation Unit to follow up with CAAID (MEE) and the SSDS implementation administrative mechanism to ensure integration is optimized.	2015-2016	2	Mainstreaming
19	**Baseline Assessment of Seychelles Terrestrial and Marine Carbon Stocks**	Calculate the Carbon stored and captured annually in Seychelles ecosystems	1) Carbon stocks quantified. 2)Carbon fixation/sequestration audit. 3)Scope for optimisation of carbon fixation, in a	1) Assessment of existing carbon stocks in Seychelles. 2) Assessment of annual carbon fixation/sequestration in existing Seychelles'	2015-2017	3	Mainstreaming

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			biodiversity-friendly manner, including through rehabilitation of ecosystems, identified. 4) Carbon fixation measures incorporated into ecosystem and habitat management regimes.	ecosystems. 3) An objective assessment of the scope for increased fixation/sequestration rates in Seychelles' ecosystems. 4) Integrate Green and Blue carbon objectives into ecosystem and habitat management regimes			
20	**Climate Change Biodiversity Impact Profile Assessment for the Seychelles**	Identify the key threats posed to Seychelles biodiversity by projected Climate Change and initiate mitigation measures.	1)Baseline for developing Seychelles Biodiversity climate change adaptation programme. 2)Key research programs on climate change and biodiversity identified and included in National Biodiversity Research Strategy. 3) National Climate Change Biodiversity Impact Profile produced. 4a) Priority habitats for adaptation management identified and pilot projects proposed. 4b) Pilot projects in at	1) Undertake a preliminary overview of key climate change impacts for priority and/or major marine and terrestrial ecosystems 2)Assess key knowledge gaps in understanding of Climate Change impacts on biodiversity of Seychelles 3) A national workshop of key knowledge needs for biodiversity response to climate change. 4) Identify priority habitats and key exemplars for pilot projects.	2016-2017 Assessment (2018 onwards pilot project implementation	2	Mainstreaming

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			least three priority habitat types under implementation by 2019.				
21	**Strengthening Seychelles' Ability to Deal with Existing Climate Threats to Biodiversity**	Current primary Biodiversity threats of Climate Change are addressed	1)At least 3 more projects of same or larger scale increasing area under Coral reef restoration by 400% by 2020. 2) National coral reef restoration programme initiated with funds and national lead agency. 3) Land restoration programmes under implementation. 4/5/6). Key forest habitats at risk from trends in climate change identified and catered for in plans, e.g. Inselberg management plans etc…	1) Enhance and expand research on coral restoration projects1. 2) Develop mechanisms (institutional, funding, etc.) for roll out of coral restoration techniques 3) Review legislative mechanisms for land degradation rehabilitation. 4) Investigate the long-term impact of decline in dry season precipitation on the risk of fire outbreaks. 5) Review and update, as appropriate, national forest fire contingency and prevention plans. 6) Implement appropriate firefighting strategies for Praslin and key inselberg communities.	2016-onwards	2	Restoration
22	**Biodiversity Awareness and Education**	To promote the NBSAP and its activities as a means of galvanising and	1) National awareness of and utilisation of NBSAP by general public and	1) Develop, through stakeholder consultation, a national biodiversity PE&A strategy with	2015- onwards	1	Enhancing

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
		harnessing stakeholder activity for the conservation and sustainable use of biodiversity and the implementation of the CBD	stakeholder respectively is significantly increased. 2) PE&A strategy is supportive of but does not duplicate activities under SSDS PE&A programmes. 3) MEE administration of Biodiversity PE&A strategy is interactive with other biodiversity agencies. 4) The interface between Biodiversity and Climate Change is covered for the general public, school children & the development/commercial sectors. 5) Stakeholder and general public awareness of the importance of and contribution to the conservation and sustainable use of biodiversity (C&SU of BD) is measurably improved.	awareness plan and action programme. Strategy and Action Plan should: i). Promotes the NBSAP and its implementation of the CBD as the primary mechanism for biodiversity management in Seychelles. ii). Is supportive of and integrates properly with the broader environmental education programme of the SSDS. iii). Seeks to interlocute with and provide a common platform for existing agency (e.g. NGO and UNDP) PE&A programmes. iv). Includes a programme on the interactions between Biodiversity and Climate Change. v). Include Knowledge/Attitudes/ Practice (KAP) surveys to assess efficacy			
23	**Seychelles Biodiversity and**	Model and extrapolate biodiversity and	1a) No duplication of NBSAP and SSDS	1) Harmonise valuation projects with those	2015-2016	1	Mainstreaming

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
	Ecosystems Services Valuation	ecosystem services value for the country, incorporate results into national accounting and establish basic valuation capacity within key agencies.	evaluation initiatives. 1b) Key ecosystems and representative components identified for evaluation. 2)Environment economic evaluation of key representative biodiversity components undertaken with values of and their inputs to key economic sectors assessed. Importance of Biodiversity to the national economy assessed. 3) Several agencies and key staff involved and trained in evaluation studies. 4) Biodiversity values incorporated progressively into national accounting.	envisaged under the SSDS1. 2) Undertake economic evaluations of key ecosystems, and where appropriate specific biodiversity components, and their contribution to economic sectors with particular emphasis on Fisheries, Tourism, water resources and Agriculture. 3) Build national capacity to carry out valuation studies in at least 3 agencies and key staff in evaluation studies. 4) Identify and implement means and mechanism for incorporation of the true value of biodiversity into national accounts and reports.			
24	**Payment for Ecosystems Services**	Identify means of raising fees for ecosystems services currently treated as free.	1)Current means for realising payment for ecosystem services assessed (e.g. PA entrance fees, PUC water revenue etc…) 2)Ecosystem services and	1) Identify and assess current national initiatives related to payments for ecosystem services. 2) Identify and assess ecosystem services and	2019 - onwards	4	Enhancing

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			contribution to existing commercial sectors evaluated. 3) Potential sources of payment for ecosystem services from key ecosystems identified and evaluated e.g. catchment areas, carbon sequestration, waste assimilation, renewable resource production Etc… 4a). PA self-financing strategy developed in combination with Seychelles Protected Area Finance Project. 4b). PA self-financing strategy mainstreamed with pertinent national strategic documents and initiatives.	their economic contribution. 3) Investigate, identify and document potential sources of payment for ecosystem services. 4) Develop and mainstream a self-sustaining financing strategy and action plan for protected areas.			
25	**Review, Updating, Streamlining and Adoption of Biodiversity Related Legislation**	Seychelles Biodiversity related legislation is updated in line with best current practice and harmonised.	1) Nature Conservancy Act promulgated replacing NPNCA, Nature Reserve Regs of WABPA and Forestry Reserves Act. 2/3/4) Harmonised new EPA and PPA	1) Preparation, review and approval of new Nature Conservancy Bill and promulgation of Act. 2) Development and adoption of new EPA including review and updating of EIA regs.	2015-2020	2	Mainstreaming

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			promulgated with associated EIA regs and LUPs and planning regs respectively. 5)Framework Biodiversity Act bringing together all pertinent biodiversity legislation and national commitments	3) Development and adoption of new Physical Planning Act including National and District LUPs and associated Physical Planning Regulations. New Bill with AG's office. 4) Harmonise EPA and new Physical Planning Act. 5) Prepare through stakeholder consultation, draft review, amend and adopt Framework Biodiversity Act bringing together all pertinent biodiversity legislation including: a) Mandating the National Biosafety Framework and regulations b) Access and Benefit Sharing regulations. c) Obligation upon the Government to adopt, support the implementation of, review and regularly report upon the NBSAP. d) Requiring Government			

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
				to provide public access to biodiversity information in its keeping.			
26	**NBSAP Financing Action Plan**	Develop a strategy and action plan to facilitate the funding of the NBSAP	1) Current biodiversity funding environment quantified. 2) NBSAP Projects costed. 3) Portfolio of potential funding options identified and quantified. 4) NBSAP funding shortfall calculated. 5) Current scenario of biodiversity incentives (perverse and positive) assessed and recommendations made. 5) Development of new incentive regime. 6)NBSAP financing integrated in Budget Planning Process, Medium Term Development Strategy and Public Sector Investment Program	1) Assess current funding. Undertake costing of priority projects 2) Identify existing, new and additional financial sources. 3)Assess the biodiversity financing gap 4) Review and develop economic incentives for environmental protection and biodiversity conservation 5) Mainstream NBSAP financing needs	2014-2015	1	Enhancing
27	**Review and Update Fishery Governance Structures, Mechanisms**	To upgrade Seychelles fishery governance framework such that: i) legislation and policy reflect international	1) New Fisheries Act promulgated and under implementation by 2015. 2)New Fisheries Policy embodying best practice	1) Adoption of new Fisheries Act. 2) Develop new fisheries policy based on and promoting the best	2014-2018	2	Mainstreaming

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
	and Administration.	best practice and ii). MCS and research capacities are enhanced.	Adopted by 2017. 3) Fisheries Advisory body operational. 4) Monitoring and research is a requirement of management plans under implementation. 5)Entire fleet with operational VMS by 2018. VMS maps and database. 6) International commitments e.g. FAO Code of Conduct, CITES, CMS, IOTC, Straddling fish stocks agreement etc… are effectively implemented.	practice in terms of: science and research, fishery management, and stakeholder inclusion to realise sustainable fisheries and maintain the ecological integrity of marine ecosystems. 3)Establish a high-level fisheries advisory body 4) Promotion and development of co-management as a key policy tool. 5)Improved MCS (Monitoring Control Surveillance) system. 6) Improve training and institutional development I.e. enhanced MCS system and management oriented research capacity.			
28	**Development of a Sustainable and Ecologically Sound Artisanal Fishery**	Manage and rehabilitate as appropriate the Artisanal Fishery to ensure its ecologically sound and sustainable use.	1)Praslin co-management area and at least one more pilot project under implementation by 2018. 2) Important and vulnerable species identified. 3) Implementing	1) Promote and develop co-management as a key policy/management tool. 2) Identify key fishery species on the basis economic and ecological importance and vulnerability to	2015 - Onwards.	2	Sustainable use

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			Management plans by 2017. 4) MCS capacity built and catch data enhanced as necessary for adaptive management. 5) PA extended and effectively managed to enhance conservation and sustainable use objectives	overfishing. 3) Develop management plans for key species/guilds utilising the precautionary principle where current data is deficient. 4)Improve MCS2 and particularly catch records to ascertain age at maturity, average size at catch and other key data to enable informed adaptive management of plans and fisheries. 5) Assess the use of Protected Areas as fisheries management tools			
29	**Development of a Sustainable and Ecologically Sound Semi-Industrial Fishery**	Manage the semi-Industrial Fishery to ensure its ecological integrity and sustainable use.	1) Key stocks assessed by 2018. 2)Management plans and quotas in place for target species by 2019. 3a) By-catch reduction programme, and associated regulations if required, in place by 2019. 3b). Depredation reduction programme in place.	1). Undertake stock assessment for key target species. 2) Identify precautionary quotas for target species and develop management plans to ensure sustainability of fishery. 3) Undertake studies of by-catch and depredation to identify means of minimizing	2016- Onwards.	2	Sustainable use

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			4). Improved MCS (Monitoring Control Surveillance) system by 2017. 5)PA extended and effectively managed to enhance conservation and sustainable use objectives by 2020.	both. 4) Enhance the monitoring of the fishery Surveillance reports and catch data. 5) Assess the use of Protected Areas as fisheries management tools			
30	**Development of Sustainable Mariculture**	To develop an ecologically-friendly and sustainable mariculture industry	1/2) Mariculture sites and criteria including environmental/ecological parameters identified. 3a) Mariculture Policy approved and operational. 3b) Mariculture guidelines approved and published and standards reflected in Fishery Act regulations. 4) Incentives regime enables highest environmental quality standards in the mariculture development cycle. 5) Mariculture Master Plan reflecting best current practice and standards adopted and supported by guidelines	1)Assess mariculture potential of the Mahe and Amirantes plateaux, including identification of potential mariculture development sites. 2)Undertake impact assessments of proposed operations in selected sites. 3)Develop policy and guidelines for implementation of mariculture projects. 4) Develop incentives for investors to utilize best environmental methods & technologies. 5) Compile components to form, review and adopt Mariculture Master Plan.	2016-onwards	4	Sustainable use

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			and regulations. 6) Full monitoring and compliance of EIA requirements and EMPs throughout development and operational cycle. 7).National mariculture capacity developed in tandem with industry.	6) Ensure full and proper application of EIA regulations and implementation of resulting environmental management plans through the Mariculture development cycle. 7) Integrate capacity building into all aspects of the mariculture operational cycle.			
31	**Establishment and Operation of NBSAP Implementation Unit**	The NBSAP is administered, coordinated, effectively implemented and integrated into the broader environment governance framework.	a) Coordinate of the overall implementation of the NBSAP (including functioning as the secretariat for the National Biodiversity partnership forum). b. Encourage the development and implementation of projects aligned to the objectives and targets of the NBSAP c).Disseminate information on relevant donor funds and actively work with partners to mobilise new resources d)Provide technical support to partners	Minimum of 4 full-time personnel consisting: Unit Manager (the equivalent or higher of a director's post) Project Coordinator (equivalent or higher than a Senior Project Officer post) Project Manager (equivalent or higher than a Project officer post) Technical Assistant (equivalent or higher of senior personal assistant or Assist project officer)	2015-established, funded and operational, open-ended implementation	1	enhancing

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			implementing projects contributing to the NBSAP e)Provide technical support to the government and its partners in the general implementation of the CBD and preparations for CBD events such as Conferences of the Parties (COP) and Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), and other biodiversity related fora. f) Assist the Focal Point to Disseminate information on CBD events and related decisions and outcomes (e.g. COP). g) Convene an annual Symposium where members of the Biodiversity Partnership Forum will share information on advances made through their biodiversity projects and initiatives and identify	Office space and operational budget			

No	Title	Objective	Expected results	Activities	Timeframe	Priority	Category of expenditure
			new priority projects and activities h) Document the different performance indicators of the NBSAP and produce an annual NBSAP implementation report, as well as other pertinent reports required by the government. i) Maintain, once developed, a biodiversity Clearing-house mechanism including links to existing biodiversity-related databases. j) Ensure that the Ecosystem Based Adaptation projects integrate biodiversity issues and that adequate linkages are made with the NBSAP climate change projects k) Ensure effective integration and coordination with the wider SSDS governance structure and projects.				

3. Cost of the National Biodiversity Strategy and Action Plan (2015-2020)

3.1 Data and methodology

The costing of the NBSAP took place during the second half of 2015.
The following steps were undertaken**:**

1. Each NBSAP project was categorised as per categories of strategies defined by BIOFIN initiatives methodologies as indicated below:

- ✓ Biodiversity mainstreaming strategies
- ✓ Sustainable use strategies
- ✓ Protection strategies
- ✓ Restoration strategies
- ✓ Access Benefit Sharing strategies
- ✓ Enabling implementation strategies

2. Key reference documents were analysed and key technical experts were consulted on an individual basis to determine the cost of the different elements, activities and projects using a results based approach.

3. Discussions were held on an individual basis to determine if costs were one-time costs or recurring costs.

4. Finally, the results of the costing of the NBSAP were presented and discussed in working groups during a BIOFIN stakeholders Workshop in November 2015.

5. Comments received during the Workshop were integrated in the costing of the NBSAP.

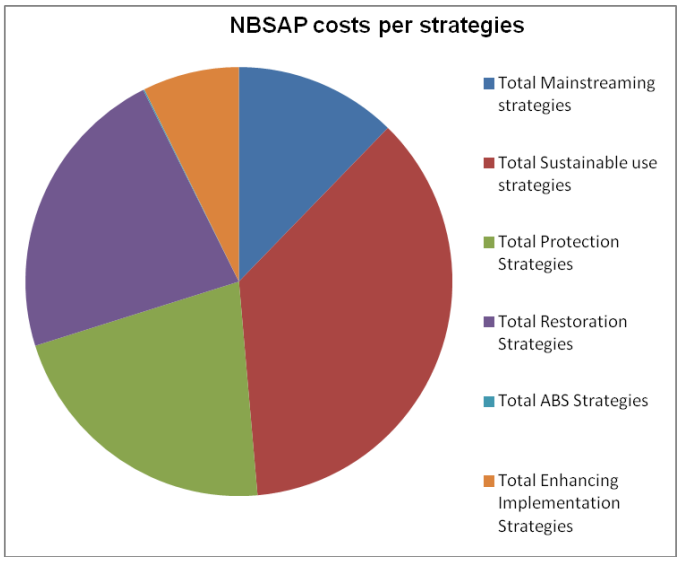
6. The revised costing of the NBSAP was subsequently presented and validated during the May 2016 BIOFIN Workshop.

3.2 Summary Results

The total cost for the implementation of the NBSAP was estimated at SR320 million for the period 2015-2020 as indicated in the table below.
The details costing of the NBSAP can be found in Annex 1.

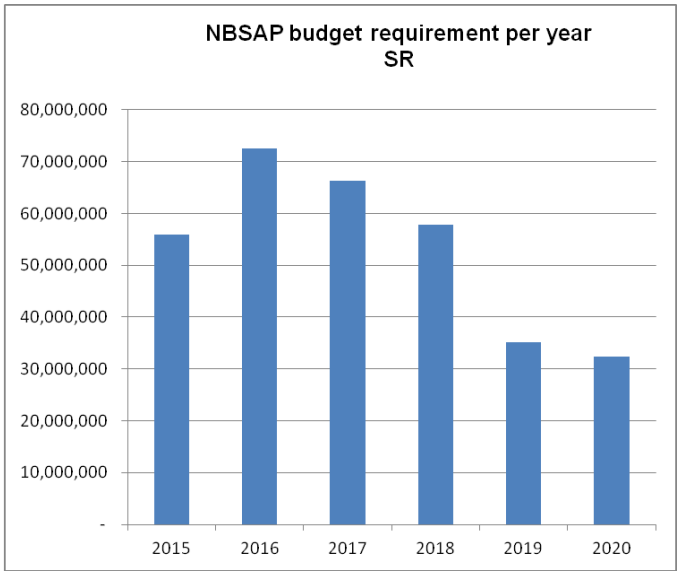
Overall NBSAP costing per categories of strategies SR							
Strategy Category	**Optimal costs 2015**	**Optimal costs 2016**	**Optimal costs 2017**	**Optimal costs 2018**	**Optimal costs 2019**	**Optimal costs 2020**	**Total Optimal costs (2015-2020)**
Total Mainstreaming strategies	**1,945,230**	**10,410,855**	**12,911,955**	**10,532,580**	**1,869,330**	**1,606,080**	**39,276,030**
Total Sustainable use strategies	**22,085,000**	**28,078,125**	**24,343,375**	**20,729,375**	**11,690,000**	**9,398,000**	**116,323,875**
Total Protection Strategies	**16,755,782**	**15,605,131**	**9,272,950**	**9,361,375**	**9,007,000**	**8,937,250**	**68,939,488**
Total Restoration Strategies	**9,587,850**	**12,953,505**	**15,927,200**	**14,115,700**	**9,670,200**	**9,622,950**	**71,877,405**
Total ABS Strategies	**0**	**15,8625**	**13,8375**	**0**	**0**	**0**	**297,000**
Total Enhancing Implementation Strategies	**5,536,250**	**5,388,750**	**3,636,375**	**3,087,625**	**2,973,000**	**2,734,750**	**23,356,750**
Total	**55,910,112**	**72,594,991**	**66,230,230**	**57,826,655**	**35,209,530**	**32,299,030**	**320,070,548**

As indicated in the graph below, 36% of the total cost of the NBSAP is related to sustainable use strategies, reflecting the fact that the Seychelles are highly dependent on its biodiversity resources, while protection and restoration strategies account for 21% and 22% of the total respectively.

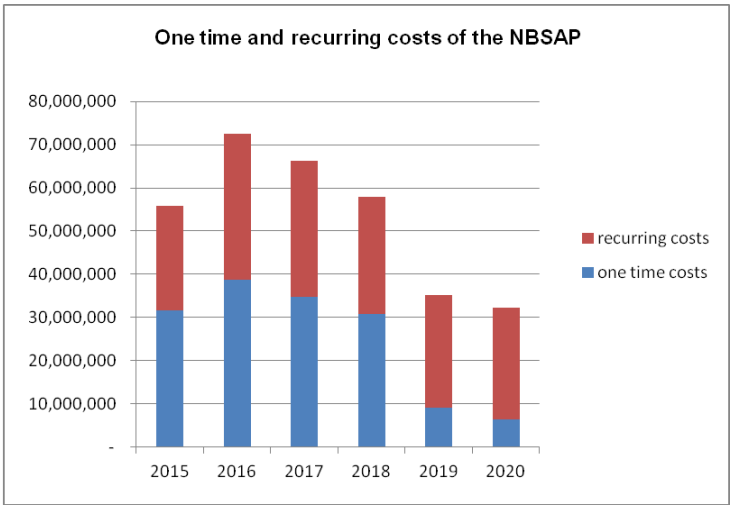


As indicated in the graph below, 60% of the total budget for the implementation of the NBSAP is required during the first 3 years of implementation.

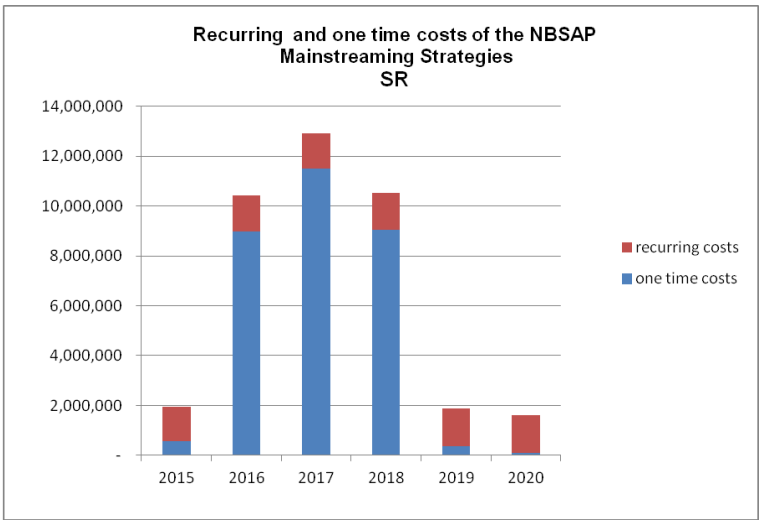
The second year of the implementation of the NBSAP requires the highest budget with a total of around SR72 million representing 22% of the total budget.

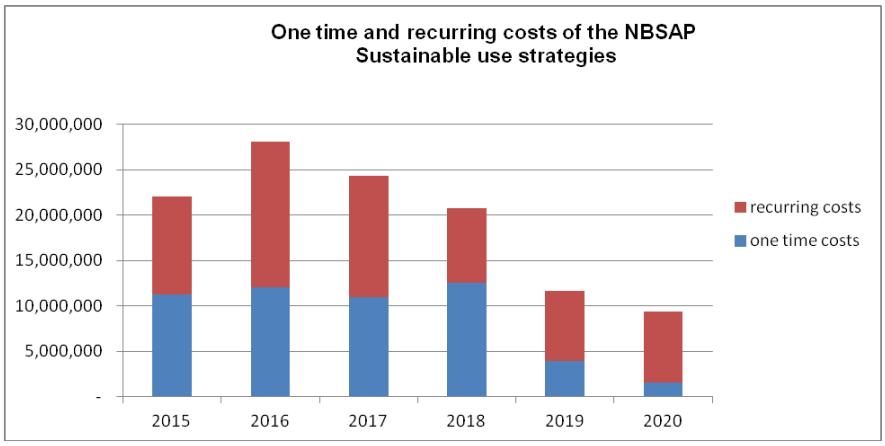


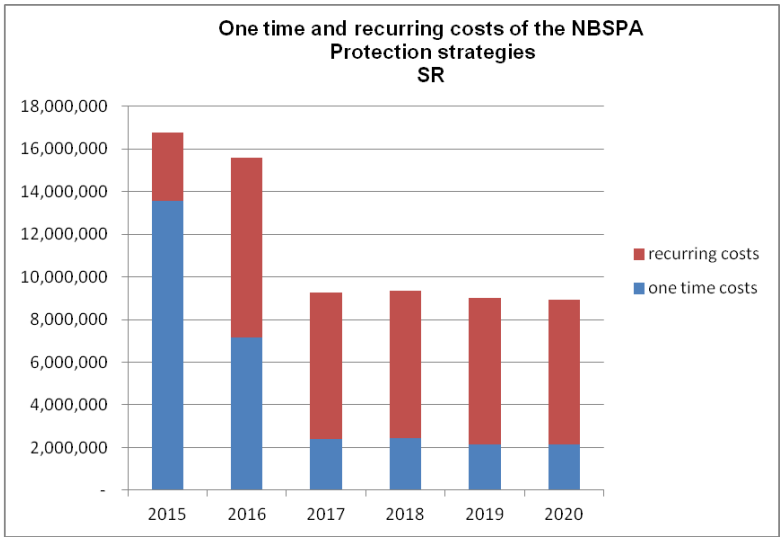
53% of the total costs of the NBSAP are recurring costs. One-time costs are mostly required during the first few years of the implementation of the NBSAP as indicated in the graph below.

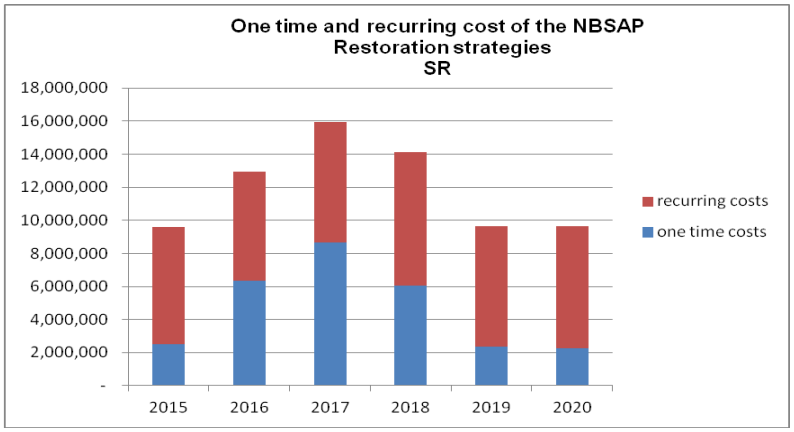


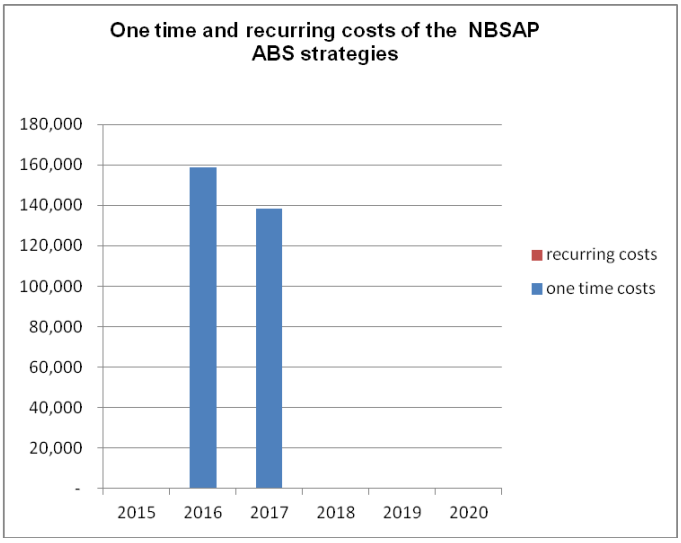
However, the difference between recurring costs and one-time costs differs significantly between the categories of strategies, as indicated in the graphs below. One-time costs consitute the large majority of costs involved in mainstreaming strategies and ABS strategies, which aim at establishing an appropriate framework for biodiversity conservation. After an initial investment, recurring costs constitute the majority of costs involved in the medium term for sustainable use, protection, restoration and enhancing implementation strategies, which are in each case by definition a long term commitment.

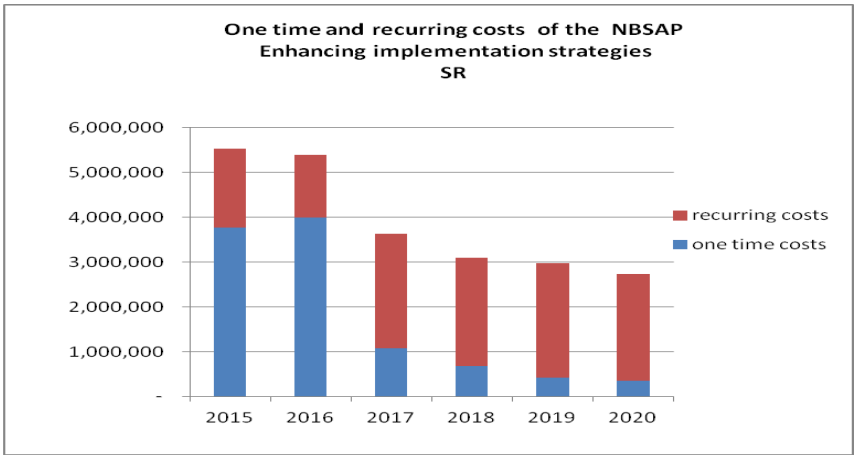



One time and recurring costs of the NBSAP
Sustainable use strategies
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
-
2015
2016
2017
2018
2019
2020
recurring costs
one time costs


One time and recurring costs of the NBSPA
Protection strategies
SR
18,000,000
16,000,000
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
-
2015
2016
2017
2018
2019
2020
recurring costs
one time costs


One time and recurring cost of the NBSAP
Restoration strategies
SR
18,000,000
16,000,000
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
-
2015
2016
2017
2018
2019
2020
recurring costs
one time costs


One time and recurring costs of the NBSAP
ABS strategies
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
-
2015
2016
2017
2018
2019
2020
recurring costs
one time costs


One time and recurring costs of the NBSAP
Enhancing implementation strategies
SR
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
-
2015
2016
2017
2018
2019
2020
recurring costs
one time costs

4. Financial Gap

It has not been possible to quantify the Financing Gap since the NBSAP does not include all of the BD projects in Seychelles, especially those of the NGO and the private sector. It is as well difficult to compare real expenditures and budget.

5. Conclusions and Recommendations

This Study recognises that, while Seychelles' second NBSAP 2015-2020 provides a strong platform for capturing key biodiversity projects, it is nevertheless not comprehensive enough since it does not include all ongoing biodiversity projects and general government, NGO and private sector activities at national level across all sectors. The NBSAP was conceived mostly as a strategic document to mobilise international funding for new BD projects. It is therefore being recommended that the NBSAP should be more comprehensive and regularly updated and that donor funding mobilisation should not be its overriding objective.

The costing of the NBSAP had previously been tenuous in the absence of detailed description of results-based activities. This Study has attempted to carry out the costing of the NBSAP based on expected results for each detailed activity. It is being recommended that future NBSAP updates should build upon this new approach to further expound the detailed description of each activity such that the costing may be additionally improved.

It is further recommended for the next generation of NBSAPs that BIOFIN experts be involved from the outset in the costing exercise.

The NBSAP Steering Committee is not active anymore, and the implementation and the monitoring of the NBSAP remains limited. It is recommended that a NBSAP / BIOFIN Joint Coordination and Implementation Unit is established to support the implementation of the NBSAP, and acting as a secretariat to a proposed Joint cross-sectoral NBSAP / BIOFIN Steering Committee. This proposed institutional arrangement should be able to support the mainstreaming of the NBSAP and financial needs into Sectorial Budget Planning Process which in turn will be facilitated by PPBB.

Annex 1

NBSAP costing final draft.xls