SOLOMON ISLANDS

THE NATIONAL BIODIVERSITY STRATEGIC ACTION PLAN

2016 - 2020

(Building a unified, vibrant and an informed Solomon Islands)

Ministry of Environment, Climate Change, Disaster Management & Meteorology

Foreword

The predominantly subsistence lifestyle that characterises the Solomon Islands economy is underpinned by the country's heavy reliance on its biological diversity or biodiversity. The importance of biodiversity as the basis for the people's livelihood and wellbeing is therefore recognised by the Solomon Island Government. Beyond just the direct benefits such as provision of food, fresh water and revenue generation gained from the use of biodiversity, the regulating services provided by the country's biodiversity helps us by protecting us from natural disasters and enable us to adapt to an ever challenging environment under today's changing climate. Without biodiversity the country also loses its aesthetic, spiritual and educational values and significance, which are integral to our wellbeing and traditional way of life.

Nonetheless, there is growing realisation that the country's biodiversity is also under increasing pressure from multiple sources of threats, for example, from habitat loss, overexploitation and climate change. These pressures can be devastating for the health of the country's biodiversity and, therefore our livelihood and wellbeing.

The review and subsequent production of this National Biodiversity Strategy and Action Plan (NBSAP) 2016 to 2020 constitutes intensified and concerted efforts by the Government to respond to the challenges facing the country's biodiversity. As a Party to the Convention on Biological Diversity (CBD) since 1995, the Government is committed to implementing the decisions of the Conference of Parties to the CBD. This revised NBSAP is a formal response by the Government to update the existing NBSAP, developed in 2009, as agreed by Parties at COP10 in Nagoya, Japan. Unlike its predecessor, this document has attempted to identify, prioritize and set biodiversity targets for the country for the next five (5) years in line with the Aichi biodiversity targets. Details on the priority areas and targets and the concept adopted for the documents are set out in the document.

It is believed that the fourteen (14) priority areas identified and the fifteen (15) targets established will provide the Government with the strategic framework to manage and utilise the country's biodiversity in a sustainable manner. For this to be realised, strengthening our

partnership with our international environmental NGOs, provincial authorities, community and landowners requires concerted action and close collaboration between and among stakeholders. I therefore encourage and urge all stakeholders to support and assist the government in implementing the NBSAP to achieve its biodiversity targets as clearly stated for periods 2016 to 2020.

On behalf of the government of Solomon Islands and as the Minister responsible for the environment and biodiversity conservation in Solomon Islands, I have much pleasure in endorsing the priorities, targets and strategies identified in the NBSAP. It is hoped this national biodiversity strategy will provide the needed leverage for funding support to implement its priority areas and action plans.

Honorable Samuel Manetoali (MP)

Minister of Environment, Climate Change, Disaster Management and Meteorology

Acknowledgment

The production and publication of the NBSAP is a result of in-depth reviews and critical analysis of previous and past work by various individuals, agencies and organizations on the country's biodiversity. Nevertheless, literature reviews alone has proven to be inadequate in providing all the information needed to inform the NBSAP revision. Some data could already be deemed obsolete and not of much relevance to the task at hand, especially, in identifying the priorities and formulating the necessary actions that are central to the implementation of this revised NBSAP document.

Gathering of information for the review also benefited from face to face consultations with selected representatives of relevant agencies and organizations across public and private sectors alike. The insightful discussions that ensued from the consultations added further clarity to the documents already tendered. The document reviews and series of consultations undertaken have mutually supported each other in analyzing respective information and enabling the NBSAP to appear in this form.

We gratefully acknowledge the level of understanding and cooperation shown by these various bodies and individuals towards the assignment. Production of the NBSAP really benefitted from the support rendered. Finally, we wish to take the opportunity to commend all our partners and, in particular the UNEP and GEF for funding the project.

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Summary

The biodiversity within the Solomon Island's geographical and political boundary are continuously under pressure from habitat destruction, overexploitation, waste, invasive species and climate change. Capacity constraints emanating from the absence of biodiversity values, institutional constrains, inadequate finance and the lack of scientific information are consequently undermining effort to lessen these pressures on biodiversity.

To help address some of these threats and constrains, the Solomon Islands Government has identified fourteen biodiversity management intervention priority areas, been clustered into four strategic management goals, fifteen targets and accompanied with action points and proposed activities. The following statements stand as the country's biodiversity policy statements for the intervention. They highlight the principles and the rationales for adopting the priority areas, and provide the windows for the actions as already tendered in the document.

Priority 1: Environmental education and public awareness

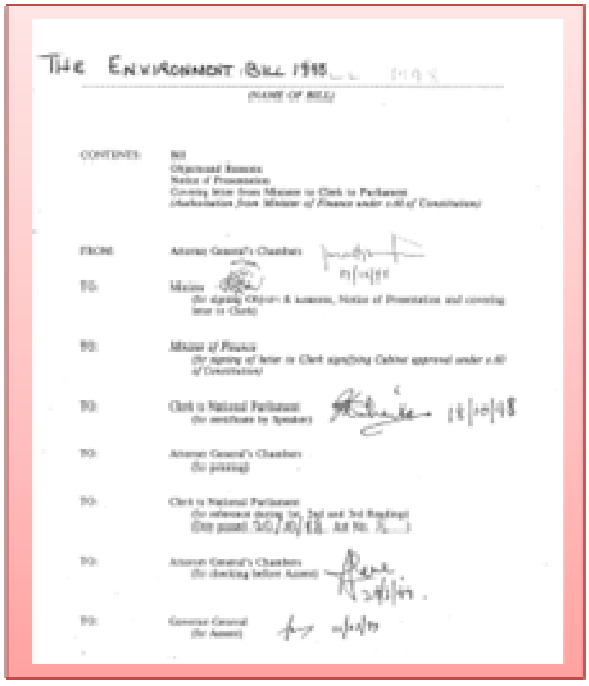
We recognized that environmental education is the *mind germ* for our country's development and, is therefore, fundamental for the rejuvenating of knowledge required for protecting, sustainable use, and equitable sharing of benefits arising from the use of our biological resources.

We recognized that environmental education is an essential component for the instigating of, and the building of the Solomon Islands society, that embraces the value of biodiversity, and enabling us to live in harmony with nature including ourselves. Whether it is formal or none formal as in formal curricula, parenting, adult learning, and child play, they are all equally important for the nourishment of the intellect that will enable us to act and behave accordingly.

We will adopt an environmental education approach that embody awareness, open dialogue, and joint learning - in the classrooms, villages, in the political fora, one-on-one situation, and large and small group workshops and in churches, to instigate individual and institutional changes, to empower and promote a common understanding, encouragement and to foster unity between our people and the environment that we live in. Environmental education to disallow us from creating suspicion, to boost institutional networks, to foster vividness and the building of social capital to reframe our relationships, behaviour and practices, in helping us navigating purposefully towards our NBSAP vision.

Priority 2: Governance, compliances and enforcements

We recognised that building an environmental culture depend on a mixture of approaches - a compliment of a regulatory and market based approaches. From a regulatory point of view, enforcement of environmental rules are often undermined by the discontinuity of rules within and between our levels of governance - national, provincial and the multiples of our customary rules.


THE ENVIRONMENT BILL 1995

(NAME OF BILL)

CONTENTS:

Bill
Objectives/ Reasons
Notice of Presentation
Covering letter from Minister to Clerk to Parliament
(Authorization from Minister of Finance under s.90 of Constitution)

FROM: Attorney-General's Chambers

TO: Minister
(for signing Cabinet & minutes, Notice of Presentation and covering letter to Clerk)

TO: Minister of Finance
(for signing of letter to Clerk signifying Cabinet approval under s.90 of Constitution)

TO: Clerk to National Parliament
(for certificate by Speaker)

TO: Attorney-General's Chambers
(for printing)

TO: Clerk to National Parliament
(for reference during 1st, 2nd and 3rd Readings)
(One printed Bill, Act No.)

TO: Attorney-General's Chambers
(for checking before Assent)

TO: Governor-General
(for Assent)

Non-compliance is also prevalent in multi-cooperate business dealings such as logging, fishery and mining. On the other hand, overharvesting of natural resources are often compromised with hardship (poverty). Therefore, fostering and enhancing the cohesive flow of rules between levels of governances and a reciprocal interaction at all points of transactions - locally, nationally, regionally and globally are viewed as necessary to navigate purposefully towards our policy vision. Equally is the need for providing incentives - the acknowledging and recognizing of customary practices that are compatible to the NBSAP and the sharing of benefits from biodiversity uses within the principle of equity.

Priority 3: Sustainable finance

We recognised that sufficient funding is essential for the delivery of environmental services to our people. We also recognised that most of the conservation management efforts are dominantly financed from international aid and characterized by shorter timeframe, as such their sustainability remain uncertain. We also recognized that biodiversity value is poorly reflected in our business and our national fiscal policy instruments. Although the provisions for trust funds are provided by our Acts, they are still not in operation. We therefore, will make effort to revisit these provisions and put them into effect.

Learning from worldwide lessons, national environmental trust fund has proven effective in complementing international and regional trust funds initiative, particularly within the need to create and generate internal revenues to fill possible financial gaps. We recognised that environmental trust fund or their remnants require the need for the developing of a sustainable finance strategy as a step toward a long term financial commitment towards environmental protection. Identifying internal potential revenues and developing of the relevant mechanism to derive these revenues is fundamental.

Priority 4: Research, traditional knowledge, science, information system and technology

We recognized that research encompassing, traditional knowledge, experiential knowledge, scientific, social and economic investigations are important for unraveling

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of hidden mysteries, and the articulating of those found knowledge for better biodiversity management. Scientific knowledge requires partnering with outside institutions and the engagement with external experts. Equally, integrating of traditional knowledge with the contemporary research is important, to allow us better define parameters underpinning the causes of, and status of biodiversity and their managements.

On the same note, this knowledge is important to craft rules that can be easily accepted and implemented by our local people. It follows that information system and technology will allow us to contextualize information to be easily communicated and making of informed decisions. Finally monitoring and evaluation will allow us to check and, rechecking the effectiveness of our management interventions.

Priority 5: Marine and coastal biodiversity

Recognising that marine and coastal biodiversity formed the main components for alleviating poverty, we will embrace and continue to adopt an integrated management approach to our marine and coastal biodiversity. We are aware that whales, dolphins and dugong, turtles and sharks are present in our waters and some of these species formed significant cultural values. Our costal environment is enveloped with coral reefs, mangroves, seagrass and algae, and is home to thousands of species, where, we fished to support our subsistence life and earn income for our basic needs. Our coastal ecosystem bolsters and insulated us from sea-level rise and other changes instigated by climate change.

We therefore, reaffirmed our commitment to regional management efforts by the Forum Fisheries Agency (FFA) and Parties to the Nauru Agreement (PNA) in promoting tuna sustainable harvesting, conservation, and efforts to maximize economic benefits from tuna industries.

We reaffirmed our commitments to regional organization and initiatives such as the Secretariat of the Pacific Community (SPC), Secretariat of the Pacific

Regional Environment Programme (SPREP) and the emerging Coral Triangle Initiative (CTI) programme in collaborative efforts in managing our marine and coastal biodiversity.

Priority 6: Agro-biodiversity

Agriculture contributes significantly to our subsistence life and the earning of local and foreign revenues. Cocoa and coconut present with the widest spread commercial crops. Many native plants also serve as commercial crops, sold in the urban areas with higher values than those imported products. Farming practices are mixed where native plants provide ecosystem services for commercial plants. They also hold diverse genetic resources.

On the livestock sub sector, pigs and poultry are common, raised, as part of culture, for domestic uses and cash. The struggle for basic economic need is often constrained by labour and the necessary skills for managing of agro-biodiversity. This is further compounded with a shift in the staple diet from local food to imported products, hence changes the production systems and consequently, the loosing of local varieties. Our aquaculture industry is still emerging. We will continue to make effort to improve the management of our native cultivated plants and domesticated animals and their wild relatives, and discourages activities that had been contributing to a decline in their population.

Priority 7: Forest, mountain and plant genetic biodiversity

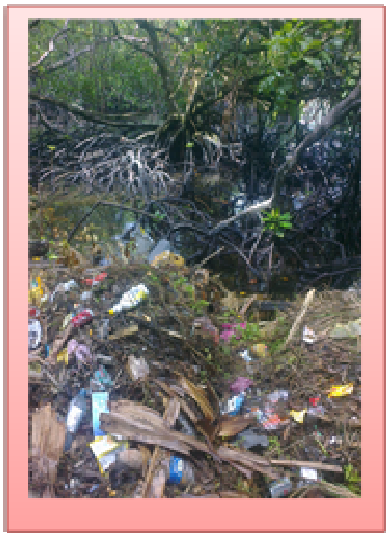
Our forest is one of the world's most extensive. Coastal strand vegetation, riverine forest, lowland forest, montane forest, and non-forest communities, seasonal dry forest and grass lands coloured our islands green and beautiful and sheltered hundreds of plants, fungi, vertebrate, invertebrates and millions of microbes. Our

mountains are high embedded with beautiful waterfalls and are off limit from exploitation.

Forest products support our food security and housing materials. At the commercial front, commercial wood supported us with the much needed foreign revenue - even at the expense of our biodiversity. Our forest influences many aspects of air quality conducive for our health, regulate climate, our drinking water and reduces erosion. We will continue to improve managing our forest, particularly managing threats such as logging and poor land use practices.

We will make efforts to restore logged areas and promote avenues for equitable sharing of benefits derived from our forest biodiversity. We will also continue to undertake and make ways for instilling of possible incentive measures to mitigate against climate change and to reduce pressures on our forest ecosystem.

Priority 8: Waste, pollution and biodiversity



Waste is one of our major underpinning concern, threatening our biodiversity and our health. Our urban centers stand as a good indicator where streams, rivers, land and coastal areas are covered with solid waste.

Landfills played a major constrain, where only one serving the entire Honiara. We know that overcrowding from rural migrant has increased waste problems in urban areas proportionally. Waste from discharged oils, chemical and sentiments polluted our river systems and coastal environment. This has further compounded by untreated sewage and open defecation. The majority of our people still perceive rivers and coastal areas as dumping grounds. We will continue to pursue waste management in our various regulations and strategies as well as utilization of community based organization to advance waste management in our various villages.

Priority 9: Invasive Alien Species (IAS)

Invasive Alien Species (IAS) are one of the most unnoticed pressing concerns which has been contributing to the loss of our island biodiversity. Most of the invasive alien species in the country are now established and removing them are costly. We also know that intentional introduction of species including living modified organisms for agricultural purposes are potential invasive species.

We will continue to enhance and adhere to our current invasive programmes particularly controlling of agricultural pest and the strict control of border surveillances. We will continue to pursue efforts to control the spread of African snail including the 'crown of thorns'-starfish that destroys corals, feral cats and dogs that are responsible for the diminishing of ground dwelling birds. We will also pursue strategies and policies to control potential and existing IAS. We will continue to support Community Based Organisations (CBOs) to develop and implement invasive species strategies.

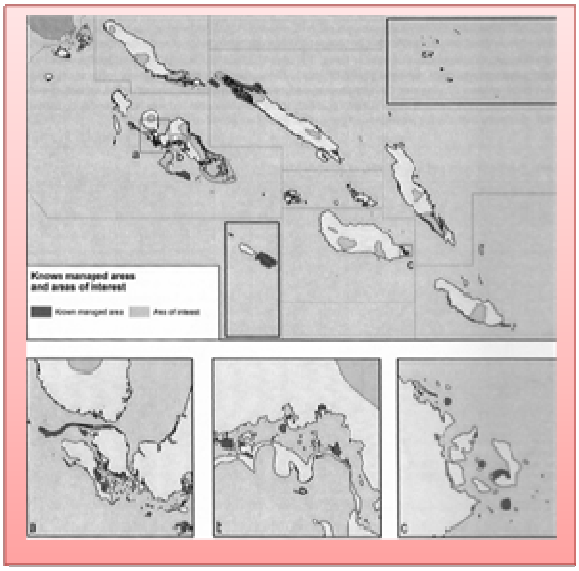
Priority 10: Climate change, disaster risk management and natural infrastructure

Our biodiversity management efforts are often undercut by the 'Law of Nature' or what others called the 'ACT of GOD'. Cyclone, volcanism, earthquake and tsunami are frequent occurrences. We know that the frequency and the magnitudes of these events are directly and indirectly caused by the changing condition of the climate, including warming of earth's surface, changes of inter annual fluctuation - El Niño- Southern Oscillation. We know that our natural infrastructure (climate regulatory ecosystem services e.g. mangrove), have now been converted to other uses, exposing us vulnerable. Climate change intrudes into our food security, where our native plants lose their yielding capacity, triggers and selects certain species to drive well, bleached the corals and displaced our atoll dwelling people.

Prolonged dry season evaporated our stream system, killing and destroying our freshwater biodiversity and left us nothing to drink. Prolonged rainfall washed all inland water biodiversity into the marine environment and to sock dead. Vector carrying disease increased, subsequently increasing the risk to our health. We will continue to pursue the actions provided by the National Adaptation Plan of Action (NAPA), and as have been reinforced by our Climate Change Policy.

Priority 11: Protected area systems

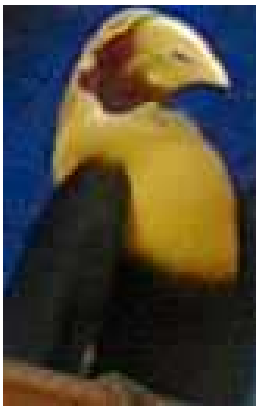
We acknowledge all our stakeholders for the progress made over the past decades in the theme of protected area management. The result has reflected in a wide spread of protected areas with an estimated coverage of 6 % in the coastal areas and 5 % terrestrial. All land above 400 meters (mountains), water catchments and taboos are legally protected.



We commented our self for the enactment of the Protected Area Act which provides a provision for a trust fund. We further acknowledge the Lauru and the Isabel provincial governments and partners for coming up with a ridge-to reef plan for their respective islands. We reinforce the plan of action of the Programme of Work on Protected Area (PoWPA) for the Solomon Islands. We particularly recognised the work of The Solomon Islands Locally Marine Managed Area (SILMMA) and protected area network under the CTI lead by the Ministry of Fisheries and Marine Resources.

We will continue to mould our institutional interactions within the protected area management theme to expand and improve management in the country. We will also instil the functioning of the trust fund to provide the initial step towards the development of an environmental trust fund and its supporting mechanism.

Priority 12: Endemic, threatened and migratory species



We acknowledged ourselves for the enactment and subsequently the enforcement of the Wildlife Management Act. The result is a reduction of the exporting of threatened species. We recognized that our Islands are homes to a diverse array of species but under continuous threats. Twenty (20) mammal species, twenty one (21) bird species, six (6) reptiles species, two (2) amphibians species, sixteen (16) fish species , four (4) insects species, two (2) bivalves species, one hundred and thirty four (134) anthozoans species , twenty (20) plants species are listed under the global threat species. Two (2) ground birds are believed to be extinct.

We shall continue to address species management under our various laws and management rules. We commented ourselves for the Botanical Garden initiative under the Ministry of Forestry and Research for instilling *ex-situ* conservation. We acknowledge individuals households who found passion decorating their private property with native plants and flowers. Further we will continue to make commitment to international and regional initiative in managing our highly migratory species that are currently threatened.

Priority 13: Inland water biodiversity

We know that water (H_2O) is an essential element for all living organisms. Inland water plays a significant role in all terrestrial and aquatic organisms and helped resolved the social and economic need of our people. Our current knowledge of inland water and its biodiversity is still poor. Water catchment area takes almost 2/3 of our islands. We shall focus on water '*as an essential services',* to instigate and improved water governance, improve human health, livelihoods and well-being with a special emphasis on the need to address women, land owners, local communities, and the poor and vulnerable.

Priority 14: Access and Benefit Sharing (ABS)

We recognised that our indigenous knowledge making encompasses the use of biodiversity for medicine but are enclosed and transferred only to close family members. Our Constitution also implies its protection when customary rules are adopted as integral part of the modern law system.

Customary, protection is inferred in the adopted precautionary principle of our Environmental Act, the Protected Area Act, Fisheries Act and others. This knowledge will remain dormant and sealed from modern researches. Its usefulness can only be realised by revealing these knowledge with the appliances under an appropriate legal framework. Equity is also required in the sharing of benefits derived from biodiversity uses in fisheries and forestry including mining. We shall continue to pursue efforts to the early acceding to the Nagoya protocol on equity and developing of the appropriate national legal instruments for its implementations.

Arrangement and components

The biodiversity strategy, constitutes of a long term goal (Vision), a medium term goal (the 2030 mission) - divided into 4 strategic goals and 15 targets. The target is divided into milestones and proposed activities and enclosed by performance indicators summed into impact indicators corresponding to the targets.

Priority areas are phrased as the country policy statements and are provided in the summary.

The **supporting regulatory instruments** ensure that actions are derived from laws, policies and action plans, hence avoid the notion of reinventing the wheel.

The **brief overview of the overall biodiversity status** and **their importance to people's well-being** ensure the action are tailored based on current **science knowledge** and to addresses **poverty (hardship).**

The principles are attributes (inconclusive and unquantifiable abstracts) to guide implementations.

The implementing mechanism comprises of an administrative and coordinating mechanism, resources mobilisation plan, environmental education and public awareness plan, and monitoring, evaluation, reporting and review plan.

Acronyms

ABS	Access and Benefit Sharing
ADB	Asian Development Bank
AusAID	Australian Agency for International Development
CBRM	Community Based Resource Management
CBO	Community Based Organization
CITES	Convention on International Trade in Endangered Species of Flora and Fauna
CHM	Clearing-House Mechanism
CMS	Convention on Migratory Species of Wild Animals
CI	Conservation International
COP	Conference of the Parties
CTI	Coral Triangle Initiative
ECD	Environment and Conservation Division
EEZ	Exclusive Economic Zones
EU	European Union
FAO	Food and Agriculture Organization
FFA	Forum Fisheries Agency
FSPI	Foundation of the Peoples of the South Pacific
GDP	Gross Domestic Product
GEF	Global Environment Facility
HMTC	Harmonized Minimum Terms and Conditions
IAS	Invasive alien species
ICNP	International Committee for the Nagoya Protocol
IUCN	The International Union for Conservation of Nature
IUU	Illegal, unreported, unregulated fishing
MAL	Ministry of Agriculture and Livestock
MCILM	Ministry of Commerce Industries Labour and Immigration
MCT	Ministry of Culture and Tourism
MDPAC	Ministry of Development Planning and Aid Coordination
MECDM	Ministry of Environment, Climate Change, Disaster Management and Meteorology
MFAET	Ministry of Foreign Affairs and External Trade
MFT	Ministry of Finance and Treasury
MFMR	Ministry of Fisheries and Marine Resources
MRD	Ministry of Rural Development
MWYCA	Ministry of Women Youth and Children's Affair
NAPA	National Adaptation Program of Action for Solomon Islands
NBSAP	National Biodiversity Strategic and Action Plan
NDS	National Development Strategy

NFP	National Focal Point
PACPOL	Pacific Ocean Pollution Prevention Programme
PNA	Parties to the Nauru Agreement
PoWPA	Program of Work on Protected Areas
POP	Persistent Organic Pollutants
REDD	Reducing Emissions from Deforestation and Forest Degradation
SILMMA	Solomon Island Locally Marine Managed Area
SINU	Solomon Islands National University
SIRC	Solomon Island Red Cross
SPC	Secretariat of the Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Programme
TNC	The Nature of Conservancy
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNCLOS	United Nations convention on the Law of the Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USP	University of the South Pacific
WB	World Bank
WCPFC	Western and Central Pacific Fisheries Commission
WFC	World Fish Centre
WWF	World Wide Fund for Nature
WHC	World Heritage Convention

Part 1: Introduction

1.1 Context

[1]Biological diversity or biodiversity is 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 part, including diversity within species, between species and of ecosystems. There has been an increasing level of acceptance, that biodiversity is an integral part of people's wellbeing[2], and that the current global biodiversity crisis, is having a direct repercussions on people's wellbeing, particularly in the developing countries.

Been part of the global biodiversity, the Solomon Islands biodiversity, is still believed to be in good health as consequences of low human population density, uninhabited islands, difficulties to access and use natural resources, and customary and legal protection (see fifth report)[3]. Nevertheless, many specialised reports have also shown the indicatives of an accelerating loss of biodiversity in the country, as has been reflected in a fast decreasing rate of virgin forest. Supporting this assumption is that, there have been an increasing anecdote evidences of rural people's concerns over the loss of biodiversity, as manifested by the concern over the loss of yield from food gardens, unclean water and streams, the loss of cultural norms and practices, poor economic return to support livelihood, increasing of vulnerability to natural disaster and the experiencing of an increasing levels of hardship (poverty).

These communities concerns have only, reflected and reaffirmed the notion that biodiversity has an immediate interconnectedness to wellbeing and that the causes of biodiversity loss in the Solomon Islands are largely localized (see fifth report). Today, these popular concerns is often showcased as the main basis for promoting of community conservation practices in the country and also forms the basis for not accepting extractive industries for example logging, to operate on their customary land . The emerging of

[1] United Nation. 1992. Convention on Biological Diversity, http://www.cbd.int/convention/text/
[2] Millennium Ecosystem Assessment Ecosystems and Human Well-Being: Synthesis (2005) Island Press, Washington, DC.
[3] MECDM. 2013. Solomon Islands Fifth National Report on the implementation of the Convention of Biological Diversity, can be derived from http://www.cbd.int/doc/world/sb/sb-nr-05-en.pdf

biodiversity protection has recently added to the lexicon, and has been increasingly promoted through government and international none government organisation interventions, particularly in efforts to protect globally endangered species.

By acknowledging these two conservation paradigm, the Solomon islands NBSAP has reaffirmed the view that, maintaining and restoring of ecosystems and species are essential steps for the delivering of ecosystem services[4]. As such natural resource exploitations must be balanced within the ability of self-regeneration to assure their sustainability in perpetuity. And on the other, the protecting of globally endangered and endemic species are crucial, for the maintaining of the human heritages, where Solomon islanders is part. Both scenarios are generally accepted within the emerging concept of ecosystem services, of which this revised NBSAP, has built its structure.

The improved understanding of the concept of ecosystem services is firstly attempted and untangled by the Millennium Ecosystem Assessment report (MEA) (2005) [1 above] which clarified ecosystem services into four categories; (1) The provisioning services which include food, water, timber, fiber and resources for the development of medicines, (2); Supporting services which includes nutrient cycling, soil formation, supplying oxygen through photosynthesis, (3); Regulating services which includes flood and disease control, water purification, climate regulation, the prevention of natural disasters and the mitigation of damage, control of pests through natural enemies, and (4); Cultural services which includes spiritual, recreational, and cultural benefits. The notion of species protection particularly threatened species is branded here as cultural services (see fifth report for detail).

Developing a policy instrument to adequately serve the intrinsic character of biodiversity and to adequately compromise with indigenous values becomes a legal and a benevolence responsibility for the Solomon Islands government. Under the adopted Constitution[5], customary institutions and its associated norm and practices has been recognized as an integral part of the modern governance system. Intrinsically, the dugong species is going down the extinction list, regardless of any cultural values (including the practice of eating dugong flesh by several Solomon island tribal communities), hence the need for developing

[4] Ecosystem services are the benefits people obtain from ecosystems
[5] Solomon Islands Constitution 1978

and adopting a policy directives to shape and allow for cultural dislocation, become an ultimate responsibility for a responsible government.

Compromising these different point of views, allow the concept of ecosystem services as the favorable policy language choice that could also use to mitigate for a biodiversity precept. This notion also inferred that managing biodiversity could only implied on the need for managing of people and the associated institutional arrangements to support peoples' actions and behavior in favor of biodiversity value. The adoption of ecosystem services concept is also becoming prominent for designing of policy worldwide that are indented to achieve multiple of benefits while addressing a robust, prevalent and persistent environmental problems. This makes Solomon island is not alone in its policy design.

As noted, the earth is undergoing a biodiversity crisis- where the entire human race have been alluded to, as the principle underpinning drivers and, as such addressing the loss of biodiversity also requires a concerted global effort. The UN Convention on Biological Diversity (CBD)[1 above] is one of this many global attempts. The CBD has three main objectives, (1) conservation, (2) the sustainable use of biodiversity components, and (3) the fair and equitable sharing of the benefits arising from the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

The Solomon Islands has made its commitment to this global agenda when she ratified the CBD in 1995. It developed its first National Biodiversity Strategy and Action Plan (NBSAP) in 2009[6]. The NBSAP (2009) consists of 117 actions and 12 overall themes. The vision it support is that the islands' unique biodiversity must retain natural heritage and cultural identity. It promotes a long-term perspective on biodiversity protection addressing all Islanders regardless of their level of development and ensures the equitable sharing of benefits arising from the utilization of genetic resources.

To continue with the implementation of the CBD, the Solomon Islands has now able to revised its NBSAP, having its guidance from the Strategic Plan for Biodiversity 2011-2020,

[6] Solomon Islands NBSAP http://www.cbd.int/doc/world/sb/sb-nbsap-01-en.pdf

and the Aichi Biodiversity Targets[7]. The principle designs, method and approach, and the objective for undertaken for the revising of the NBSAP are outlined in the document.

1.2 The overall conceptual design of the NBSAP

The revised NBSAP is underpinned by two policy perspectives, and that is; (1) the strategy is developed to implement mandates, and (2) to address the national development challenges within the scope of environmental protections. From a mandate perspective the NBSAP is built from the provisions provided by the existing environmental laws and policies. At this end the CBD (1992)[1 above] and the Environment Act (1998)[8], under the principles of the Solomon Island Constitution (1979) provided the overarching laws for the NBSAP architecture and its implementation (see part 3 for other laws).

Reading the above set of laws with other sectorial laws, for example, the Fisheries Act, serves as the legal basis for implementing the relevant adopted priority area, particularly the priority on the marine and coastal biodiversity. Under this perspective, the NBSAP is seeking to promote a pluralistic interpretation of laws, instead of the need for creating new laws for any emerging issues, as conventionally practiced. If and when the need is required, developing of regulations under existing Acts is recommended. This perspective is built on the premises that most of the Solomon Islands laws are still redundant, and therefore the need for developing supporting policies and their effective implementations are crucial for achieving laws objectives.

In addition to the above development perspective, the NBSAP is built to compliment and reciprocate other policies, particularly the National Development strategy (2011-2020)[9]. The National Development strategy (NDS) is adopted as the overarching resource mobilisation plan and a gender and poverty mainstreaming instrument as it has a direct bearing for the developing of the ministerial cooperate plans and the provincial plans. The ministerial cooperate plans are also directly linked to the current government four year

[7] Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets, http://www.cbd.int/sp/
[8] http://www.parliament.gov.sb/files/legislation/Acts/1998/The Environment Act 1998.pdf
[9] Ministry of Development Planning and Aid Coordination. 2011. National Development Strategy 2011 to 2020, Honiara, Solomon islands.

plan[10]. The fact that the NDS and more specifically, the Ministry of Development Planning and Aid Coordination (MDPAC), provides the window for determining the ministries development and recurrent budget for implementing the ministerial annual work plans (AWP), this left the adopting of the NDS as the NBSAP resources mobilisation plan unavoidable as has also reflected in other sectorial strategies . As envisioned the MDPAC is also responsible for coordinating of aids and therefore allows for possible co-funding of multilateral and bilateral projects by the Solomon Islands Governments[11].

Dissecting this arrangement further, the ministerial cooperate plans that are emanated from the NDS, provide the necessary road map for the institutional development need and the human resources required for each ministries. At this end, the NBSAP attempted to provide the biodiversity technical and the functional necessities for implementing the NDS as espoused from the cooperate plans under the respective ministries' mandates. Such view seemed to be absent from the NDS and therefor the NBSAP is making effort to untangled and consolidated this phenomenon to provide a more clear policy directives.

Committing to the NDS 2011-2020 objective seven (7) on the need to effectively responding to climate change and managing of the environment including disaster risk management, particularly on the sub-objectives for conservation and environmental management, the NBSAP has strategically elaborated on the environment and conservation strategy by developing and consolidating of targets, action points and proposed activities , that are based on current science knowledge and gave effect for the effective implementation of the functional mandates provided for under the Environment Act (1998) and other relevant laws pertaining to the selected priority areas (see part 3). As it stood in the NDS, the objective for conservation and environmental management are;

> To promote a holistic, sustainable approach to natural resources management addressing biodiversity, forestry, fisheries and marine resources and waste management, including community governance regimes, and sensitize the population on dangers of environmental degradation through awareness campaigns in urban and rural communities about environmental laws, regulations

[10] Democratic Coalition for change Government (DCCG) Policy Statement 2015
[11] See Resources mobilization plan for implementing the revised NBSAP (2014-2018)

and ordinances on moving and harvesting of natural resources; to support conservation and sustainable use of natural resources for food security and agriculture through integrated agriculture and land management strategies and the conservation and rehabilitation of agro-ecosystems; to protect marine resources, review and draft relevant laws and regulations concerning marine resources, regulate commercial fishing in the Inner Slot of Solomon Islands and consider reduction of deep sea fishing that destroys marine resources in relation to economic returns to the country; to protect remaining forest resources and re-establish forests, sustainably manage logging extractions in the remaining forests, including increased taxation, and emphasise reforestation to replace the depleted forest cover, the MFR leading a review of forestry acts in close consultation with provinces and resource owners; Design regulations and enforce guiding principles on mining and other prospective mineral resources to avoid environmental degradation and potential soil erosions; National government to prepare and enforce laws and regulations for conservation areas, national parks and sanctuaries on available customary and alienated land areas and marine reserves to manage and restore threatened flora and fauna and maintain biodiversity; establish and implement a dolphin assessment and monitoring program and formulate special regulations to protect whales, dolphins and other special species; establish research focus strategies to enable information on biodiversity to be collected and publish data on research findings; to control solid waste disposal and protect both health and the environment, enforce existing legislation to develop and implement additional measures based on the principles of reduction, re-use and recycling of solid wastes; to protect natural resources, environment and conservation by legislation to protect eco-systems and by implementing national environmental management strategies based on a holistic approach to conservation[NPP Goal 8 - part].

Having adopted the NDS as the overarching resource mobilisation plan and a gender and poverty mainstreaming instrument, the aligning of elements of the NBSAP to relevant ministries is viewed irrelevant, as well as their costing, as these have already provided for in the NDS. At this end the biodiversity action points and proposed activities are only

intending to support relevant ministerial plans to be developed in favour of biodiversity management need. The action points and proposed activities are also left open ended to ensure their possible customisation by relevant organisation and project designs indenting to implement the NBSAP (see the resources mobilisation plan for effort made to cost the NBSAP).

Furthermore, by committing to the NDS vision 'A United and Vibrant Solomon Islands', and along the adopted principle of inclusiveness, has implied the need for an alternative, and a much higher cognisant perspective of national ownership, particularly when biodiversity is viewed as a global common, and its intrinsic character have no political boarder. The adopted principle of inclusiveness in the NBSAP is also based on the view that improving biodiversity management is depended on the entire human race and its architected institutions. Unity as a human value and in its essence also has no political boarder.

The case of Arnavon conservation area demonstrated a clear example where Isabel and Choiseul province have able to demonstrated unity between the tribes over the need for conserving an endangered turtle species. Was it not from the assistance by the Nature of Conservancy (TNC), unity between tribes and islands will remain, a practical difficulty. The notion of unity also implies the need for creating harmony between institutional rules- the harmony between conventions, national laws, policies and informal customary rules and norms.

As noted, the common global biodiversity concern, underpins the rational for compromising national unity within a higher ethical and moral principles to adequately address the intrinsic character of biodiversity. At this juncture, the NBSAP is built to reflect a robust and ambiguous character to allow for multiples of interpretation to suit multiples of interest and to accommodate diverse institutional context, that include government agencies, provincial governments, city council, community based organizations, bilateral agencies, multilateral agencies, relevant civil societies, business, academic institutions and the likes to partake in NBSAP implementations in according to their own strength and difficulties.

Under this concept, the NBSAP is developed to emanate an **organic** and **living character**, implying that relevant organizational strategies have already been amalgamated into the

action plan. In addition, relevant projects' objectives and action plans have also been incorporated into the NBSAP. From this view the NBSAP is viewed as the sum of all environmental related organizations' strategies and as such the strength and the weakness of one organization, in itself, is a reflection of the strength and the difficulties faced by the NBSAP. Action points and proposed activities are therefore tailored to improve each organizations' strategies that have stake on biodiversity management in the country. Having adopted this structure also means that the NBSAP is a common selling product for all organization operating in the country (see section 3.3, the resources mobilization plan and the fifth report).

Been organic and living also implied that this revised NBSAP served as the latest policy outcome of the Solomon Islands implementations of the CBD, since its ratification in 1995. The enactments of the Environment Act in 1998[8 above], the Protected Area Act in 2010, the development and endorsement of the NBSAP in 2009, have represented the series of policy development phases for the CBD implementations (see section 2.8 on lesson learned for more elaborations).

Besides been designed to serve as a resources mobilization framework, the NBSAP contents and structure are also designed to serve as a communication framework, a capacity building framework and monitoring and evaluation framework. Such design is made to emanate the structural arrangements and the logical framework for the effective implementation of the responsible project for undertaken the revising of the NBSAP[12] . This is also made to demonstrate the in co-operating of relevant projects' objectives into the NBSAP.

Contextualizing the logical framework of the responsible project[12 above] for the revising of NBSAP into the overall conceptual design of the NBSAP, the adopted administrative and coordinating mechanism for the NBSAP reviewing process, was designed to partly implement the provision of action points under the priority on governance compliances and enforcements (refer to 7.1). The resource mobilization strategy adopted during the

[12] Support to GEF Eligible Parties (LDCs & SIDS) for the Revision of the NBSAPs and Development of Fifth National Report to the CBD - Phase 1

reviewing process was designed to partly implement the provision under the priority on sustainable finance (refer to 7.2 and the resources mobilization plan).

The communication approaches adopted was designed to partly implement the provision on environmental education and public awareness (refer to 7.3). And the 5th report was designed to partly implement the provision under the priority of research, traditional knowledge, science, information system and technology (refer to 7.4). By investing in these crosscutting priorities during the phase of NBSAP review (implementation), the rest of the priority areas have been given some attentions (see 5th report to the CBD for more detail and the section on methodology and approach).

Finally, the revised NBSAP, has been crafted within the context of island wisdom, where emphasis are largely made on positive policy outcomes, instead on emphasizing on the negative lessons. Objectivity readers are therefore encouraged to consult the 5th report to the CBD (also see attachment 1). Under the later scenario, the 5th report is designed to read in conjunction with this revised NBSAP document.

1.3 Methodology and approach for the NBSAP review

This revised version of the NBSAP is an immediate outcome of the enabling project - 'Support to GEF Eligible Parties (LDCs & SIDS) for the Revision of the NBSAPs and Development of Fifth National Report to the CBD - Phase 1[12 above]. The consultative approach undertaken for the review was mixed, ranging from literature review, minute review, newspaper review, thematic and small group workshops, expert meetings, email circulars, questionnaires and face-to- face meetings. Information collated from the above methodological approaches formed the basis for developing of the action plan (see attachment 1 and the fifth report for examples of the outputs). Comments on the various drafts of the NBSAP (including UNEP review), the fifth national report (including CBD review) formed another consultation modality. Finally a cabinet review has formed final stage of consultation.

The strategic approach undertaken during the consultation approaches were the discussion around priority areas, underpinned by the objectives of improving thematic objectives

which then automatically viewed as improving part of the NBSAP. A case approach was adopted particularly in efforts to obtain a cross section of the Solomon islander's views, and to ensure a wider consultation with rural people. At the same time this case approach has ensured the managing and preventing of creating high expectations by the rural communities from governments.

At this end, two provincial governments and a few communities were pioneered under this adopted consultation modality. A few Ministries served as the focal institutions which include the Ministries of Fisheries and Marine Resources, the Ministries of Agriculture and Livestock, the Ministry of Forestry and Research including NGOs and business sectors. A passive engagement with other ministries through email circulars was viewed as sufficient. Consolidation of data was also derived during the preparation phase of the [13]Integrated Forest Management in the Solomon Islands, where FAO will serve as the GEF implementing agency. In addition the [14]CBD convened indigenous workshop has added to the consultation processes. Other CBD regionally and globally convened workshops have helped boosted the capacity of the responsible staff for developing of the revised NBSAP.

Finally, under the adopted revised NBSAP conceptual design, the NBSAP (2009) consultation modalities remain valid as has been reinforced by bringing forward those priority themes into this revised NBSAP (see annex 1 and the 5th report to the CBD).

1.4 NBSAP revision objective

To consolidate, reaffirm and continue, creating an enabling environment for the proper safeguarding of biodiversity, through the effective mainstreaming of the Convention of Biological Diversity (CBD) and the Solomon Island Environment Act (1989) into the Solomon Islands developmental agendas, while improving coordination between stakeholders, and the instigating of necessary changes (people and institutional behavioral changes), to navigate purposefully towards the NBSAP vision.

[13] http://www.thegef.org/gef/project_detail?projID=5122
[14] www.winlsm.net/wp-content/.../04/report-CBD-workshop-fin.ver1_.pdf

Milestone: By 2015, Solomon Islands has reviewed, updated and reaffirmed its commitment to the NBSAP as its biodiversity policy and has already implementing 25% of the stated action points.

Part 2: Overview of the Solomon Island's biodiversity

2.1 Solomon Islands Profile

Governance

Adopts the Westminster system- where the Prime minister is the head of the Executive with 50 members representing each constituencies elected for 4 years

There are 9 Provinces with many customary governance.

Land Areas and Exclusive Economic Zones (EEZ)

Land: 27556 km^2 , Coastline:≈ 4023 km^2 , EEZ≈ 1,553,444 km^2

Main islands

Choiseul, New Georgia, Santa Isabel, Guadalcanal, Malaita and Makira

Population projections 2009: 515870, 2010: 549,600, 2020: 703,500, 2035: 969,900.

Population Growth Rate:

2.3 % (2010)

Human Development Index:

142/182 countries (2010)

Sources of National Income

Logging, fishing, Agriculture and Aid (2007-2011)

GDP per Capita

Second lowest average per capita in the Pacific region

GDP Growth Rate

5% (in 2010) projecting to be 5 % in 2011

Inflation

19.4% in 2008 and 2.9% in 2011

Literacy Rate

70 %

2.2 Biophysical-Geography, Climate and Ethnographic features

Solomon Islands lie in the Pacific, north and east of New Guinea and 1,609 km northeast of Australia. A double chained archipelago, comprising of six main islands with more than 990 smaller islands. These six main islands are associated to the plate-boundary, either lying close to the subduction zones or the deep sea trenches[15]. The island country is mostly characterised by rugged, mountainous, deep internal valleys and steep sides descending into the depths of the oceans[16]. Rennell and Bellona on the other hand, is made of intra-plate landforms. The smaller islands are mostly raised corals and atolls. The islands are surrounded by barrier, patch, lagoon and fringing reefs. Active volcanism are also present featuring those submarine Kavachi volcano in Western province and Tinakula of the Eastern Solomon Islands.

Solomon Islands, has believed to be consistently above sea level since the Eocene epoch (40 million years ago)[15 above]. Earthquakes associated with tectonic plate movements is a frequent event and often associate with tsunamis. Tropical cyclones are also frequent and are expected seasonally, between November and April. The global phenomenon of El Niño-Southern Oscillation (ENSO), often alter the seasonal cycle. Depending on the climate conditions, El Niño and La Niña may associate with prolonged droughts and heavy rains. These climate variances have causing disturbances to a climate pattern that is predominantly hot, humid and tropical, with a year-round rainfall. The predominated seasons are wet and dry seasons. Under today's climate changing conditions, high rainfall, frequent droughts and sea-level rise are becoming obvious.

Given the geological and tectonic history, the diverse range of islands of varying age and development, and the climate events, have impacted and shaped the Solomon Islands biodiversity, making it as the most geographically complex area on earth. The coastal and marine biodiversity is categorized as part of the global marine biodiversity hotspot and

[15] USP. 2012. Ecosystem Profile, East Melanesian Biodiversity Hotspot can be available at http://www.cepf.net/SiteCollectionDocuments/east_melanesian_islands/EMI_ecosystem_profile.pdf (PDF 3.9MB).

[16] Sulu, J,. Delvene, N., Agnetha,V.,Senovea, M. and Lysa, W .2012. State of the Coral Reefs of Solomon Islands Coral Triangle Marine Resources: their Status, Economies, and Management

serves as a potential refuge and reservoir for the marine life–known as The Coral Triangle (CTI) region. Its terrestrial counterpart is listed under the global 200 forest ecoregions[17].

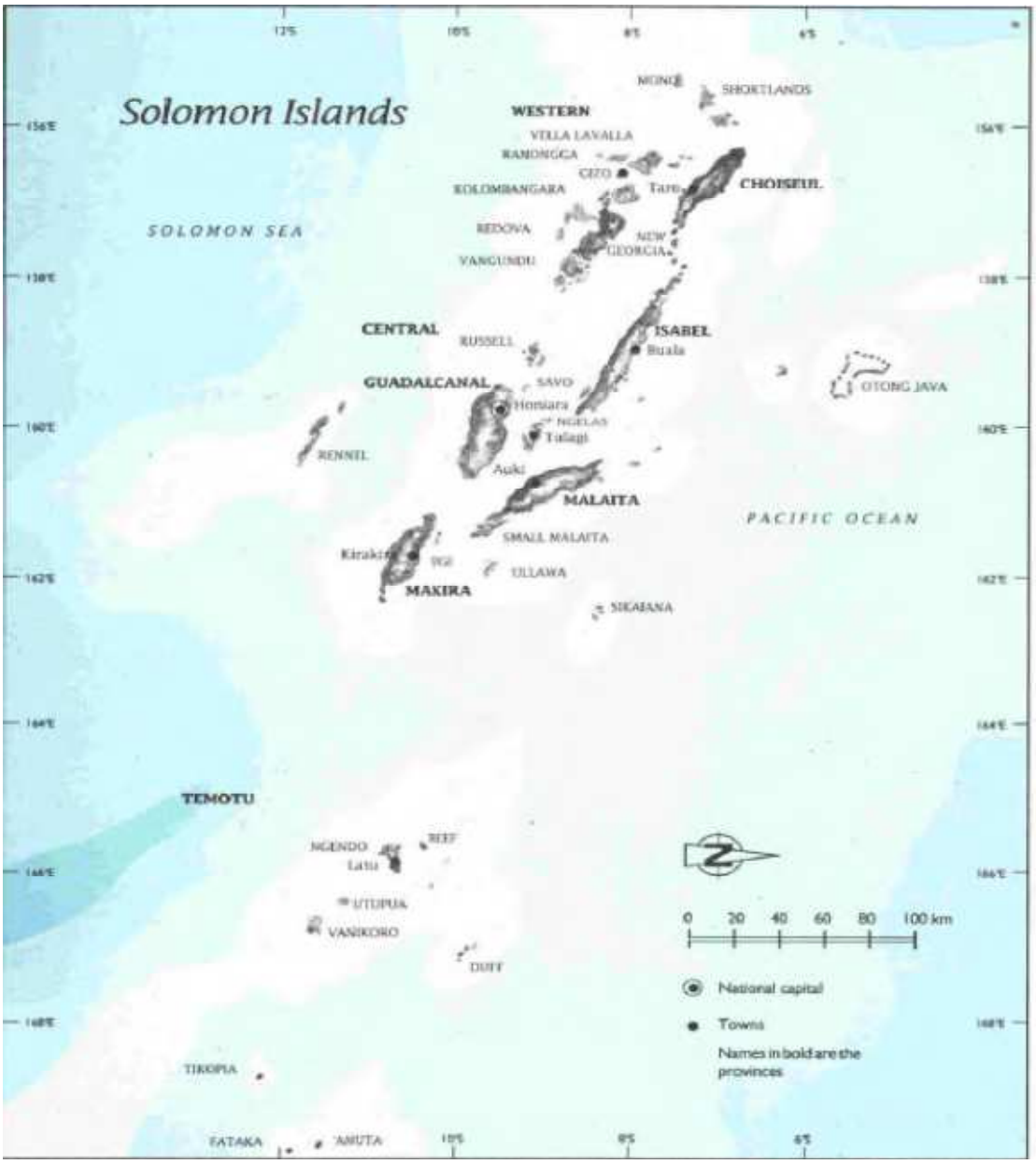


Figure 1: Solomon Islands, After NEMs 1993 pg iv

In parallel to an intriguing species and ecosystem diversities, the Solomon Islands has also presented with the most diverse cultural setting in the world as reflected in almost 80 languages spoken in a very small geographical space. The natural environment has an

[17] WWF Solomon Islands (2005) A Forests Strategy for Solomon Islands 2006-2011, Honiara, Solomon Islands

extremely high local importance to the people of the islands, and have been used variably in respect to the various customs and norms – hence to an extent shaped the diversity and population dynamic of the island biodiversity.

2.3 Coastal and Marine Biodiversity

2.3.1 Status and trends

Adopting the MEA 2005 report[2 above] definition of coastal and marine biodiversity, enabled the Solomon Islands coastal biodiversity to be generally constituted of coral reefs, mangroves, intertidal zones, estuaries, seagrass, algae, literal vegetation and estuaries ecosystem, including, those species found in these ecosystems, and in areas between 50 meters below mean sea level and 50 meters above the high tide level or extending landward to a distance of 100 kilometres from shore. On the other hand, marine biodiversity is defined as the variability among living organisms living in or share home ranges in areas where the sea is deeper than 50 meters[2 above].

Figure 2: Rock pools providing homes to thousands of species and the first insulator from rising sea

In the light of the above definition and in particular reference to the coral reef ecosystems, the Solomon Islands has a staggering record of 485/494 coral species. The associated coral reef fish stand at a record of 1,019 species belonging to 82 families and 348 genera[3 above]. In general the coral reefs are categorized as either fringing, barrier or atoll. Patch reefs is also present- where the coral reef forms patches within a matrix of sand and seagrass.

With respect to mangrove and seagrass ecosystems, there are moderate coverage, particularly within the shallow sub tidal and intertidal zones of the islands. Mangroves cover

about 65,000 hectare with a record of 17 species and 2 hybrids species from 15 genera and 13 families. Forty three percent of these species are endemic[18].

On the other hand sea grass beds covers approximately 10,000 hectors, occupying various strata of costal ecosystem including intertidal to sub tidal zones, embedded in mangrove ecosystem, estuaries, shallow embayment, coral reef, inter-reef and offshore islands. There are 10 identified species of seagrass. Sea grass is a primary source of food for fish, turtles and dugongs and together with mangroves provide nursery for marine and costal organisms. The state of knowledge of the coastal marine invertebrate is still poor but in general, bivalves, gastropods and cephalopods groups are present in one of these coastal ecosystems.

Even the popular commercial echinoderms-the sea cucumber which was branded as overharvested and has been imposed a periodic restriction from harvesting and exporting, are still poorly researched and monitored. To date there has been an increasing effort to improve better understanding of the status and trends of these coastal ecosystems under various project interventions.

Highly mobile and migratory species that shared home range between the two classes of biodiversity are also poorly understood. Current knowledge revealed that there are eight (8) species of whales, nine (9) species of dolphin, one (1) species of dugong (Dugong dugong), five (5) species of turtles and many species of sharks present in the Solomon water.

Commercially, tuna species presented the most harvestable and contribute enormously to the country's economy. These tuna species include, the yellow fin tuna, the south pacific albacore tuna , the skipjack tuna and the bigeye tuna. Tuna species continue to be harvested at the sustainable threshold except for the bigeye tuna which is now labeled as vulnerable (refer to 5th report for further information).

[18] MECDM. 2011. Fourth National Report to the Convention of Biological Diversity , Honiara , Solomon Islands can be derived from http://www.cbd.int/doc/world/sb/sb-nr-04-en.pdf

2.3.2 Importance of coastal and marine biodiversity for people's livelihoods.

Approximately, 95% of the Solomon islanders associated themselves with the coastal environment, which subsequently reflected in 50 to 90 % of proteins, being obtained from the coastal environment particularly fish. Seafood, curio and jewelry, aquaria corals, and raw material are common goods[19], estimated to produce a direct value of US $ 75,000 to US $ 170,000 per km^2 per year. Coral and mollusk are also important source of lime for the national betel nut coral lime trade, contributing up to 19 % of the total direct value of goods.

Mangrove provided firewood, propagules for food and woods for building materials, carvings, canoes and ornaments. The annual subsistence estimated value for mangroves is US $345–1501 per household'[20]. Today propagule cost US $ 0.1 per fruit and a 5 meter mangrove trunk costs approximately US $ 40 in the urban market. Sea grass has no direct use, except for seaweed which contributed 1 % of the Solomon Island's export in 2010[3 above].

Figure 3: Mud Crab sold in Honiara Market

Although little is known about the population and distribution of coastal invertebrates, the contribution of fisheries to livelihoods and the economy at large is enormous. Chitons are gleaned for subsistence and sold in urban areas at US $ 0.1 per animal. The most targeted species of the marine gastropods include trochus (*Trochus niloticus and T. pyramis*) and

[19] Albert, J. A., Trinidad, A., Boso, D. and Schwarz, A. J. 2012. Coral reef economic valuation and incentives for coral farming in Solomon Islands. Policy Brief. CGIAR Research Program on Aquatic Agricultural Systems. Penang, Malaysia. *AAS*- 2012-14.

[20] Warren-Rhodes, K, A-M, Schwarz ., NL, Boyle ., J, Albert ., S,S, Agalo., R, Warren ., A, Bana., C, Paul ., R, Kodosiku., W, Bosma., D, Yee ., P, Ronnback., B, Crona., N, Duke. 2011. Mangrove ecosystem services and the potential for carbon revenue in Solomon Islands. *Environ Conserv*doi doi:10.1017/ s0376892911000373

green snails (*Turbo marmoratus, T. setosus and T. argyrostomus*). Squids, octopus and cuttlefish of the cephalopods groups form are rare delicacy for most Solomon Island people.

Crustaceans such as lobsters, crabs (including mud crab found in mangroves, giant coconut crab, and coastal crab), and shrimps are usually harvested and consumed locally. Non-edible marine organism coloured the coral reef beautiful. Barnacle and sponges and other glue producing organisms are potential bio-chemical host for bio-mimicry and pharmaceutical uses. Most of the coastal fish are fished and consumed by people or sold in the local markets. These include pelagic fish such as tuna, tuna like fish, sharks, turtles, dolphins and dugongs.

In the marine biodiversity, tuna contributed significantly to the national economy, contributing the second highest foreign exchange after logging. In 2011, the Forum Fisheries Agency (FFA) has recorded a total value of 403 million USD dollars in the Solomon water. Today the Solomon Islands and its pacific islands neighbors are pursuing a market based approach instead of bilateral and multilateral agreement, with the objective of adding value to their benefit return. Currently the Parties to the Nauru Agreement (PNA) has been very persuasive on behalf of the member countries in the imposing of fishing limits through the Vessel Scheme Day (VSD) which has resulted in the increase of revenue collection for each members[3 above].

On the other hand, other ecosystem services provided by coastal and marine biodiversity remain poorly understood or appreciated by most Solomon islanders, particularly by the rural people. For example, mangrove ecosystem provide habitat for saltwater crocodile (*Crocodylus porosus*), provide biodiversity corridor between terrestrial and marine environment. It also played important symbiotic roles for other marine invertebrates and sequestrate carbon sink. Mangroves together with the literal zones and reefs platforms also provide a natural infrastructure from incoming waves. These ecosystem services formed an essential component of the environment where the livelihood of the people depends. As such healthy coastal and marine ecosystem will assure the resiliencies of the ecology and the social dynamic of the environment.

There has been an increasing evidence of the acceptance of the concept of ecosystem services, particularly by government agencies and stakeholder, as has now been reflected in a few project interventions objectives, embracing the ecosystem service concept. Alternatively, given the missing scientific informations of the status and trends of species, it is only sensible to pursue NBSAP on the concept of ecosystem services- which forms an immediate relationship with the day-to-day experiences and practices amongst the rural community.

2.4 Terrestrial Biodiversity

2.4.1 Status and trends

Terrestrial biodiversity is referred hereto, as forest, plant genetics, mountain and Island biodiversity. The Solomon Islands is featured as one of the world's most extensive forested countries in the world, and as noted, has been listed under the global 200 forest ecoregions, but with low plant endemism[18 above]. Been branded as a "Centre of Plant Diversity", the Solomon Islands plant species stand at a record of 4,500, where 3,200 are known to be native (indigenous). Current literatures have categorized Solomon Islands vegetation as; coastal strand vegetation, riverine forest, lowland forest, montane forest, or non-forest communities. Seasonal dry forest and grass lands are also present in parts of Guadalcanal and Central province (see fourth report)[18 above].

With respect to mountain ecosystem, its biodiversity is still poorly understood. However, they are less threatened from people's over uses and from commercial exploitation, due to their difficulty to access and because of the absence of commercially viable forest species particularly for logging. Mountain ecosystems are hosting some of the renown globally endangered species particularly birds which are continually put under threat from invasive species. As has been already substantiated, introduced cats have already responsible for the eliminating of most native mammals on Guadalcanal[21].

Mountain ecosystems are largely characterized by clout forest, which has been described to descends to 1200 meters on Guadalcanal and Kolombangara, 650 meter on Vangunu and

[21] Catherine E. F., Boseto, D., Filardi, C, E. 2007. A preliminary desk study identifying important Bird areas (IBAs) in the Solomon Islands, BirdLife International

Makira, and to 600 meter on Gatokae[21 above]. The local topography, rainfall variations and seasonality also has a direct bearing on the mountain biodiversity compositions. As noted these mountains remain as potential laboratory and served as important bird areas for globally endangered species and as such their protection is of global significance.

With respect to animal species, the Solomon Islands is presented with a high diversity, with Birdlife International having categorized the Solomon Islands "Endemic Bird Area" (EBA) with the "highest number of restricted range species in any Endemic Bird Areas" of the World. Current data showed that there are 163 species of birds found in the Solomon Islands where 69 of these species are endemic[15 above]. Terrestrial insects stand at a record of 14,511 which include 130 butterflies (30 endemic) and 31 cicada species. 19 out of 53 mammal species are endemic, and there are 80 species of reptiles. There are twenty one (21) identified frog species[22].

One of the underpinning cause of these diversity of animals species are the influences of the Island character, however, the Island character in itself, has also exposed the Solomon Islands biotas vulnerable, due to their restricted range and small population. Under today's accelerating loss of habitat and introduced species together with natural disasters such as tsunami, cyclone, earth quick and the climate changes have only worsen these threats. These features have also provided intriguing ideals for studying species diversities, extinction and evolutions.

In respect to threats, the most distracted and threatened terrestrial ecosystems are the lowland areas below 400 meters, particularly from activities like logging and clearance for subsistence agriculture (see table 2). Indicative of these threats have now been manifested in twenty (20) mammal species, twenty one (21) bird species, six (6) reptiles species, two (2) amphibians species, sixteen (16) fish species , four (4) insects species, two (2) bivalves species, one hundred and thirty four (134) anthozoans species , twenty (20) plants species, are now listed under the IUCN global threatened species. Two (2) ground birds are now believed to be extinct[15 above].

[22] Kool, J., T. Brewer, M. Mills, and R. Pressey. 2010. Ridges to reefs conservation for the Solomon Islands. Australia: ARC Centre of Excellence for Coral Reef Studies, James Cook University.

The current rate of habitat destruction particularly from logging is renowned for the indicative loss of associated biodiversity, and could underpin one of the main reasons for these species population decline. As noted in the fifth report, the remaining merchantable forest in 2011 has a stock of 4,627,459 cubic meters, and is decreasing at the rate of five (5) percent, which has implied on the same magnitude of loss of biodiversity (see table 2 and also refer to the 5th report for more information).

PROVINCE	2006 Assessment Update (M^3)	Commercial Forest Yield M^3/Ha	FRIS Update (M^3)		Remaining Merchantable forest Areas (Ha)	
			Remaining Merchantable Volume			
			2010	**2011**	2010	2011
Guadalcanal	481,200	12	238,218	238,218	26,681	26,681
Choiseul	2,573,000	31	1,756,783	897,760	98,477	98,415
Western	2,079,000	42	1,487,947	1,380,634	49,544	46,235
Malaita	751,400	26	652,912	817,032	52,372	60,339
Makira	487,200	28	178,571	178,114	14,628	14,408
Isabel	1,190,700	21	849,078	754,090	70,556	61,684
Central	279,300	49	203,677	203,677	7,003	7,003
Temotu	509,532	46	469,724	469,724	30,380	30,380
Rennel	466,703	14	442,333	373,941	49,963	35,672
Grand Total			**6,279,243**	**4,627,459**	**399,604**	**380,817**

Table 1: Remaining Merchantable Forest Area

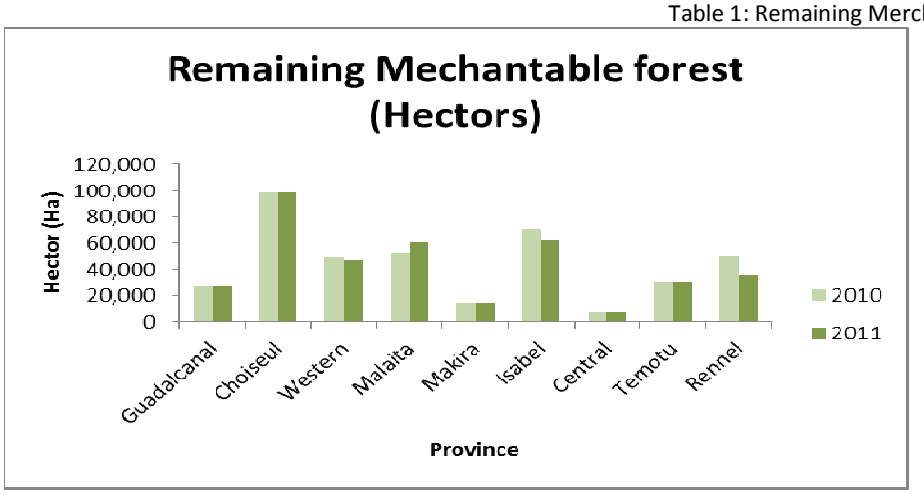


Figure 4: Remaining Merchantable forest (2011)

2.4.2 Importance of terrestrial biodiversity for people's livelihoods

The forest materials continue to support housing for the villagers and urban people, especially from canes, the roots of climbing *pundunus and* sago. It has been believed that, almost 90% of the village houses are still built from forest materials. The vast range of food

products derived from more than 600 forest products including, animals, and microbes. At the commercial front, the Solomon Islands over the past two decades depend on logging as its major source of foreign revenue source. Logging maintains and sustains the livelihoods of 85% of Solomon Islanders particularly living in rural areas through royalty and employment.

Figure 5: A typical village House

With the current projection of commercial native forest to be exhausted by 2020, efforts to maintain the remaining forest and biodiversity and restoring them have becoming an urgent need for actions.

Like the marine and coastal biodiversity, the poor understanding and the lack of appreciating of the terrestrial biodiversity's ecosystem services, have left the accelerating loss of terrestrial ecosystem to continue. To provide some insight of the many unnoticed ecosystem services provided by forest ecosystem, box 1 provide an overview of these services. This is with the intention to demonstrate the significance and urgent need for terrestrial biodiversity management in the country. The destructing of the forest ecosystem will ultimately affected the terrestrial ecosystem and the loosing of quality of life for the people.

The overview provide a qualitative elaboration of the ecosystem services in according to the categories provided in the MEA 2005 report[2 above]. A quantitative and a valuating study could provide a more valuable insight in placing prices on the forest ecosystem services rendered to the Solomon island people.

BOX 1: Solomon Islands forest ecosystem services

Provisioning Services

Food and fibre: Forest and its associate biodiversity have been supporting the Solomon Island people for century and continue to support them to date as sources of food. The 85 percent of people living in the rural area directly depend on forest materials to supplement their subsistent lifestyle. Forest materials also support urban people through the market chain. As noted forest materials provide 600 forest products as sources of food. In particular mountain people living in the main islands of Guadalcanal and Malaita mainly derive their

protein from wild pigs, possums, birds, plants and fungi. In the recent years there has been an increasingly gaining of income from the sale of forest products such as rattan and ngali nuts and plantation timbers[17 above].

Fuel: Solomon Islanders depend on wood, coconut husk and other forest products for house hold cooking, drying of copra, cocoa and other commercial products. Secondary forests are the most targeted, since they are easy to chop and carry. Collecting of woods are viewed as specialized duty where normally carried out by women and children.

Genetic resources: The forest genetic resources are still poorly understood, although, it is assumable to offer noble genes for biotechnology application owing to the diversity of plant species (e.g. 4,500 plant species).

Biochemical, natural medicines, and pharmaceuticals: The rich traditional herbal medicinal uses, implied that the potential of important biochemical and pharmaceutical composition is also high.

Ornamental resources: Wild orchids are widely used as ornaments and there remain potential ornamental wild plants that can be put into cultivar.

Housing/ Timber: The Solomon Islands over the past two decades depend on logging, as its major foreign revenue source. Commercial native trees for the past 20 years contribute to 70% -80% of export. Forest materials continue to support housing for the village houses and town buildings. A typical village house is built from forest biodiversity using materials such as canes, the root of climbing pundunus, bamboo, mangrove trunk, wood, and sago palms. Marovo and Renbel people are also popular for their specialized skills in wood carving. A wooden carved material is normally priced between US $10 and US $5000.

Regulating Services

Air quality maintenance: The chemicals released by the forest biodiversity-microbe, plant and animal species, produces the affinity for neutralizing, extracting of chemicals from the atmosphere, and influencing many aspects of air quality and altering chemical composition conducive for human health.

Climate regulation: Forests influence climate, locally and globally. For example, in Honiara, the changes in land cover for urban expansion, have impacted on a progressive increase of temperature over the past decades and reduces precipitation. At the global scale, forest ecosystems play an important role in sequestrating carbon.

Water regulation: The timing and the magnitude of runoff, flooding, and aquifer recharges are strongly influenced by changes in the land cover. Changes of land cover can also affect water table, and subsequently affecting drinking water sources. The shortages of water supply in urban towns and some villages in the Solomon Islands could be alluded to the removing of trees and vegetation around the water sources. For example, the water shortages in Honiara and Aucki in the past years could be directly linked to the removal of forest by logging in catchment areas.

Erosion control: Vegetative cover plays an important role in soil retention and the prevention of landslides.

Storm protection: The presence of coastal forests including mangroves dramatically reduce the likely damage that could cause by surge waves. Coastal forests insulate inland from the sea level rise. In particular vegetation and trees along river could help prevent soil erosion during floods and provide the first insulation from inland flow of water during heavy rains. As demonstrated in figure 5, standing trees have prevented incoming flow of flood that would have destroyed the building during the April 10, 2014 flashflood. The flash flood has resulted in many dead and many homes destroyed.

Regulation of human diseases: The removing of forest and the associated biodiversity often changes ecosystems and created conducive environment for human pathogens such as cholera and disease vectors such as mosquitos. Such is reflected in the creating of small rain water ponds and exposing swamps to sunlight.

Figure 5: April 10th 2014 flash flood: Mataniko river

Biological control: Changes of ecosystems such as removal of native forest and vegetation allow invasive species, pests and diseases to take over native species. For example the exposure of swampy area to sunlight provided a breeding ground for toads in many parts of the Solomon Islands and has been causing many nuisance.

Pollination: Pollinators co-evolve with a particular forest and vegetation, and by removing these vegetation, would ultimately affected the pollination processes, for both agricultural crops and plant biodiversity.

Cultural Services

Cultural diversity: The cultural landscape in the Solomon Islands is shaped by the diversity of ecosystems of which people associate with. The cultural practices and norms of the interior Malaitan who associate much with montane forest differ in many respects to their costal population who associated with the coastal environment. This segregated association is also reflected when tribal group places culturally significant values to species inhabitants - either for their uses such as medicine or observed as taboo.

Religious norms and values: Contemporary religious practices in the Solomon Islands have reinforced the traditional norms and practices by attaching values to ecosystems and their components. Ancestral sacrificial sites, burial sites and other secrete grooves, in many respects are still kept and observed. The modern SDA sects of Christianity restricted themselves from using certain species. It is within this view that the current conservation effort is promoted, pursuing the need for conserving species along the view of been a good stewards for God's creations.

Knowledge systems: Forest ecosystems influence the types of knowledge systems developed by different tribal groups. As it often found amongst the islanders, the kinship system is developed and consolidated by land inheritances i.e. a relationship between two people is normally confirmed by a common land of inheritance.

Educational values: Forest ecosystems or biodiversity in general provide the basis for formal and informal education. The Solomon vegetation provides outstanding avenues for researches, particularly because the Solomon Islands biodiversity is still poorly studied. It provides a medium for early childhood education, primary, secondary, tertiary and visitors educations.

Institutional development: The concern for terrestrial biodiversity management provide a medium for institutional development, particularly within the interdisciplinary approaches such as integrated forest management, integrated water management, policy development and the likes.

Inspiration: Been branded as the 200 most important "ecoregions" in the world, in itself have already instigating pride to the Solomon islanders- as people living in a country of high biodiversity values. Forest biodiversity provide a rich source of inspiration for art, folklore, national symbols, architecture and advertisements.

Aesthetic values: Solomon islanders and its government is taking pride over the relative pristine environment including forest, and is striving very hard to maintain the health status, through various conservation interventions, in ensuring its aesthetic values is continuing to provide the selling product for eco-tourism industry. Besides been motivated from a tourism oriented dimension, many Solomon Island people also find beauty in various aspects of ecosystems, as has now reflected in the steady increase of protected area, and has been shaping village settlements over decades.

Social relations: Ecosystems influence the types of social relations that are established in particular cultures. The mountain people of Guadalcanal, for example, differ in many respects in their social characters, to their

coastal counterparts. In parts of Malaita clans land boundary are overlaps, where these overlap signified the kinship system and symbolizes the commonness between the two adjacent clans. In time of dispute this commonness as symbolizes in the common boundary stood as the first medium for resolving of disputes.

Sense of place: Many people value the "sense of place" that is associated with recognized features of their environment, including aspects of the forest ecosystem.

Cultural heritage values: In the Solomon Islands several sites including mountains and trees continue to play spiritual/cultural significance for the villagers. Ancestral significant areas are still maintained and observed as part of cultural evidences of land tenures. Forest animals like snakes, eagles, lizards are still observed as taboo by various tribes.

Recreation and ecotourism: People often choose where to spend their leisure time based on the characteristics of the natural or cultivated landscapes. Forests provide outstanding sceneries for tourism and recreation. In the Solomon Islands, forest based recreation is still minimal or at least there is none from a commercial perspective[23]. However, traditional recreational practices such as hunting for wild pigs, birds, food gathering etc are still maintained across the archipelagos, often assumed to be driven by recreational behaviors.

Supporting Services

Depending on circumstances and interpretations the above regulatory or cultural services can be also branded as supporting services. Forest and vegetation are the primary producers for the terrestrial food web including aquatic life. Plants are the primary food producers and when decomposed carried by runoff to the fresh water and marine organism through flowing water. Legumes trap nutrients from the air including bacteria that shelter the under forest. Forests provide nursery for the many terrestrial organisms, including plants and animals, fungi and microorganism. As noted frog and birds are highly specialized and associated with specialized habitat.

2.5 Inland water biodiversity

2.5.1 Status

Water (H_2O) is an essential element for all living organisms and is branded here as one of the provisioning service. Inland water plays a significant role in all terrestrial and aquatic ecosystems and organisms.

The Solomon Island's river systems vary across the islands and together with their catchment areas, drainage density, annual discharge and geomorphology, presented with a diverse

Figure 6: Heo river in Malaita

[23] Pauku, R (2009). Solomon Islands forestry outlook study, Asia-Pacific forestry sector outllookn11, Working paper series, No. APFSOS II/WP/2009/31

inland water system. The wide range of river systems has a strong influence on the freshwater and estuarine habitats in the country. Current animal species count stands at a record of 43 fresh water fish species with a relatively high endemism. Inland water insect count stands at 175 species where fourthly five (45) of these insects are endemic[22 above]. The fresh water biodiversity remains as the poorest known amongst the classes of biodiversity which emphasis a much greater need for undertaken biodiversity assessments on freshwater biodiversity.

Wairaha located in Malaita is the largest river system of the Solomon Islands covering a 486km ^{2} in catchments and together with other rivers have accounted for more than 2/3 of the Malaita land mass[24]. This proportion of catchment to landmass has also denoted the level of importance of water on the terrestrial biodiversity and its people. In particular, inland water system has a strong influence on avifauna distribution[25].

It follows that the chains of volcanic peaks have a strong influences on the existing river system forming linear networks, draining away from the mountains. Such characteristic of fresh water system is found on Santa Isabel. The steep volcanic islands with low permeability bedrock allow rainwater to run off to form river channels. In contrast, permeable limestone islands with low gradients enable rainwater to percolate rapidly into the groundwater rather than running off to create surface drainage channels, which make atoll islands of the Solomon Islands with only few freshwater appearing from lower rocks as characterised the Reef islands and Ontongava of Malaita. Salt water intrusions are an emerging problem during this time of sea level rise as a result of climate changes.

2.5.2 Importance of inland water biodiversity for people livelihoods.

Fresh water is used for drinking and household uses, industrial, agricultural and power generation. Inland water biodiversity such as bony fish, fresh water eels, gastropods, bivalves, prawns, crabs, taro, giant swamp taro, ferns supports subsistence life. These

[24] Peter, C, G., J, S. Marcus., J, P. Terry., D, T. Boseto., J, C. Ellison., B, S. Figa. and J, Wani. 2011. Vulnerability of freshwater and estuarine fish habitats in the tropical Pacific to climate change

[25] Kratter,W, A., Steadman,D,W., Smith, C,E., Filardi, C,E., and H.P. Webb. 2011. Avifauna of a lowland forest site on Isabel, Solomon Islands. The Auk 118, no. 2:472–483

products are also sold in local markets. Crocodile skins and shells are used for ornaments. Sago palm and bamboos are used for building materials. Water regulates the abundance of human pathogens, such as cholera, and altered the abundance of disease vectors, such as mosquitoes. The state of water and the supporting services depend on the type of the water system. In general human waste and sediment loads from poor land use practices has polluted all rivers system in the country where Honiara river have stood as a very clear examples (see table 2 and 5th report for further elaborations).

2.6 Agro-biodiversity[26]

2.6.1 Status, trends and importance of agro-biodiversity for people's well-being

The Solomon Islands is characterizes as an agrarian country where 85 percent of the people are smallholder farmers. Farming is distributed along customary boundaries, as such agriculture development is constrained by communal land property regimes. Farming is therefore viewed as environmental friendly as a consequence of the property ownership regimes which leaves biodiversity corridors in between the farms. This is also reaffirmed when more than 85 percent of the area identified as suitable for livestock (the Agricultural Opportunity Areas (AOAs) is still unused. Out grower scheme of Guadalcanal Plains Palm Oil Limited (GPPOL) also resonates this practice and has been successful ever since.

Figure 7: Fruits displayed in Honiara market

On the other hand, many of the cultivated plants such as yams (*Dioscorea spp.),* taro (*Colocasia esculenta*), giant swamp taro (*Cyrtosperma merkussi*) and sweet potatoes (*Ipomoea batatas*) and fruit crops such as bananas (*Musa spp.*) and water melon (*Citrullu slanatus*) serve as the people's main staple diet. Betel nut is a common cultural species where nuts chewed with limes. At least 1 in 10 people in the Solomon Island

[26] are the components of biological diversity of relevance to food and agriculture, and all components of biological diversity that constitute the agricultural ecosystems (agro-ecosystems), the variety and variability of animals, plants and micro-organisms, at the genetic, species and ecosystem levels, which are necessary to sustain key functions of the agro-ecosystem, its structure and processes .

practice betel nut chewing and betel nut industry employ at least 20 percent of the informal sector.

Economically, agricultural sector contribution goes further than the SBD $75,300,000.00 earned by the few commercial farms and the 11,859 workers employed on them.[27] Agricultural products represent 24.2 percent of the national exports and underpin one in five jobs in the entire economy. Cocoa and coconut present the most popular commercial crops. They also presented with different varieties as such contributed to genetic diversity of plant species.

Islanders often use glarycydia, banana, taro, melon and root crops prior cocoa and coconut planting. Otherwise, native shrubs are progressively removed while the coconut and cocoa seedling take their places. Plants are also used as biological control - to control fruit fly, the cocoa pod borer, African snail, rats and birds. Agro-forestry is also picking up with an emphasis on three introduced species, eucalyptus, teak and mahogany.

Figure 8 : Pigs from Temotu loaded onto Point Cruze wharf

In the livestock sub-sector, the most popular breeds are -*Sus papuensis and* the feral pig. Pigs also play a significant social contribution such as paying of pride price and dispute resolutions. In average one head of pig cost approximately US$200. On the other hand chickens and ducks are normally raised as free-range in the villages. Dogs and cats are also raised as pets, used for hunting and the controlling of rats. The honey bee, the latest addition to the livestock is becoming popular amongst the rural farmers.

Aquaculture on the other hand, is picking up and is pioneer by seaweed, corals and clams planting for ornamental trade. Prawn (Macrobrachium and pennaied prawn) production

[27] MECDM (2012) National Biosafety framework 2012, MECDM, Honiara, Solomon Islands

have made little progress in the past years. The aquarium and curio trade represented less than 3 percent of the direct economic value and involved less than 7 percent of the population[3 above].

2.7 Threats and management constrains

The threats underpinning the biodiversity health within the Solomon Islands political and geographical boundary vary between islands, ecosystems and taxa. In particular these threats are largely localized. The most widespread threat is poor land use management particularly from logging and poor agricultural practices. Other notable threats such as waste, invasive species, climate change, and urbanization have been compounded these pressures. Table 2 shows the summary of the key threats to the Solomon Islands biodiversity by ecosystems and taxonomic groups (also see fifth national report for a detail analysis of each threat under each class of biodiversity). Given the complexity of issues pertaining to the loss of biodiversity, efforts made to manage threats are seldom adequate, owing to numerous management constrains as identified as follow;

(**1) Lack of biodiversity value:** The inadequacy in addressing the underpinning causes of the loss of biodiversity is in part, a reflection of the absence of biodiversity precept amongst the regulators, stakeholders, businesses and in general, the people of the Solomon Islands. The continuity of people engaging in activities that continue to contribute to the loss of biodiversity, such as, the willful killing of animal and burning of bushes are a few demonstrations of the absence of these biodiversity values. The lack of biodiversity precepts is also obvious within the government sphere, which is demonstrated when environmental protection agency e.g. MECDM has been often marginalized in funding allocations.

Likewise, the current conservation intervention efforts' failure to instill relevant people's behavior to act in favor of biodiversity could also demonstrate the absence of this biodiversity value. Biodiversity management knowledge as often been showcased in these conservation intervention, does not automatically guaranty the embodiment of biodiversity value amongst the people. Under this point of view, the NBSAP is crafted to provide the starting point, by providing a necessary road map for the instigating of people and

institutional behavioral changes, to help the Solomon Islands society, to start navigating purposefully towards the adopted vision.

(2) Institutional constrains, poor enforcements and none compliances: Been devoid from the biodiversity precept, the current institutional rule mismatches have never been resolved, or properly articulated to help shape behavior in favor of biodiversity, hence impacted on the ineffectiveness of the enforcements and implementations of environmental related policies. This has been demonstrated when there has been a lack of strategic action plan to collate and holistically interpreted these discrete rules- international or regional conventions, national, provincial or local laws, policies and management plans into a meaningful and synergized policy directives.

These rule mismatches have a direct negative bearing on the institutional functional roles, resulting in available limited human resources absorbing into an expanded and irrelevant activity that are not related to those given mandated roles. In addition, the uncoordinated network between stakeholders has also downplaying on the effectiveness of environment services deliverances to the rural people.

The lack of incentives provided for those dedicated communities towards implementing conservation activities has only strengthened the evidence for the absence of biodiversity value. The twin principles- **enforcements** and **incentives** are viewed as essential necessities for producing a short term environmental outcome, as the first stepping stones for instigating the necessary changes required for creating a society that uphold biodiversity values.

(3) Financial constrains: While the government financial support towards biodiversity management is seldom sufficient, the offset by partners and projects interventions in part, are here only for a short period of time. As noted instilling of biodiversity value into people's behavior require consisting and continuous partnership over generations. The short time frames of these interventions have no way close to guarantee the necessary behavioral changes.

Competition between stakeholders and poor coordination amongst themselves in general has always consumed larger proportion of available limited financial resources at the national level. As noted above the lack of incentives, emanating from poor policy directive have already impacted on the poor deliverances of environmental services, poor coordination, has only compounded the inefficiency of policies implementations.

(4) Lack of information: There has been an uneven knowledge and available information on the various class of biodiversity in the Solomon Islands. The absence of these biodiversity knowledge which include their status and trend are a stumbling block for articulating of relevant rules to adequately redress biodiversity loss. Even with relevant and sufficient information are in place, their application in decision making is still lacking.

Further, the poor financial capacity has also downplaying on the need for engaging with relevant external experts and enabling the transferring of relevant technology from outside the country. Traditional knowledge is also underutilized and in times, are only used to mount evidences against other form of knowledge makings. These have all been contributing to missing information that are otherwise, required for better biodiversity decision makings.

Table 2: Summary of status of ecosystems and taxonomic groups and the key threats[28]			
Status score	Biomes/Biodiversity	Ecosystem	Description of key threats
	Forest	lowland rainforest	The most noticeable threats to the lowland rainforest are logging and poor land use management. In between the year 2010 and 2011, it has been recorded that there was a 5 percent declining rate of merchantable forest, which estimated the merchantable forest to be completely vanished by 2020 if the rate of logging remains at that same rate. These also reflect the magnitude of loss to the associated biodiversity.
		riverine forest	Threats to riverine forests vary, and subject to similar destruction like lowland rainforest. Although riverine forests are protected by Solomon islands laws, noncompliance by logging companies have led to occasional harvesting. Riverine forests are also cleared for subsistence farming.
		grassland	Grassland is only found on the island of Guadalcanal and Gnella of Central province and occasionally underwent bushfire. Urban expansion in Honiara poses a direct threat to Guadalcanal grassland.
	Mountain	Montane	Montane ecosystem is legally protected and often inaccessible by villagers and developers as such been less threatened. However, invasive species and climate change are a few identified direct threats to mountain biodiversity, particularly birds and frogs.
	Island	Island	Atoll and artificially build islands are mostly threatened by climate change and invasive species, and with those inhabited islands, they are also threatened by over crowdedness, waste and overharvesting of species.
	Inland Water	upstream	Many upstream rivers are less threatened because of the lesser frequent visit by people. Most villages are on the coastal area leaving upstream less disturbed. However, poor land use practices particularly from logging and large mono-crops and mining in some islands e.g. Guadalcanal have directly threating some of the upstream river system. Some upstream may also subject to overharvesting.
		downstream	Most downstream rivers are largely polluted from all form of waste including wastes from logging and poor land use practices. Overharvesting of some of the edible species is also possible.
		lake	Only a few lakes exist in the country with the largest declared as a world Heritage site but is under threat from logging and mining. Other lakes for example those in Malaita may also threatened by poor land use practices and urbanization.

[28] Refer to the 4th and the 5th report to the CBD for more descriptive elaborations

	Agro-biodiversity	Native agricultural species	The cultivating of native species are in sharp decline due to the loss of customary valuable practices, such as the loss of their cultivating methods. Native species are becoming viewed as inferior to the introduced species which are contributing to the loss of native agricultural crops.
		Native aquaculture species	A few native species are under investigation for their potentials for aquaculture developments. Aquaculture development has been constrained by poor technology and the lack of technical knowledge.
	Coastal	estuaries	Threats to estuaries are localized and there are only a few in the country. The most noticeable threat is from waste and overharvesting of eatable species.
		coastal strand vegetation	Coastal strand vegetation as often classed under lowland forest are largely threatened from poor land use practices, such as logging, subsistence agriculture and large scale mono-cropping. Commercial species in these areas have largely removed for coconut plantation during the reign of England protectorate. They continue to be subjected to exploitation for the day-to-day house hold uses. It follows that waste, climate change and invasive species have pushed threats to coastal strand vegetation to a much higher level.
		Mangrove	Mangrove have the similar threats, as the coastal vegetation and in some places, the species of mangroves may have undergone overharvesting.
		coral	Corals are mainly threatened by poor land uses practices where water turbidity caused by logging, urbanization, mining and large scale mono-crops have been suffocating those symbiotic coral building anemones. Human waste and climate change have compounded these threats. Invasive species such as the crown-of-star-fish is also posing some threat to coral. Some coral species of management concerns are, *Australogyra zelli, Australomussa rowleyensis, Nemenzophyllia turbida, Palauastrea ramose, Seriatopora aculeate, Seriatopora dendritica.*
		Sea grass	The most noticeable threats to seagrass are from water turbidly due to poor land management. Seagrass bears no direct benefit to people and therefore, the lack of management interventions is also posing threat to seagrass and those animals that feed on them.
	Marine	SI Marine and (EEZ)	Big-eye- tuna are believed to be overharvested. Tuna-bycatch is also posing a major threat to other species such as sharks, dolphin, turtle etc. In addition waste has been evidently becoming problematic for marine species.

Taxonomic groups			
	Fish	tuna	Tuna species are threatened from overharvesting from fishing industries which has now resulted in the big eye tuna listed under the IUCN threatened list. Other species are believed to be harvested at a sustainable rate, where the current management regimes offering a world class lesson.
		Shark	Because of no management plan and insufficient data for this group, in themselves, poses threat to shark population. Tuna-by-catch is also problematic. Fin export has been regulated under the Solomon Islands law.
		Coastal fish	Coastal fish are threatened from overharvesting, waste, climate change and others. Current record shows that some coral fish species are listed under the IUCN threatened list. This includes; *Plectropomus leopardus, Negaprion acutidens, Vanderhorstia attenuate and Paraxenisthmus springeri.* The continuity of harvesting the species poses the greatest threat to the threatened species.
	Mammals	Dugong	Dugong is listed as critically endangered and the harvesting of the species in parts of the Solomon islands, and the destruction of its ecosystem such as the seagrass have poses threat to the species population.
		Dolphin	Bottlenose dolphin is in decline in parts of the islands and has been threatened from traditional hunting and tuna by catch.
	Reptiles	Turtle	There are 5 species of turtles commonly found in the Solomon island water and are all listed under the IUCN threatened list. These includes; *Eretmochelys* imbricate which has now branded as critically endangered (CE), *Chelonia mydas* been branded as endangered (EN), *Dermochelys coriacea* Lepidochelys *olivacea*, been branded as vulnerable (VU) and *Caretta caretta* been branded as endangered (EN). The populations of these species are continuously under threats from harvesting. A few management intervention by various CBO initiatives are also under operation including the protecting of turtle's nesting sites and artificial incubation of eggs.
	Amphibians	frog	Native frogs have mainly threatened from habitat destructions and as such mountain frogs are less threatened. Interspecific competition between the introduced toad, added to the threats. Two amphibians are now listed as threatened under the IUCN list.
	birds	Terrestrial and sea birds	Like frogs, habitat destruction poses the most noticeable threat to birds. Leisure bird killing also poses another threat. In places where habitat destruction is absent, invasive species such as dogs,

			cats and pigs left no chances for birds to escape any form of threat. Currently, twenty one (21) bird species are listed under the IUCN threatened list and two have believed to be gone extinct. In all case ground dwelling endemic birds are the worst threatened.
	Arthropoda	Crustacean	Threats to this group of animal, is also alluded to the destruction of their habitats. Threats varies across the taxa and across the islands with high pressure been imposed to those eatable and commercial species such as lobster and the coconut crab.
		insect	The group encountered similar threats to crustaceans and in particular from logging activities and poor land uses practices. Four (4) insects species are listed under the IUCN threatened list.
	Echinoderms	Sea cucumber	Been popular for its lucrative price, sea cucumber has been branded as overharvested and the Solomon island government has imposed periotic export closure for this group.
	mollusc	bivalve	Been subjected to their habitat destruction, several species are also likely to be overharvested in some areas.
		gastropods	Gastropods have similar threats to bivalve, and anecdote evidence has already shown that some of these species are already overharvested in various areas in the Solomon islands particularly those coastal species.
		cephalopods	Cephalopods could have already subjected to overharvesting since they are rarely seen or sold in the local market. Insufficient data to verify this only left the group from any proper management interventions.
	Plants	Terrestrial plants	Terrestrial plants are largely threatened from habitat destruction particularly from logging, poor agricultural practices such as slash and burn, mono-cropping and mining activities. Twenty (20) plants species are now listed under the global threatened species.
	Fungi	fungi	Fungi has similar threats as plants and because of the poor data their management is also difficult.

score	Health status
	In good health
	varies across the ecosystem and islands
	In decline/bad health (The most urgent for management intervention)

2.8 Lesson Learned from NBSAP implementations

The NBSAP's[29] lessons learned, espoused from the outcomes of the CBD implementation was first attributed to the development, the enactment and the enforcement of the Environment Act (1998). Under the Act, the Environment and Conservation Division (ECD) has given the mandate for oversighting the environmental management in the country. The division has given a boost to its human resources in 2007, at the time when the Ministry of Environment, Conservation, and Meteorology (MECDM) was established. The establishment of the Climate Change Division (CCD) under the ministry and the amalgamating of the National Disaster Management Division (DMD) has also allowed the synergy between biodiversity, climate change and disaster risk management, a practical possibility. However, its effect and realisation was a recent undertaken through GEF project interventions, facilitated by World Bank[30] and UNDP.

While environment provisions are sufficiently provided under many sister ministries' sectorial policies (see part 3), their implementations have been only realised through an active networking between the ministries and their stakeholders. As mandated by the Environment Act, the MECDM works with the Ministry of Development Planning and Aid Coordination (MDPAC), the Ministry of Agriculture and Livestock (MAL), the Ministry of Fisheries and Marine Resources (MFMR), the Ministry of Forestry and Research (MFR), the Ministry of Commerce Industries Labour and Immigration (MCILM), the Ministry of Culture and Tourism (MCT), the Ministry of Foreign Affairs and External Trade (MFAET), the Ministry of Finance and Treasury (MFT) , the Ministry of Rural Development (MRD), the Ministry of Women Youth and Children's Affair (MWYCA), in various environment related issues. At the sub-national level, the "devolution order" has authorised provincial governments to formulate their own regulations to devolve functions to help address environmental issues.

[29] See the fifth report particularly the executive summary, chapter 1, 3 and annex 1 for supporting lesson learned.
[30] For example see https://www.thegef.org/gef/project_detail?projID=5581

Been designed as regulators and service providers[31] for the custodians of natural resources (rural people and their development partners and business sectors), left sister ministries, to be more advance in implementing the CBD objectives, in the area of their functional mandates. For example, the MFR is the only ministry that is currently operating an ex-situ conservation in the Solomon Islands, known as the Botanical Garden which is located in Honiara. On the other hand the Ministry of Fisheries and Marine Resources (MFMR) has established a framework for community-based resources management (CBRM) which has been very successful since, often been showcased and promulgated by the emerging protected area network (Solomon Islands Locally Marine Managed Area (SILMMA). SILMMA becomes a powerful forum for NGOs, GOs and CBOs collaboration in marine and coastal biodiversity managements.

It follows that the MFMR commitment to the CBD implementation, goes further by enabling, the enactment of the Fisheries management Act (2015)[32]. As it currently stand, the Act's objective is 'to ensure the long term management, conservation, development and sustainable use of Solomon Islands fisheries and marine ecosystems for the benefits of the people of the Solomon Islands'. In parallel to the revising of this NBSAP, the actions points proposed in the NBSAP have already adopted into this Fisheries management Act. On the other hand, the subregional initiative, particularly the Party to the Nauru Agreement has been persuasive enough to add values and economic return to tuna development to the island nations which has reflected in a five (5) fold increase of value returns.

Furthermore, in addition to the functional roles of the ECD, biodiversity management has given the greatest boost from the assistance from international environment organisations partners, particularly from the Foundation of the Peoples of the South Pacific (FSPI), Conservation International (CI) , The International Union for Conservation of Nature (IUCN), World Fish Centre (WFC), World Wide Fund for Nature (WWF), The Nature of Conservancy (TNC) and others. Stakeholder participation has stood as one of the outstanding lessons learned. Solomon Islands government has then instituted such arrangement under the Protected Area Act (2010).

[31] National government ministries and provincial governments

[32] http://www.parliament.gov.sb/files/legislation/10th_Parliament/Acts/2015/Fisheries Management Act 2015.pdf

In a recent national effort, to create unity between the endemic divided tribal societies, and to instigate the creating of a sense of nationhood, conservation oriented community based organisation (CBO), has already offering a practical and living examples for reforming of local governances. The Anavon conservation initiative for example, has demonstrated vigour in resolving tribal differences between the customary owners of Choiseul and Isabel provinces. Lauru Land Conference of Tribal Community (LLCTC) on the other hand, has emerged as a powerful indigenous movement with the intention to shape and revive traditional cultural practices while promoting rural development of Choiseul province.

There has been an anecdote evidence to support the view that the NBSAP since coming into effect in 2010, has been pursued discretely, and in particular viewed as an additional duty for the ECD staff. Its concurrent objectives and implementation within other ministries and relevant project particularly those under UNDP have never been viewed as linked to NBSAP implementation. Nevertheless, immediately after the first NBSAP (2009) was endorsed, the Solomon Islands has already enacted the Protected Area Act (2010). It follows with the gazette of the Protected Area Regulation in 2012. Within the same timeframe, the reviewing of the NBSAP has unfolded. At this juncture, the revising of the NBSAP is adopted as a continuity of the implementation of the NBSAP (2009) (see fifth report for full analysis).

While the NBSAP (2009) has believed to devoid SMART and reflected a poor link to the 2010 global targets, the improvement of the current structure is also an attribute that reflected the development phase of the policy. It has customized the global biodiversity strategy[7] [above] and its Aichi targets to local context and circumstances, allowing it to be further customized to the relevant organizational strategies during implementation. Under this sift of paradigm, the NBSAP (2009) and the revised version are viewed as one, and provided an accumulative and contingent lesson learned for the CBD and the Environment Act implementation. The underlining phenomenon and the cause of biodiversity loss are universally common and the possible solution is therefore almost universally common.

Under the above concept and in particular relevance to environmental education and public awareness, it has been noted that informal environmental education have been largely

promoted through the protected area programme throughout the Solomon Islands and have been promoted by environmental NGOs. Informal environment education in the forms of workshops, awareness and consultation has stretched back to the 1990s.

At the formal edge, the inclusion of environment subjects in tertiary, secondary, primary education and the newly adopted early childhood curriculum has given a great boost in the fall of the new millennium. Under the Solomon Islands Millennium Development Goal (MDG) goal 2, it is the ultimate aim to involve all children in primary education by 2015 and, this has assured all Solomon Island children to expose to some form of environment education.

It is therefore, the ultimate intention of this revised NBSAP that environmental education and awareness must be enhanced within the specialised areas of intervention, to ensure biodiversity knowledge (content) formed the underpinning cause for people's and intuitional behavioural changes. The NBSAP remains optimistic that its structure and contents will be helpful to influence the content and the structure of the newly adopted country strategy in the forthcoming Sustainable Development Goal (SDG), to serve as the post MDG.

With respect to governance, compliances and enforcements, the MECDM is planning to instil an enforcement unit, to serve, in complimentary to those that have already established in sister ministries. The holistic interpretation of laws is also becoming popular with a great boost in the EIA application in logging industries since 2013. As noted the Fisheries management Act (2015), has already reciprocated the NBSAP revision and likewise the Biosecurity Act (2013) has the same reciprocal beneficial effects.

Furthermore, the draft Solomon Island Federal Constitution has explicitly provided the provisions and the principles for environmental protection. Since coming into power the Democratic Coalition for Change Government (DCCG) has showed a serious commitment for biodiversity protection as has it appeared in the DCCG policy statement. Such commitment is reflected in action such as the need for reviewing of the Environment Act and Wildlife Protection and Management Act; improving waste management and disposal in the Solomon Islands; protecting and promoting the biological diversity in the country; and

promoting and protecting World Heritage sites in the country. This statement has reinforces the *political will* for biodiversity management in the country.

With respect to sustainable finance, and in particular reference to the adopted financial mechanisms envisaged for supporting the implementing the NBSAP, the Global Environment Facility (GEF)[33] interventions has continued to boost and showed their presence through the various implementing agencies such as the UNDP, UNEP, FAO and the World Bank. Other donors have assisted, notably the EU, AusAID, Japan Aid, the German Society for International Cooperation, NZAID and USAID. In parallel, many international NGOs working in the country are leveraging international resources to facilitate environmental programmes in the country (see resources mobilisation plan).

At the domestic level, the government allocation towards MECDM has been progressively increasing over the successive year which has reflected the government commitment to biodiversity protection. In addition, the new Protected Areas Act has legalized the establishment of a Trust Fund to assist in the development of conservation areas and other biodiversity- related activities. Initiatives for the implementation of the trust fund are now under development.

Under the priority on research, traditional knowledge, science, information system and technology and in particular relevance to monitoring and reporting, the production of the State of the Environment Report (2008)[34], National Adaptation Program of Action (2008), Second National Communication on the impact of climate change on biodiversity required under the UNFCCC (2010) and implementation of the Programme of Work on Protected Areas (PoWPA), have generated volumes of information and knowledge which help to catalyse efforts towards conservation and biodiversity-related activities. Subsequently the recent publication of the fifth report has added to the momentum[3 above].

[33] http://www.thegef.org/gef/project_list?keyword=&countryCode=SB&focalAreaCode=all&agencyCode=all&projectType=all&fundingSource=all&approvalFYFrom=all&approvalFYTo=all&ltgt=lt&ltgtAmt=&op=Search&form_build_id=form-c531b633a4254496b99b33c39648f5b3&form_id=prjsearch_searchfrm

[34] Pacific Horizon Consultancy Group. 2008. Solomon Islands State of the Environment report 2008, Ministry of Environment Conservation and Meteorology, Honiara, Solomon Islands

Furthermore, researches under the adopted specialised priority areas, have made great advancement, owning to regional and global collaboration. For instance within the marine biodiversity, the assistance from the FFA and others regional bodies have elevated monitoring of tuna species to a much higher level, than what the country could do alone. With respect to agro-biodiversity, Solomon Islands has collected and deposited accessions in the regional germplasm banks within the Pacific Commission.

Putting the NBSAP (2009) implementation to justice, under a closer attention, it is assumed that the most significant lesson learned offered, is provided within the theme of protected area management. As noted, protected area management practices have already stretched back into the late 1990s resulting in many protected areas governed by community based resources management arrangement. As noted, SILMMA operating under the MFMR has been very focal in advancing the costal marine protected area in the Solomon Islands. In respect to the terrestrial biodiversity, the Solomon Islands Community Conservation Partnership (SICCP), has tirelessly working with local communities to protect critical terrestrial ecosystems, that are identified as local important areas harboring endangered and critically endangered species under IUCN criteria.

On the same topic on protected area and in particular relevance to theme, three on protected area system of the NBSAP (2009), several ecological gap analysis reports have already identified critically important sites for protection. The first was attempted by Lees (1990)[35] who has proposed various sites in the Solomon Islands to be protected to ensure a representativeness of protected forest system for the Solomon. Kool et al (2010)[22 above] on the other hand has proposed sites in the Solomon Islands to be protected to present ecosystem representativeness by 10 percent. More recently, the USP (2012)[15 above] has selected various sites in the Solomon islands to be protected to produce species and ecosystem conservation outcomes for threatened and endemic species. These proposed sites have been listed as the targeted areas in the Solomon Islands Plan of Action on

[35] Lees, A., 1990. A Representative Protected Forest System for the Solomon Islands, Marui Society , PO Box 756, Nelson, New Zealand.

Protected Area (PoWPA)[36]. The PoWPA has been reviewed and adopted into this revised NBSAP.

Furthermore, under the Kool et al (2010) proposal, the Choiseul province[37] and the Isabel province[38] with the assistance from TNC, have customized the 10 percent target to a 20 percent target in their respective provincial ridge-to-reef plan, taking into account various scenarios under the climate change. In here, a 3-G modal was used to visualize the ecological, economic and cultural importance of the landscape which enabled the communities to come up with their final plans. The popularity and the effectiveness of the modal has now resulted in their adoption in several project designs, in scaling up the approach in other provinces and elsewhere in the Pacific countries. The UNDP regional project titled 'R2R- Pacific Islands Ridge-to-Reef National Priorities â "Integrated Water, Land, Forest and Coastal Management to Preserve Biodiversity, Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods[39]' demonstrated one of this example.

Furthermore, on the theme of protected area, the FAO project titled the 'Integrated Forest Management in the Solomon Islands (2014-2018)[13 above], may help the Solomon island to achieve its 10 percent target on protected area. While most of the protected area interventions focused primarily on preservation ideals, there is also a critical need for investing in restorative initiatives. Since 2012 there has been a steady increase of initiative in restorative initiatives by government ministries and its stakeholders.

Finally, the revised NBSAP is indented to shape a new paradigm shift, and to embark on the need for improving coordination between relevant stakeholders, as a step towards the reshaping of the society to navigate purposefully towards its vision. First and foremost, is the need to refocus on the strengthening of once-self, as the prerequisite for the

[36] Solomon Islands Programme of Work Action on Protected Area Plan of action, http://www.cbd.int/doc/world/sb/sb-nbsap-powpa-en.pdf

[37] Geoff Lipsett-Moore, Richard Hamilton, Nate Peterson, Edward Game, Willie Atu, Jimmy Kereseka, John Pita, Peter Ramohia and Catherine Siota (2010). Ridges to Reefs Conservation Plan for Choiseul Province, Solomon Islands. TNC Pacific Islands Countries Report No. 2/10. 53 pp derived from https://www.conservationgateway.org/Files/Pages/ridges-reefs conservation.aspx#sthash.17dhhaXI.dpuf

[38] Peterson, N., Hamilton, R., Pita, J., Atu, W. and R. James (2012). Ridges to Reefs Conservation Plan for Isabel Province, Solomon Islands. The Nature Conservancy Indo- Pacific Division, Solomon Islands. Report No. 1/12. 61 pp.

[39] http://www.thegef.org/gef/project_detail?projID=5395

strengthening of the networking roles. By demonstrating this concept, the ECD has started to implement and have been reflecting on its mandated role under the Environment Act, through the process of revising the NBSAP. The completing and the publication of this NBSAP document demonstrated a fraction of that outcome (see section 7 for implementation mechanisms and fifth report for detail analysis).

Part 3: Supporting Regulatory instruments: Laws, Policies, Regional and Multilateral Environmental Agreements

3.1 National and subnational Laws

The Environment Act (1998) and the CBD (1992) are the overarching laws for coordinating and implementing the revised NBSAP. Together with the Solomon Islands' Constitution (1979), provide the guiding principles and standards for the NBSAP architecture and its implementation. When reading these set of laws alongside other relevant sectorial laws, for example the Fisheries Act, assured, the necessary legal guidance for implementing the three objectives of the CBD, as pertinent to the scope of the relevant priority area, and in relevance to the given example, it would be under the marine and coastal biodiversity. Such arrangement and perspective will allow for the effective mainstreaming of the environment Act and the CBD into the Solomon Islands development agendas. A brief descriptions of the relevant Acts and their objectives are provided here, and how the basis for the NBSAP, are how the NBSAP is designed to improve their implementations (see the fifth report for full analysis).

The Solomon Islands Constitution-The Independence Order (1978) -The Solomon Islands Constitution is the supreme law of the country. It provides the principle for defining of political power, governance structure and functions. The Constitution defined the rights and duties of all Solomon Island citizens, and provided the procedures for law development. The recognizing of customary rules and norms in the Constitution, implies the power of customary leaders and there by ensured the legitimacy of the community decisions over how their natural resource should be managed. Under the NBSAP concept, the Constitution provides the guiding principle for interpreting all other Acts including the Environment Act. The NBSAP is one of a few national policy that adopted the principles of the Constitution and as such should provide the wayward for other policy architecture and development. A draft Federal Constitution of the Solomon Islands is under development, which has explicitly mentioned the guiding principles for environmental protection in the country.

Environment Act (1998)[8] [above] and the Environment Regulation (2008) -The Environment Act provides the overarching law for managing, regulating, monitoring and coordinating of environmental matters in the country. The objectives of the Act are ; a) to provide for and establish integrated system of development control, environmental impact assessment and pollution control: b) to prevent, control and monitor pollution; c) to reduce risks to human health and prevent the degradation of the environment by all practical means, including 1) regulating the discharge of pollutants to the air, water or land: 2) regulating the transport, collection, treatment storage and disposal of waste; 3) promoting recycling, re-use and recovery of materials in an economically viable manner; and to 4) comply with and give effect to regional and international conventions and obligations relating to the environment.

The ACT has considerable power by virtue of Article 4 (1) which states that, in the event of conflict between the Act and other Acts, the provisions of the Environment Act shall prevail. Under the Act the Environment and Conservation Division has been mandated to oversight the coordinating and administrating of any environment related issues in the country. Under clause 6 (1), the function roles of the division has further clarified the Act objectives. The mandated roles are to;

(a) protect, restore and enhance the quality of the environment of Solomon Islands, having regard to the need to promote sustainable development;
(b) develop, establish and administer systems of prevention and control of pollution in both the industrial and non-industrial sectors;
(c) develop national standards to promote sustainable development and to monitor those standards through environmental auditing;
(d) assist in developing legislation for systems of environmental planning at national, provincial and local level, and the development of national, provincial and local environmental plans;
(e) collaborate with relevant public authorities in assisting in the conservation and management of world heritage properties;
(f) promote the participation of the community in environmental decision-making;

(g) ensure freedom of and access to information on environmental matters, and in particular to ensure that the community has access to relevant information about hazardous substances arising from, or stored, used or sold by any industry or public authority;
(h) set compulsory standards for environmental improvement;
(i) conduct public education and awareness programmes about the environment;
(k) promote the study of the environment through research, surveys, listing and classification.
Under the indented purposes for promoting sustainable development as envisaged under subsection (1) (a), the Division shall as far as practicable be guided by the following –
(a) the precautionary principle, that lack of scientific certainty should not be used as a reason for not acting to prevent serious or irreversible environmental damage or degradation;
(b) fairness for future generations in that the present generation should ensure that the health, diversity, and productivity of the environment is maintained or enhanced for the benefit of future generations;
(c) conservation of biological diversity and ecological integrity; and
(d) improved valuation and pricing of environmental resources.

Under the above functional mandate, the NBSAP revision process has been administered under the above arrangement, to give effect to a first effort of attempt to put the Act under effective implementation. The synergy between the NDS and the environment act has been put to test under this NBSAP (refer to conceptual design). It follows that the effectiveness of the NBSAP implementation is envisaged to be based on the effective implementation of related laws along the notion of synergy as already been practices since independence. At this end all the NBSAP priorities area and targets are showed from the following supporting laws.

The Environmental Regulation (2008) provides a supporting standard of procedures, guideline and standard for assessments, evaluating and monitoring of environmental related concerns. Special emphasis is placed on the standard for Environmental Impact

Assessment (EIA). Depending on interpretation, several regulations can be developed and adopted under the Environment Act to address any newly emerging issues or to fill possible gaps. At this end, the NBSAP has adopted the Protected Area Act and the Wild Life Management Acts as supporting regulations to the Environment Act as they are all administered under the same division. The Environment Act is currently under the process of review, and the NBSAP could provide the necessary guidance and interpretation for its development.

Protected Areas Act (2010) and Protected Area Regulation (2012) -The Protected Area Act (2010) provided for the establishment of a protected area system/s which encompasses those measures to conserve biological diversity , developing of guidelines for selecting, establishing and managing of protected areas , regulating and managing of biological resources important for the conservation of biological diversity within or outside protected areas , promoting the protection of ecosystems, natural habitats and maintaining of viable population for species in natural surroundings, promoting environmentally sound and sustainable development in areas adjacent to protected areas and rehabilitating and restoring of degraded ecosystems and promoting the recovery of threatened species through development of management plans and strategies.

The act provides for the establishment of Protected Areas Advisory Committee (PAAC) and made provision for protected area's declaration by the Minister of Environment from the advice from the Director. It also provides provision for the establishment of protected area trust fund to be established under section 100 (2) of the Constitution and to be managed by PAAC in accordance with the Public Finance and Audit Act (Cap.120). Bio prospecting and biological research permit is regulated under the Act.

Under the revised NBSAP, the Act provides the legal basis for implementing of target 12, 6, 8, 15 and all other crosscutting themes, particularly target 3 on sustainable finance . The act is yet to be implemented or tested, hence the revised NBSAP under the theme on protected area system and sustainable finance alongside other relevant elements of other priority areas, have provided the clear road map for its effective implementations.

Wildlife Protection and Management Act (1998)[40] and the Wildlife Protection and Management Regulations (2008) - This Act provides the legal basis for regulating of endangered species of wild fauna and flora in compliances to the Solomon Island's obligations under the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Otherwise it provides the provision for the protection and conservation of the wild flora and fauna. The provision for developing of additional regulation is also provided under the Act where the Minister can make additional sub legislation (regulations) as, 'may seem to him expedient for carrying into effect of any of the purposes or provisions of the Act'.

Under the revised NBSAP, the Act provides the legal basis for advancing target 13 and other related activities concerning species management. The NBSAP, particularly on the priority on endemic, threatened and migratory species alongside their relevant elements in other priority areas have provided the clear road map for this act implementation. The act is also under the process of reviewing which can also benefit from the NBSAP.

The Fisheries Act (1998)[41] - The Fisheries Act (1998) provides the legal basis for national fisheries management in ensuring sustainable uses of marine and coastal biodiversity. The Act provides the procedures, conditions for fishing vessel licenses and rules applied to foreign fishing vessels. It prohibited fishing methods using explosives, poison and other noxious substances. The power is vested with the Minister for Fisheries to make regulation in regards to any emerging fisheries issues including the need for effective fisheries management. In due respect the fisheries regulation provides the procedures for application, licence, and those documents required for potential fisheries industries that are interested in fisheries development in the country. The Act also provides legal conditions over certain species and groups as well as the sanitary and labelling standards required for processing. In pursuant to the fisheries regulation, management plans, over certain species or ecosystem can be developed and waved as additional regulation.

[40] http://www.parliament.gov.sb/files/legislation/Acts/1998/The Wildlife Protection and Management Act 1998.pdf
[41] http://www.parliament.gov.sb/files/legislation/Acts/1998/The Fisheries Act 1998.pdf

More recently, the Fisheries and management Act (2015)[32 above] has now been revised and enacted, taking its effect immediately after its enactment. The act has its objective as 'to ensure the long term management, conservation, development and sustainable use of Solomon Islands fisheries and marine ecosystems for the benefits of the people of the Solomon Islands'.

The Fisheries and management Act (2015) is viewed here as an NBSAP outcome as they both benefited each other during their revision processes. The Act has been reinforced as the legal instrument for implementing action under the marine and coastal biodiversity priority area and the NBSAP continue to provide the road map for its full implementation as provided under target 5 and 6 and other relevant targets such as 8 and 12.

The Forest Resources and Timber Utilization Act (2000) - This Act consolidated and amended the Forest Resources and Timber Utilisation Act 1960 which provide for the control and regulating of timber industries. It also provides the provision for protected area management within the context of conserving water resources. Conservation of water resources is viewed necessary or desirable to protect the forest or other vegetation in any rainfall catchment area. Alongside the River Water Act (1996) the Acts provide the legal basis for integrated water resources management (IWRM) and integrated forest management in the Solomon Islands.

The code of logging practice (2002), sets 13 priorities for regulating of logging activities. It provides for monitoring and auditing of logging activities. Its aim is 'to ensure ecological and cultural functions including ecosystem services are maintained to its outermost effect. The priorities identified are; environmental protection and sustainable forest developments; respect for resources owner; protection of cultural, historical sites and spiritual significant areas, promote natural forest enrichments; proper harvesting, removing, scaling and grading of timbers and maximizing of benefits while minimizing waste; ensuring safety of workers and ensuring that resources owners have received a fair return from their forest resources and ensuring, compliance enforcements and monitoring as well as capacity building for local communities.

Under the revised NBSAP the Act provides the legal basis for the priority on forest, mountain and plant genetic biodiversity. The roadmap for the Act implementation is provided under target 8, 12 and 14 including other related action points and proposed activities under each priority areas.

The Mines and Mineral Act (1997) - This Act provides for the development of mining in Solomon Islands by prescribing the procedure for the granting of licences, permits or leases. Part II, 4, (1) provides for declaring area as a reserved area and prohibits the carrying out of reconnaissance, prospecting or mining. These reserved *areas* may include (a) village, place of burial, tambu or other site of traditional significance, inhabited house or building. The Minister may consider areas including (b) cultivated land or land rendered fit for planting and habitually used for the planting of crops, (c) land designated as town land, under the Lands and Titles Act, (d) state forest or controlled forest within the meaning of the Forest Resources and Timber Utilisation Act or (e) any land used for public purposes. Part 21 (5) stipulated the conditions and procedures for determine the rates of surface access fees and compensation for damage.

Under the revised NBSAP the Act provides the provision for integrating conservation with mining development. The revised NBSAP provides the necessary road map for implementing the Act and in particular relevant to management of waste and, pollution control as popularly associated with mining development. The corresponding targets and action points, are therefore set the roadmap for implementing the Act within the scope of biodiversity. Particular emphasis is also provided under the priority on sustainable finance, within the need for providing possible revenue sources for conservation as an offset mechanism.

Rivers Waters Act (1996) -The Act provides for the control of river and water and its equitable and beneficial use. However, its sub regulation only applies to areas that are specifically designated. The Act is relevant to the development of integrated water resource management in the Solomon Islands. Mainstreaming of biodiversity concern into the current integrated water resources management programmes which principally focuses on drinking water is viewed as critical for NBSAP implementation. Such initiative is viewed as complementary to target 11 on the need for reducing water pollutions and sedimentation in

inland water and costal and marine environment. The Act also provided the legal basis for advancing target 14 of the revised NBSAP as such the corresponding action points provide the roadmap for the Acts implementation.

Environmental Health Act (1980) - The Act provides for regulating environmental health in urban areas and the province. It provides the legal basis for advancing biodiversity within the context of promoting people's health. The act is directly related to the NBSAP as the NBSAP is principally builds its structure and objectives within the context ecosystem services.

The Consumer Protection Act (1995) - The Act provides for the regulating of "product safety or quality standards for any specified kind of goods". Measures adopted under this provision may include requirements relating to performance, composition, design, packaging, marking and labelling, processing method, and testing. It provides implication for controlling of potential pollutants or their byproducts and thereby allows for encouraging of the use of local products that are not detrimental to biodiversity health. The NBSAP provided the relevant roadmap for the acts implementation under the priority on waste and pollution control and under the priority on governance, enforcement and compliances.

Biosecurity Act (2013) - The act provides for the regulating of the entry of plant and animal pest including diseases, control their establishment and their spread in the country and give effect to international collaboration on issues related to pest and animal or plant product regulation. The Act alongside the Agricultural Quarantine Act 1982 and the Fisheries Act provide the legal basis for advancing the priority on agro-biodiversity and in particularly addressing threats posed by agricultural pest, diseases and potential invasiveness species. Relevant roadmap for the Act effective implementation is provided within the scope of the priority on agro-biodiversity, invasive species and other relevant priority areas.

Provincial Government Act (1997) - This Act alongside the Devolution Orders provides the legislative power for provincial authority to develop provincial biodiversity or environmental related laws such as the provincial environmental ordinances. Current ordinance includes, The Western Province Provincial Resource Management Ordinance (1994), Isabel Province Wildlife Sanctuary (Amendment) Ordinance 1991, Guadalcanal Province Fisheries Ordinance

(2009). Other province such as the Central province, Renbel, Malaita provinces are currently developing their provincial Ordinances. These ordinances and together with the provincial Act provides the legal basis for advancing the NBSAP at the sub-national level. The NBSAP document provided the relevant structure, principles, and objectives for their possible customizing into the subnational biodiversity strategy as provided under priority two (2), on governance, enforcements and compliances.

The Town and Country Planning Act (1979) -This Act provides for developing of planning schemes and development control, to give effect for enforcement of the planning schemes. Tree preservation is also provided with and on the regulating and prohibiting felling of trees in town.

Under the NBSAP, this Act provides the legal basis for advancing target 8 and 10 particularly in respect to the need for developing of green infrastructure policy in urban areas. As such the revised NBSAP provide the road map for the effective implementation of the Town and Country Planning Act.

The Honiara City Act (1999) -This Act provides for the establishment of the city council for the Honiara city. It specifies the role of culture and environment, to regulate, control and promote conservation of the environment, and to provide and preserve public monuments and identify and preserve antique artifacts and sites of historical and cultural interest. The Act also specifies the council role to provide park and open space. Under the river and water section the specified role is to control the use of river.

Under the revised NBSAP, this Act provides the legal basis for advancing NBSAP in Honiara and therefore the NBSAP provided the necessary road map for the effective implementation of the relevant environmental elements of the Act.

Customary Land Records Act (1994) - This Act provide for the recording of customary land holdings to empower land holding group to appoints representatives to deal with recorded customary land holdings, the establishment of an office of national recorder of customary land, and record offices in the provinces. This Act together with the Constitution could provide the relevant principles for advancing environmental governances in customary land.

The Charitable Trusts Act (1964) -This act provides for the formulation of organisation such as NGOs and CBOs as such provides for registering (legalising) of community based conservation and environmental networks in the country. The NBSAP provides the relevant roadmap for implementing the act within the scope of environmental governances.

3.2 Multilateral Environmental Agreements (MEA) and Bilateral agreements (BA)

The following MEA and BA provide additional scope of mandates for the NBSAP implementation. Like other supporting national and subnational legal instruments, the MEA and BA have been promoted as implementing regulatory mechanisms under the relevant revised NBSAP priority areas along the principle of synergies between the respective legal instruments and the UNCBD.

Cartagena Protocol on Biosafety – ensuring the protecting of human health and the environment from possible adverse effects of the products of modern biotechnology, especially the living modified organisms (LMO) while maximizing its benefit. Under the revised NBSAP the implementation of this protocol is provided under the priority on invasive species and its corresponding target, particularly within the need for developing of a relevant legal instrument to support the Solomon Islands biosafety framework (NBF). The protocol is a sub-protocol to the CBD and hence the NBSAP and the NBF are viewed as complimentary policy tools that will mutually benefit each other during their implementation.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) - ensuring that international trade in specimens of wild animals and plants does not threaten their survival. Under the revised NBSAP, the synergy between the CITES and the CBD is provided within the scope of the priority on endemic, threatened and migratory species. Within this same priority the synergy between the CMS is also promoted and other relevant actions points of other priority areas. At the national level, the Wild Life and Management Act provided the main legal instrument for implementing the objective of the convention. Under the corresponding action points and proposed activities the revised NBSAP provide

the road map for the effective implementation of the Wild life management Act and the CITE .

Convention on Migratory Species of Wild Animals (CMS) – ensuring the conservation of terrestrial, aquatic and avian migratory species, their habitats and migration routes and to ensure favorable conservation actions across species migratory ranges. As noted above the synergy between the UNCBD, CMS and CITE is promoted within the scope of the priority on endemic, threatened and migratory species and as deemed relevant in other priority areas and their corresponding action points. The effect of the CMS at the national level falls under the migratory ranges of the species of concern.

Convention Concerning the Protection of the World Cultural and Natural Heritage (WHC) - ensuring the preservation of cultural and natural heritage of outstanding universal value. The synergy between the WHC and the UNCBD is promoted within the scope of protected area and its corresponding action point particularly on the need to delist Lake Tenggano World Heritage site from a heritage site in danger.

United Nations Convention to Combat Desertification (UNCCD) – ensuring the combating of desertification and mitigating the effects of drought in countries experiencing drought or desertification. The synergy between the UNCCD and UNCBD is promoted within the scope of the priority on agro-biodiversity particularly when this theme falls comfortably within the responsibility of MAL.

United Nations convention on the Law of the Sea (UNCLOS) - ensuring the rights and responsibilities of nations on their use of the World's oceans, and to establish guidelines for businesses, the environment, and the management of marine natural resources. The synergy between the UNCLOS and UNCBD is promoted within the scope of the priority on marine biodiversity particularly when this theme falls comfortably within the responsibility of MFMR.

Stockholm Convention on Persistent Organic Pollutants (POP Convention) - esuring the protecting of human health and the environment from persistent organic pollutants. The synergy between the POP and UNCBD is promoted within the scope of the priority on waste

managment, pollution control and biodiversity and are likely to mutually benefited each other during implimentation, particularly when the two issues are administered under the ECD .

United Nations Framework Convention on Climate Change UNCCC - ensuring the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. The synergy between the UNCCC and UNCBD is promoted within the scope of the priority on climate change, disaster risk management and natural infrastructure. The NBSAP has adopted relevant actions of the NAPA and the climate change policy as its action plans and the policy tools are mutually benefiting each other during their implementation since these issues are administered under the MECDM. The synergy between disaster risk management and its relevant convention is also promoted under this priority area.

Constitution of the Food and Agriculture Organization of the United Nations (FAO) - ensuring raising of nutrition levels and production yields, distribute foodstuffs more effectively and improve living conditions in general and to promote primarily agriculture and sustainable rural development. The synergy between the FAO and UNCBD is promoted within the scope of the priority on marine and coastal biodiversity, agro-biodiversity, forest, mountain and plant genetic biodiversity and as deemed relevant in other action points of other priority areas.

Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean - ensuring the effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean. The synergy between this convention and UNCBD is promoted within the scope of the priority on marine and coastal biodiversity, particulaly under target five (5).

International Plant Protection Convention - ensuring the common and effective action to prevent the spread and introduction of pests of plants and plant products and to promote measures for their control and to provide a framework and forum for international co-operation, harmonization and technical exchange in collaboration with regional and national plant protection organizations. The synergy between this convention and UNCBD is

promoted within the scope of the priority on agro-biodiversity and forest, mountain and plant genetic biodiversity, and invasive species under their corresponding targets and action points.

Natural Resources and Environment of South Pacific (SPREP Convention) - ensuring the protection of natural resources and environment of the South Pacific Region in terms of management and development of the marine and coastal environment in the South Pacific region. The synergy between this convention and UNCBD is promoted within the scope of the NBSAP principle and therefore related to all priority areas. It is viewed as a customized instrument of the CBD to the regional level and having it simultaneous effect as the Environment act at the national level.

Waigani Convention – ensuring ban imposed on importation of hazardous and radioactive wastes and to control the trans-boundary movement and management of hazardous wastes within the South Pacific region. The synergy between this convention and UNCBD is promoted within the scope of the priority on waste management, pollution control and biodiversity as specified in the corresponding action points.

South Pacific Forum Agency Convention - ensuring the sustainable harvesting and conservation management of member countries. The synergy between this convention and UNCBD is promoted within the scope of the priority on marine and coastal biodiversity, particularly under the target 5.

Nauru Agreement - ensuring the cooperation in the Management of Fisheries of Common Interest in the party country. The synergy between this convention and UNCBD is promoted within the scope of the priority on marine and coastal biodiversity, particularly under the target 5 and with a special emphasis under the priority on sustainable finance.

3.3 National policies, sectorial action plans and regional action plans

The following policies, sectorial and regional action plans are viewed as complimentary and reciprocal instruments to the revised NBSAP. Relevant action points and principles of these instruments have been in cooperated into the NBSAP, allowing the revised NBSAP to

provide a new road map for their effective implementation, (refer to the fifth report particularly table 4 for their overlapping time frame).

Solomon Islands National Biodiversity Strategic Action Plan (2009) [4] - The revising process for the new NBSAP is viewed as a continuity of implementation of the NBSAP (2009). The actions in the NBSAP 2009 have been adopted into this current version, reorienting the structure to emanate the Strategic Plan for Biodiversity (2011-2020) and its Aichi Targets (see annex 1). At this end both documents and that is, the NBSAP 2009 and its revised version are viewed as one where the latter is an accumulative of the prior in their indented outcomes to implement the CBD.

The National Development Strategy 2011 to 2020 – The NBSAP adopted the NDS as its resources mobilization plan, mainstreaming instrument, poverty eradication strategy and the instrument for addressing environmental development challenges. It is therefore viewed as complimentary and reciprocal instrument to the revised NBSAP. Their relationship is likely to be dissected into the Ministerial Cooperate plans and Ministerial Annual Work plans by relevant ministries. The revised NBSAP in its implementing mechanism has also elaborated on a resources mobilization plan with the objective of implementing elements of the two policies simultaneously (see section 7, section 1.2 and the resources mobilization plan for implementing the NBSAP).

Solomon Islands National Biosafety Framework 2012[14] **-** This policy framework adopts a precautionary approach towards biodiversity management and human health from the potential adverse effect from Living Modified Organism (LMO). It is made in fulfilling the requirement under the Cartagena protocol. The revised NBSAP continued to pursue issues related to LMO under the theme of invasive species after the first NBSAP. The NBF has provided a relevant roadmap for developing of elements of invasive species strategy within the context of LMO. It follows that the Biosecurity Act (2013) has provided the provision for regulating of potential entry of invasive species or pest within the context of agriculture and aquaculture development. Building on these provisions the revised NBSAP has reinforces the need to develop an overarching invasive species strategy within the context of biodiversity. As noted the two policy instruments are likely to benefit each other during their implementations, since both policy are indented to implement the UNCBD objectives.

National Solid Waste Management Strategy and Action Plan 2009-2014 - Administered under the same division (ECD) and the Environment Act, the policy objective is to develop and implement a national waste management policy through the reviewing of all existing regulations relating to waste management and drafting specific legislation on waste management, promoting waste minimization at all aspects of development, improving and upgrading existing waste management and disposal systems, looking at ways for improving waste management awareness and education, providing relevant documented information for politicians and stakeholders and making them aware of the need for their support towards waste management, providing a guideline template for rural and community level to practice waste management. Although the policy instrument only addresses solid waste it has potential implication in managing wastes that are affecting ecosystems.

The implementation of various waste management conventions such as the Stockholm Convention on Persistent Organic Pollutants (POP Convention), Marine Pollution Convention (London), Montreal Protocol, Waigani Convention, Pollution Protocol for Dumping and Pollution Protocol for Emergencies have a direct bearing on for the NBSAP implementations.

In recognizing waste as the number one threat to biodiversity and human health, the revised NBSAP adopted the need to review the waste management strategy and to in co-operate relevant streams of waste into a post-waste management strategy, having the need to acknowledge current project such as the J-prism project funded by JICA. The revising of the waste management strategy is now under progress and is hoped to benefit from the revised NBSAP directives under the relevant action points.

The Solomon Island National Adaptation Plan of Action (NAPA) and The Solomon Island Climate Change Policy 2012-2017[42] - The (NAPA) (2008) provides the actions required by the Solomon Islands in its commitment towards the implementation of the United Nations Framework Convention on Climate Change (UNFCCC). The Solomon Island Government has then developed and adopted a Climate change policy, reinforcing the NAPA, and has committed to the development of a mitigation action plan.

[42] http://www.gcca.eu/sites/default/files/catherine.paul/si_climate_change_policy.pdf

In respect to NAPA (2008), it has proposed many direct and indirect actions relevant to biodiversity management. The revised NBSAP has therefore adopted these same action plans as the relevant action points for the revised NBSAP. This is to ensure the effective implementation of the two policy documents, while promoting the principle of synergy between climate change and biodiversity. Additional actions points is made along the context of mitigation measures such as the need to promote green infrastructure in urban areas. Further, the revised NBSAP has also reinforced the relevant action under the REDD+ road map[43] . Both instruments have been mutually benefited from each other during their reviews and are likely to continue benefiting each other during their implementations.

The NCRA Policy Statement 2010 - The policy recognizes the importance of the Solomon Island's rich natural resources and the direct support they provide for the nation economy and livelihood, therefore, the need for achieving sustainable economic growth within the framework of environmental sustainable development is highly regarded. The NCRA aimed to review the present national environment policy to accommodate both the sector and cross-sector policies. Amongst those identified environmental priority areas include, public environmental awareness, climate change, regulatory approaches and providing subsidies and incentives for promoting conservation. The NCRA policy statement is a political policy, hence its environmental concerns reinforced the much needed political will. The revised NBSAP build on these priorities and has adopted relevant actions under the adopted priority areas.

Democratic Coalition for change Government (DCCG) Policy Statement 2015 – Reinforcing the NCRA policy statement, the DCCG policy statement has reconfirmed and recommitted to these environment objectives (also see section 2.7 on lesson learned). In principle the DCCG has acknowledge the NBSAP as has been reflected its policy statement. The vision it upholds is 'With the Grace of God, the DCC Government humbly pledge to empower all Solomon Islanders to attain a meaningful quality of life through social and economic reforms', and 'with united efforts in leadership to achieve prioritized reforms, all Solomon Islanders, can be assured to see tangible political and spiritual developments'.

[43] Solomon Islands Government, National REDD+ Readiness Roadmap 2014-2020 (2014)

The NBSAP particularly under the priority on governance, enforcement and compliances and as deemed relevant under the rest of the priority areas provided the necessary roadmap to achieve this noble vision around biodiversity concern. In fact achieving a meaningful social and economic reform at the community level cannot divorced the lesson learned from many conservation oriented CBOs in the country (see section 2.8 on lesson learned).

National Forestry Strategies and Action plan - The policy objective is to establish and enact appropriate legislations and standard to ensure a holistic management and transparent approach towards forestry sustainability, to achieve a better balance in the pecuniary and social benefits for both landowners and government, to implement the national forest plantation development programme, to assist local communities, to undertake restoration activities, to monitor and manage the timber industries and marketing of forest product, to promote downs streaming processing and marketing system to eco-timber for both local and export by local sawmill owners, to monitor the extend and quality of national forest for appropriate management, to promote sustainable forest management programmes and strategies, and to promote forest management for conservation and protection for climate change adaptation and mitigation.

The policy is administered and implemented by the Ministry of Forest and Research (MOFR) as the responsible ministry for the overall management of the forest resources of the Solomon Islands. Since independence the timber utilization Act 1960 and the North New Georgia Timber Corporation Act 1979 and their series of amendments have been serving as the key Act in regulating forestry development in the country (see section 3.1). Two division of the ministry are directly responsible for implementing forest biodiversity, namely, the Division of National Herbarium and Botanical Garden Divisions and the Division of Forest Development and Reforestation. Other Division such as the Forest Resource Management and Technical Services Division are also useful in implementing issues related to reviewing of the Forestry Act and the implementation of the REDD+ road map[43 above].

Under MOFR draft cooperate plan, the vison of the ministry is to become a highly respected forest agency with the professional competency to manage the forest resources of Solomon Islands in perpetuity. The mission is to promote, utilize, conserve and manage the forest

resources for ensuring the continuing of benefits received from forest by the people of Solomon Islands, stakeholders and the environment.

As emanated from the Forestry law and policy, and has been reaffirmed in the MOFR cooperate plans, biodiversity concerns are an essential component of the forestry sector. However, not until recently, reforestation was only based on introduced species and logging industries are notorious in their infringements of Solomon Islands laws. The fact that forest biodiversity health and their ecosystem services underpins the quality of the harvestable tree species where foreign exchange have been derived and supported the country's economy for the past decades, the concern for biodiversity health is of a critical concerns.

Under this circumstances, the revised NBSAP under the priority area on forest, mountain and plant genetic biodiversity and protected area systems and their corresponding targets, action points and proposed activities, have collectively aim to ensure the remaining virgin forest are adequately protected and harvested sustainably. The revised NBSAP gives effect to the need for improved coordination between relevant stakeholders, reduces and addresses community plights in forestry development and to develop relevant strategies, such as genetic plant biodiversity strategy, improving of awareness, enforcing of current laws, undertaken of necessary research, and promoting of relevant incentives such as the implementation of the REDD+ roadmap[43 above]. As adopted in strategic goal A, the ecosystem based management approach is envisaged to ensure that all ecosystems that are related to forest biodiversity must be managed as a system.

National Agriculture and Livestock Sector Policy 2009-2014 – A policy intended to consolidate the agriculture sector, to enhance the production of staple foods and to expand effort for the development of export markets. The expected outputs for the sustainable management of natural resources and the environment includes the need for (a) farmers been shielded from impacts of natural disasters and climate change through disaster and risk management and climate change mitigation (b) soil conservation and management (c) increased land fertility and productivity (d) land use planning and policies (e) appropriate regulatory framework in place and enforced.

In support of the above policy, the Agriculture Policy 2010-2015, is developed as a friendly user version of 'National Agriculture and Livestock Sector Policy 2009-2014' for easy monitoring. On the other hand, the Solomon Islands Government policy on Organic Agriculture Systems (2010) aims for the improvement of health of the people of Solomon Islands. It was based on principle notion that healthy soils ensured healthy food for healthy citizens. The National food security, food safety and nutrition policy 2010 – 2015 aimed to 'achieve food security through long term, sustainable collaboration and engagement by all key stakeholders'. The National Rice Sector Policy (2010-2015) has presented a framework to guide the development of rice in Solomon Islands for the next five years (2010-2015).

Implementation of the above policy is guided by the MAL Cooperate plan with the vision of enhancing and promoting of a sustainable agriculture and rural development in the Solomon Islands for economic stability, food sovereignty and improve rural livelihood. Its mission is to promote, improve and lead agriculture development in Solomon Islands to a profitable and environmentally sustainable future by being the premier provider of information, research, extension, education, regulatory, and other services to improve the agriculture sector.

The revised NBSAP is therefore, recognized the importance of agriculture contribution towards the national and rural development and poverty eradication, and in particular the emanating of the environmentally sound policy directives in the agriculture policy sector. The revised NBSAP recognized that agricultural production depended on the ecosystem services provided by a healthy biodiversity. In consolidating these facts, the revised NBSAP under the priority on agro-biodiversity seeks to influence the review of the above relevant agriculture policy and to ensure the continuity of the embracement of environmental values in their architectures.

The need for adopting a clear directives on biodiversity management needs is viewed as crucial, such as the need for promoting the uses of native species in agriculture development, encouraging and revisiting traditional agricultural practices and encouraging people to consume local food. As adopted in its ecosystem principle, agro-biodiversity concerns are also provided for under other priority areas such as the need for promoting of

proper land uses practices within the vicinity of protected areas, addressing climate change and waste management, holistically.

Along this concern for agro-biodiversity development, the NBSAP also recognized the need to review and adopt relevant biodiversity themes into the post aquaculture strategy. The current aquaculture development plan (2009-2014), seeks to identify the coastal and freshwater commodities that can be produced most easily, and profitably, to help meet food and income requirements in Solomon Islands. The plan has amalgamated the Solomon Islands' Medium Term Development Strategy 2008–2010, the Solomon Islands' National Biodiversity Strategies and Action Plans (NBSAP) 2009 and provided a development pathway that guide MFMR's corporate strategy and the Solomon Islands and Secretariat of the Pacific Community's joint country strategy for (JCS) 2009-2012[44].

Under NBSAP initiative, the revised NBSAP is also mindful for the need for a proper assessing and regulating of Tilapia including the intention for introducing a GM Tilapia into the Solomon Islands. Such concern has also taken care of by the Solomon Islands Tilapia Aquaculture Action Plan 2010–2015. Under several recommendations, the revised NBSAP has reinforced the need to encourage tilapia farming only in atoll islands, where food security is severely affected by climate change. Complimentary actions and provisions are also provided in the NBF and the Biosecurity Act 2013.

Fisheries and Marine Resources Sector Policy 2008-2013 – The policy objective is "the development and sustainable utilization of sea and marine resources to benefit and contribute to the wellbeing of Solomon Islanders and to ensure that fisheries and marine resources are managed in a sustainable manner for the long-term benefit of the people of Solomon Islands." The fisheries and marine resources sector policy build strategies to produce the following outputs; (a) improvement of community fisheries management; (b) promoting of private sector development in the fisheries sector; (c) sustainable management of commercial fisheries. The mission it upholds is; "to ensure the people of the Solomon Islands receive optimum long-term benefits from ecologically sustainable fisheries."

[44] http://www.spc.int/sppu/images/stories/microsoft word - solomon islands jcs revised final edited for print.pdf

The fisheries strategic plan realizes the need to develop sectors such as aquaculture and inshore fisheries being mindful of the need to develop sustainable fisheries to be developed under 'Ecosystem Approach' and the 'Precautionary Approach' .The Ecosystem approach 'aims to ensure that, despite variability, uncertainty and likely natural changes in the ecosystem, the capacity of the aquatic ecosystems to produce food, revenues, employment and, more generally, other essential services and livelihoods, is maintained indefinitely for the benefit of the present and future generations, to cater both for human as well as ecosystem health.

This policy has provided some of the principles for the revised NBSAP, particularly under the adopted ecosystem management as stipulated in strategic goal B. The policy together with Fisheries Management Act (2015) alongside other relevant regulatory instruments have provided the basis for articulating of action points and proposed activities under the priority on marine and coastal biodiversity and its corresponding targets (target 5 and 6).

Solomon Islands Coral Triangle Initiative National Plan of Actions (NPOA)(2010)[45] **-** The NPOA is an action plan made in commitment to the implementation of the regional cooperation action plan of the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) (RPOA).The Solomon Islands National Plan of Action (NPOA) envisioned: 'Solomon Islands sustainably manages marine and coastal resources to ensure food security, sustainable economic development, biodiversity conservation and adaptation to emerging threats through community based resource management approaches supported by government agencies and other partners.

The underpinning principles rest on people-centered approach and ecosystem based resource management to be promoted by the flagship governance modal 'Community Based Resources Management (CBRM). The NBSAP recognized the NPOA as one of the 'complimentary action plan' on the marine and coastal biodiversity theme and therefore provided the relevant road map for the development of a post NPOA, ensure relevant elements of the proposed strategy are clearly elucidated along the identified biodiversity action points and proposed activities of the revised NBSAP.

[45] http://www.coraltriangleinitiative.org/library/national-plan-action-solomon-islands

Education Strategic Framework 2007- 2015[46] – The policy objective is to enhance a system that can give effect to necessary reforms to improve students' achievement and to contribute to the Solomon Islands economic growth. It is developed within the scope of the global and regional goals particularly the Millennium Development Goals 2 on the emphasis on achieving access to universal basic education for all Solomon Islands children, aiming to ensure that all boys and girls complete primary school by 2015. The underlying vision is 'all Solomon Islanders will develop as individuals and possess the knowledge, skills and attitudes needed to earn a living and to live in harmony with others and their environment. The policy envisaged a united and progressive society in which all can live in peace and harmony with fair and equitable opportunities for a better life. Parents and members of the community are to develop a sense of ownership of all educational institutions.'

Reinforcing and making commitment to the policy objectives, the revised NBSAP has adopted environmental education as its number one priority where emphasis is made to ensure technical biodiversity components is adopted into both formal and informal learning settings, as and when it is deemed relevant to the particular situation and context. It follows that the rest of the priority areas also provided relevant action points and proposed activities to be adopted into the relevant curricula and awareness materials.

National Environmental Capacity Development Action Plan (NECDAP 2008-2012)-The NECDAP 2008-2012 recognizes the many constrains including (capacity; human resources capacity, regulatory capacity, financial capacity) faced by the Solomon Islands in implementing the three Rio Conventions- UN Convention for Biological Diversity (UNCBD), UN Framework Convention on Climate Change (UNFCCC) and the UN Convention to Combat Desertification (UNCCD). The action plan has 13 expected outcomes, 32 outputs and 115 Actions. Although the action plans is due at the end of 2012, it remains valid and relevant action points in the NECDAP have been adopted into the revised NBSAP. Under this point of view the revised NBSAP in itself is regarded as a capacity building action plan for implementing the three conventions and others as provided in the document.

[46] Solomon Islands Education Strategic Framework (ESF), 2007- 2015 Ministry of Education, 2007) http://paddle.usp.ac.fj/

Pacific Islands' regional guidelines for whale and dolphin watching 2008[47]- This regional action plan provides a guidelines for minimizing risk for those whale and dolphin activities related to tourism. It provides the guiding principle for developing the national action plan for whale and dolphin watch industry in the Solomon Islands particularly under the priority on the marine and coastal biodiversity.

Regional Action Plan for sharks (2009)[48]-The regional action plan (RPOA) for sharks provides a regional guideline for developing a national action plan for shark. The objectives of the RPOA are; to enable the (Pacific Island Country Territories) PICTs to meet their obligations arising under CMM 2008-06; to promote data collection, monitoring and analysis of fisheries impacts on sharks; to promote consistency in approaches to conservation and management of sharks across the PICTs; to promote efficiency and effectiveness in monitoring and enforcement programmes for shark conservation measures; to facilitate, over time, the adoption by the PICTs of best practice in the conservation and management of sharks in their national waters; and to provide a platform from which the PICTs can respond to more exacting regional management measures for sharks as they emerge.

Under the revised NBSAP, relevant action points and proposed activities has been adopted under the coastal biodiversity priority area under target 6.

Regional Wetlands Action Plan for the Pacific Islands 2011–2013-The regional wetland action plan provides the guideline for the SPREP members to develop wetland action plans. Goal (5.1) aims for increasing of membership to the Ramsar Convention in the Pacific region. Target 1 aims for at least 4 PIC including Kiribati, Nauru, Solomon Islands and Vanuatu to become Contracting Parties by 2013. Recognising the Solomon Islands as a member of SPREP, relevant action point is also provided in the coastal biodiversity, inland water biodiversity and protected area.

Pacific Ocean Pollution Prevention Programme (PACPOL) Strategy 2010-2014- The Pacific Ocean Pollution Prevention Programme (PACPOL) mission is to protect public health, safety, environment and natural resources of the Pacific Islands from the effects of ship sourced

[47] http://www.sprep.org/att/publication/000647_whale_watch_guidelines_en.pdf
[48] http://www.sprep.org/att/publication/000853_RPOA_Sharks.pdf

marine pollution. Its vision is that the people of the Pacific islands are better able to prevent, minimise and mitigate ship sourced marine pollution. The revised NBSAP has adopted relevant action and proposed activities inline to this policy objective under the priority on waste, pollution control and biodiversity.

Under the Pacific Islands Regional Marine Species Programme 2008-2012 (Dugong, Marine Turtle, Whale and Dolphin Action Plans)[49] Oceania Humpback Whale Recovery Plan[50], the revised NBSAP has adopted relevant actions points under the priority on marine and coastal biodiversity. Under the Pacific Regional Solid Waste Management Strategy 2010-2015, relevant action points are adopted into the priority on waste managment, pollution control and biodiversity. Relevant actions of the Pacific Islands Framework for Action on Climate Change 2006–2015 are adopted under the priority on climate change, disaster risk management and natural infrastructure.

FFA Regional Monitoring, Control and Surveillance Strategy 2010-2015- The primary purpose of this strategy is to support compliance with fisheries management frameworks and associated measures at national, sub-regional, regional and Commission levels to ensure the long term sustainability of oceanic fish stocks and associated economic benefits flowing from them to Pacific Island Countries. This Strategy is consistent with the Regional Management Tuna Development Strategy (RMTDS) approved by FFC70 and may be read as contributing to the goals set out in the RTMDS, in particular, it strategic objectives on r*educing illegal, unregulated and unreported (IUU) fishing* and *enhancing MCS, integrated with fisheries management planning and implementation.* The RMCSS uses a similar 'bottom up' approach of the RTMDS, i.e. it is based on determining national needs, and then identifying ways to meet these through a variety of means, including regional and sub-regional coordination and cooperation.

The primary focus of this Strategy is on the Cook Islands, Fiji Islands, Kiribati, Marshall Islands, Federated States of Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, **Solomon Islands,** Tokelau, Tonga, Tuvalu and Vanuatu. The vision is 'An efficient and

[49] http://www.sprep.org/attachments/Legal/marinespeciesprog.pdf

[50] http://www.sprep.org/attachments/Publications/Corporate_Documents/Oceania_Humpback_Whale_Recovery_Plan_FINALDRAFT.pdf

effective MCS framework in the Western and Central Pacific Ocean region which supports the sustainable management of tuna resources and maximizes the economic returns and social and developmental benefits, while minimising adverse environmental impact.' The two strategic objectives are; Goal 1: Enhanced MCS, integrated with fisheries management planning and Implementation Goal 2: Contribute to other strategic objectives as described in the RTMADS Regional Tuna Management and Development Strategy 2009-2014.

The revised NBSAP has adopted the relevant actions as are deemed applicable at the national level, under the priority on marine and coastal biodiversity particularly target 5. It therefore provided the road map anticipated in the RMCSS.

More information on other relevant policy and organisational strategies are provided as attachment to the resources mobilisation plan for implementing the NBSAP (also refer to the fifth report for situation analysis).

Part 4: Strategic Action Plan

Vision

A unified, vibrant and informed Solomon Island's society, embodied with an environmental culture, where unique and endemic biodiversity remain part of the natural heritages and cultural identities, and where, ecosystem services continue to prevail, providing for the economic, social, spiritual and intellectual development for its people.

Mission

Building an enabling environment for the effective safeguarding of the environment, and reducing the rate of the loss of biodiversity, and thereby by 2030 ecosystems continue to maintain their resiliencies and continue to provide essential services, securing the Solomon islanders variety of life, and contributing to people's well-being and the reduction of hardship.

Principles

Intergenerational equity: That the benefits of our future generations are adequately compromised within the current development and biodiversity conservation endeavors, and that we are also making references to our forefathers and our GOD, the creator.

Precautionary: That the lack of scientific evidence will not deter us from acting to prevent serious or irreversible environmental damage or degradation, and continue to observe our customary laws as an integral determinant of our development and conservation aspirations.

Participation and inclusiveness: That all institutions, organizations, programmes and projects, that are vested with variables of structures, functions and powers (whether, global, regional, national, provincial or tribal) are interpreted under a common purpose-consorted to the same vision and mission- i.e. building a Solomon island environmental culture living in harmony with nature and the embracement of coexistence.

Synergies and complementarity: That all environmental rules, including conventions, laws, policies, and management plans, including norms and practices are holistically interpreted, and their deliverances maximizing our policy implementation outcomes.

Ecosystem Approach: That our strategy rest on the notion of managing a system- (spatially and temporal), land and forest , inland water, the costal and marine biodiversity and the atmosphere as part of a coherent whole in turn support ecosystem services where our livelihood, economic and nation building depend on, linking to an infinite past and an infinite future.

Accountability and transparency: That biodiversity management is link to better governance where accountability and transparency enable us to effectively and efficiently implement our policy.

Adaptive and dynamic: That today's management is relevant to the tomorrow and the next tomorrow and where one ecosystem is relevant to the next in a closed but an open loop.

Part 5: Strategic Goals, Targets and Indicators

Strategic Goal A: Addressing the underlying causes of the loss of biodiversity by effectively and efficiently delivering of our mandates and developing of incentives and subsidies to improve and enhance biodiversity management.

Target 1: By 2020, the people of Solomon Islands are aware of the value of biodiversity, and have taken the necessary steps for conserving, sustainable using, and sharing of benefits derived from biodiversity, equitably, within the scope of the NBSAP objective, and other concurrent policy objectives.

Indicators:

- Percentages of people with biodiversity knowledge and are taking positive steps towards the implementation of the NBSAP.
- Number of positive actions taken towards the implementation of the NBSAP objective by government agencies, NGOs, private sectors, CBOs, universities and citizens.

Target 2: By 2020, existing environmental laws, regulations, policies, management plans and action plans have been effectively implemented, with special attention towards the effective implementation of those provisions for supporting of incentives and subsidies for biodiversity managements.

Indicator

- Number and the effectiveness of environmental laws, regulations, policies, management plans and action plans, particularly the effectiveness of the provisions for supporting of incentives and subsidies.

Target 3: By 2020, the Solomon Islands, has developed and adopted a sustainable finance plan and its relevant mechanisms, to mobilize resources for the effective implementation of the NBSAP's objectives, in concurrent to the NDS 2011-2020, and other applicable environmental laws and policies.

Indicator:

- A sustainable finance strategy is in place with relevant mechanism and its effectiveness.
- Percentage of funding allocations toward environmental protection agencies

Target 4: By 2020, researches, encompassing traditional knowledge, science, social science, and economic investigations have been raised, while encouraging the transferring of relevant biodiversity technology such as Geography Information System (GIS), thereby enable Solomon islanders understand and appreciate, biodiversity values, functions, status, threats and the consequences of their loss, and have taken necessary steps to manage and mitigate threats accordingly.

Indicators

- Number of biodiversity researches conducted
- Degree of technology sharing and the effectiveness of GIS applications

Strategic Goal B

Reduce the direct and indirect pressures on biodiversity through ecosystem based management approach.

Target 5: By 2020, the Solomon Islands has reinforced and reaffirmed its commitment, reciprocally to the regional and sub-regional offshore fisheries strategies and plans, particularly in effort to sustainably manage tuna, reducing of tuna by catch and instigating of incentives and subsidies to increase economic benefit/return from tuna development.

Indicator:

- Effectiveness of fisheries strategies and the percentage of economic return (monetary values) from biodiversity developments e.g. from offshore fisheries.
- Change in proportion of fish catches by species per specific season
- Threatened fish species as a percentage of total fish species known

Target 6: By 2020, coastal harvestable fish, mammals, reptiles and invertebrates for commercial or subsistent uses, are harvested sustainably within the current legal and management instruments, while drawing special attentions on protecting threatened species, and restoring of vulnerable ecosystems.

Indicators:

- Number of species under sustainable rate of harvesting.
- Change in proportion of fish catches by species per specific season
- Threatened fish species as a percentage of total fish species known
- Shoreline position
- Percentage coastal zone with populations exceeding 100 inhabitants/km2
- Coral chemistry and growth pattern
- Annual rate of mangrove conversion
- Algae index
- Percentage of vulnerable ecosystem restored or protected.

Target 7: By 2020, the genetic diversity of native cultivated plants, domesticated animals and their wild relatives, and or any socio-economical and culturally valuable species' population are maintained or increased.

Indicator:

- Population sizes of the native cultivated plants, domesticated animals and their wild relatives
- Population size of any socio-economical and culturally valuable species.
- Use of agricultural pesticides
- Change in area of agricultural land (conversion to or from agriculture)
- Replacement of indigenous crops
- Number of species threatened by agriculture by group (e.g. birds, mammals, vascular plants, vertebrates, invertebrates)
- Accession of crops and livestock in ex-situ storage (number or percentage)
- Number of vertebrate species using habitat on agricultural land by species

- Rate of change from dominance of non-domesticated species to domesticated species
- Inbreeding/outbreeding rate

Target 8: By 2020, the current deforestation rate of native forest by industrial logging and agricultural development have been reduced by 50%, restored 15% of fragmented logged areas and protect 10 % of the remaining virgin forests thereby able to enhance the Solomon islands forest ecology.

Indicators:

- Rate of deforestation.
- Percentage of restored logged area with native species.
- Percentage of forest area under protection.
- Total forest area as a percentage of total land area
- Percentage forest cover by forest type (primary, secondary or plantation)
- List of flora and fauna
- Reforested and afforested areas
- Contribution of forest sector to GDP
- Area and percentage of forest area affected by anthropogenic effects (logging, harvesting for subsistence)
- Existence of procedures for identifying endangered, rare, and threatened species
- Existing strategies for in situ/ex situ conservation of genetic variation within commercial, endangered, rare and threatened species of forest flora and fauna.
- Fragmentation of forests
- Threatened tree species as a percentage of the 20 most used for commercial purposes
- Area and extent of degraded lands reclaimed through forest operations
- Area and percentage of forests managed for catchment protection
- Self-regenerating area as a percentage of total area
- Area and length and numbers of biological corridors
- Relationship between forest cover and frequency of flooding

Target 9: By 2020, wastes; solid waste, non-biodegradable waste and highly toxic waste, including excess nutrients has been brought to levels that are not detrimental to ecosystem functions and human health.

Indicators:

- Type of waste streams under control or eliminated.

Target 10: By 2020, invasive alien species and their pathways have been identified, and, measures are in place to control the potential entry of invasive species and developed and adopted an implementation plan to control or eradicate current invasive species that are threatening food security, trade and people's health.

Indicators:

- Number of invasive species population under controlled or eradicated.

Target 11: By 2020, 50 % of the biodiversity management intervention priority areas in the NAPA and the Climate Change policy are under effective implementation , and a mitigation action plan is developed and adopted and , been integrated with infrastructure development and disaster risk management.

Indicators:

- Number of communities that are resilient and adaptive to climate change.

STRATEGIC Goal C

Enhancing and promoting of protection and restoration of biodiversity to safeguard ecosystems, native species and genetic diversity.

Target 12: By 2020, at least 10 percent of the terrestrial and inland water, and 15 percent of coastal and marine areas of the Solomon Islands are protected and managed effectively, enabling an ecological, representative and well-connected system of protected area, and have been integrated into the wider island and seascape management initiatives.

Indicators:

- Percentage coverage of protected areas, connected protected areas and biodiversity corridor (e.g. % cover of managed mangroves, coral reef, seagrass and coastal vegetation-under protection or restored).
- Total area of protected areas (use IUCN definition of protected areas)
- Endemic species in protected areas
- Threatened species in protected areas

Target 13: By 2020 the Solomon islands has reaffirmed and enhanced its commitments towards the reducing and managing of known globally endangered species, and prevented endemic species from undergoing local extinction; and has reinforced its commitments towards the global and regional efforts to prevent extinction of migratory threatened species.

Indicator:

- Number of endemic/threatened/ endangered/vulnerable species by group (IUCN Red List)
- Species threatened with extinction (number or percent)
- Endemic species threatened with extinction
- Species with stable or increasing populations

Target 14: By 2020, ecosystems that provide essential services, particularly services related to water, its contribution to human health, livelihood and well-being, are restored and safeguarded, taking into account the needs of women, land owners, local communities, and the poor and vulnerable.

Indicators:

- Water quality; [concentration of chemicals, minerals and microorganisms] of drinking water including river and streams.
- Poverty index.

- Surface water quality: Nitrogen, Dissolved oxygen, pH, pesticides, heavy metals, temperature
- Ground water quality: nitrates, salinity, toxicants
- Biological Oxygen Demand (BOD) on water bodies (re: eutrophication)
- Fish family diversity
- Wetland area
- Number of inland fish species introduced
- Change in fish catch per species
- Stream sediment storage and load
- Changes in vegetation type along water courses

Strategic goal D

Enhancing the equitable sharing of benefits derived from biodiversity, and safeguarding traditional knowledge associated with biodiversity uses for the benefit of all.

Target 15: By 2020, the Solomon Island has acceded to the Nagoya protocol and has developed and adopted a corresponding action plan and has undertaken the necessary steps to develop and adopt relevant national legal instruments and implemented effectively.

Indicators:

- Level of inequity.
- Poverty index.

Part 6: Action Plans

Actions	Performance Indicator
Strategic Goal A: Addressing the underlying causes of the loss of biodiversity by effectively and efficiently delivering of our mandates and developing of incentives and subsidies to improve and enhance biodiversity management.	
Target 1: By 2020, the people of Solomon Islands are aware of the value of biodiversity, and have taken the necessary steps for conserving, sustainable using, and sharing of benefits derived from biodiversity, equitably, within the scope of the NBSAP objective and other concurrent policy objectives.	
1. A. By 2016, baseline surveys of the people's value of biodiversity are conducted, and developed and adopted relevant communication strategies for each of the priority areas and as part of other concurrent policy objectives.	Number of surveys conducted and number of communication strategies developed and adopted for each priority areas and the effectiveness of their implementations.
1. B. By 2017, public awareness of the value of biodiversity has been raised, including steps required for their protections and their sustainable use. Supporting activities to include one or all of the followings objectives;	Number of stakeholder engaging in biodiversity awareness (within the scope of each priority areas) and the effectiveness of the awareness strategies adopted.
i. Consolidate, reaffirm and ensure that all Solomon Islanders have been reached, including villagers, politicians, women, children, resource owners, chiefs, headman and business people.	Number of stakeholders engage in public awareness (knowledge giver) and number of people that participate in awareness (knowledge receiver).
ii. Consolidate, reaffirm and ensure that environmental issues are covered in popular media such as newspapers, radios, notices, seminars, theatres and church sermons at least each day.	Frequency of environmental issues appearing in popular local media.
iii. Consolidate, reaffirm and ensure that Non-Governmental Organizations (NGOs), Community Based Organizations (CBOs) and the churches have scaled up their awareness activities.	Evidence of scaling up of awareness activities by NGOs, CBOs and the churches.
1. C. By 2017, biodiversity or environmental related curricula have been re-enforced or reviewed and adopted into primary, secondary and in country tertiary institutions. Supporting activities to include one or all of the following objectives;	Number of curricula or courses that in-cooperate biodiversity or related environment issues.

i. Consolidate and enhance biodiversity component in the environment, forestry and agriculture courses offered by the School of Natural Resources of Solomon Island National University (SINU).	The environment, forestry and agriculture courses offered by SINU are emanating relevant biodiversity theme.
ii. Consolidate and upgrade the early childhood, primary and secondary curriculas to include relevant biodiversity themes.	Evidences of biodiversity contents in the early childhood, primary and secondary curricula.
iii. Reestablish and enhance the environmental education and information unit of MECDM with support from stakeholders, particularly from SINU.	Environmental unit of MECDM is under operation.
1. D. By 2019, the advocacy for valuing environmental services have been raised, thereby government, business and stakeholders are undertaking positive steps to develop, adopt and implement relevant plans for sustainable production and consumption of biodiversity, and keeping the impact of use of natural resources within safe ecological limits. Supporting activities to include one or all of the following objectives;	Number of organizational policies and strategies that in-cooperate sustainable production and consumption of biodiversity concept and their effectiveness.
i. Ensure government, NGOs and Solomon islanders in general are undertaking trainings on environmental awareness and education on environmental economics.	Number of government, NGOs' officers and Solomon islanders trained in environmental economic or related courses.
ii. Initiate and undertake steps required for factoring of environmental issues into fiscal policy and national accounting system.	Number of projects or government initiatives aiming to factor environmental issues into fiscal policy and national accounting system.
iii. Conduct and enhance environmental education and awareness on the impact (negative and positive) of mining development, logging and agricultural practices on the environment and steps required to managed and monitor their adverse impact, including under climate change conditions.	Number of stakeholders undertaking the corresponding activities and number of extractive industries' with effective mitigating and management strategies.
Target 2: By 2020, existing environmental laws, regulations, policies, management plans and action plans have been effectively implemented, with special attention towards the effective implementation of those provisions for supporting of incentives and subsidies for biodiversity managements.	
2. A. By 2016, this revised NBSAP has been adopted by MECDM, as a biodiversity policy and the ECD divisional strategy, and to serve as an implementing instrument for the CBD (1992), the	NBSAP has been adopted by MECDM and has been endorsement by the Cabinet.

Environmental Act (1998) and other concurrent laws relevant to the adopted priorities.	
2. B. By 2016, the Solomon island government has reviewed, consolidated and adopted the resources mobilization plan for NBSAP.	The effectiveness of the resources mobilization plan.
2. C. By 2018, relevant organizations have in cooperate and adopted relevant actions and proposed activities of the NBSAP, thereby enable to enhance coordination and improve environmental governance at the national level, cascading and influencing the efficiency and effectiveness of environmental governance at the provincial and community levels. Supporting activities to include one or all of the followings objectives;	Relevant actions and proposed activities emanating from organizational strategies and governance effectiveness.
i. Consolidate, reaffirm and ensure relevant ministries, provincial government and city council have in cooperated relevant actions and proposed activities into their co-operate plans and divisional plans.	Number of co-operate plans, divisional plans, provincial government and city council strategies that are emanating relevant action plans and proposed activities, and the effectiveness of their implementation.
ii. Consolidate, reaffirm and ensure that relevant bilateral, regional and multilateral agencies have in cooperated relevant actions and proposed activities into their Solomon Islands' country strategy.	Number of bilateral, regional and multilateral country strategy that is emanating relevant action plans and proposed activities or other concurrent policy objectives, and the effectiveness of their implementation.
iii. Consolidate, reaffirm and ensure that relevant none government organizations (international and national) CBOs and private sectors have in-cooperated relevant actions and proposed activities into their organizational plans and strategies .	Number of organizational strategies emanating relevant action plans and proposed activities or other concurrent policy objectives, and the effectiveness of their implementation.
iv. Consolidate, reaffirm and ensure that relevant projects or proposed projects have in co-operate relevant actions and proposed activities.	Number of current projects or proposed projects, emanating relevant action plans and proposed activities or other concurrent policy objectives, and the effectiveness of their implementation.
v. Consolidate, reaffirm and enhance the effectiveness of the institutional arrangement for coordinating for the NBSAP	Effectiveness of ECD performance (national central node) and those relevant ministerial divisions,

implementation.	provincial government, city council and thematic working groups under each priority areas.
vi. Enable the effective monitoring, reporting and exchange mechanism for NBSAP there by strengthening of each of the existing and new thematic subgroups at the national, provincial and local levels.	Effectiveness of network (ECD as clearing house demonstrated by the frequency of environment reports received from sister ministries, provincial government, city council, bilateral, multilateral and regional agencies, CSOs and private sectors as required under the Environment Act).
2. D. By 2018, all environment related laws, policy and management plans has been revisited and are effectively applied or reviewed to enable the effective safe guiding of the Solomon islands biodiversity and its people. Supporting activities to include one or all of the following objectives;	Number of laws, policies and action plans that are reviewed and adopted in concurrent to the relevant action plan and corresponding activities of the NBSAP and the effectiveness of their implementations.
i. Ensure that the Environment Impact Assessments (EIA) has been effectively applied in forestry, fishery and agriculture development and has been enhanced in the mining sector.	Number of EIA conducted under the identified sectors.
ii. Consolidate, enhance and ensure all actions and proposed activities related to governances under the priority areas are under effective implementation according to the NBSAP objective and any other concurrent policy objectives.	Effectiveness of governance in corresponding to relevant priority areas.
iii. Facilitate and ensure that relevant environmental concerns particularly those actions related to finance are factored into the post co-operate plan of the Ministry of Finance and Treasury, and bilateral and multilateral countries' strategies.	Ministry of Finance and Treasury co-operate plan and bilateral and multilateral country strategy emanating relevant action and proposed activities (e.g. commitment to the Protected Area Trust Fund).
v. Enhance the institutional and public officer's capacity to effectively implement the CBD objectives and other related environmental conventions as related to the adopted priority areas.	Number of projects or government initiatives aiming to enhance government human capacity to effectively implement CBD or related environmental conventions.
2. E. By 2019, sub-biodiversity strategy action plan or related instrument such as the ridge to reef plan for Choiseul province and Isabel province, have been developed and adopted for the rest of the provinces and Honiara City.	Number of provincial governments or city council with provincial biodiversity strategy or similar instrument.

Target 3: By 2020, the Solomon Islands, has developed and adopted a sustainable finance plan and its relevant mechanisms, to mobilize resources for the effective implementation of the NBSAP's objectives, in concurrent to the NDS 2011-2020, and other applicable environmental laws and policies.	
3. A. By 2016, the Solomon Islands has reaffirmed and adopted this NBSAP as a policy instrument, and have accepted and adopted the sustainable finance component and the whole as the NBSAP resource mobilization plan in concurrent to, and complimenting and reciprocating the NDS 2011-2020 policy outcome objectives (Target 2).	NBSAP document endorsed by the Solomon Island's Cabinet.
3. B. By 2017, at least 3 ecosystems (for example, coral reef, mangrove, mountain forest or watershed) have undergone a Payment of Ecosystem Serves (PES) assessment, and results emanating from these researches are used to influence steps to reform national fiscal policy and national accounting system (Target 4).	Number of PES assessment and number of strategy utilizing the result to reform relevant policies.
3. C. By 2019, a national sustainable finance strategy and its relevant mechanisms has formed at the national level with support from provincial government and CBO. Supporting activities to include one or all of the following objectives;	A national sustainable finance strategy is in place with its effectiveness.
i. Develop and adopt a long term and a short term business plan, and fundraising strategies for each organizational allegiances for implementing the NBSAP objectives, particularly for provincial government, City Council and CBOs.	Number of environmental organizations with long term and short term business plans.
ii. Develop relevant sustainable finance awareness materials and disseminate sustainable finance knowledge across all levels of institutions particularly for provincial governments, City Councils and CBOs (Target 1).	Number of organization undertaken sustainable finance awareness and initiatives
iii. Developed and adopted a large-scale business investment plan for at least two sites to demonstrate the implementation of the NBSAP objectives.	Number of large-scale business investment plan t e.g. for protected area site
iv. Develop or adopted a costing tool or a score card to measure the effectiveness of protected area management and other related environment intervention initiatives within the scope of the NBSAP (Target 12).	Number of costing tool, score card developed or adopted

v. Conduct at least two feasibility studies for identifying of potential internal revenue e.g. national tourism fee, payment for ecosystem service, or percentage allocation from extractive resource, and use the result from these feasibility studies to develop mechanism for deriving internal revenues to implement the objective of the NBSAP and any other related policies(Target 4).	Number of feasibility studies on potential revenues.
vi. Develop strategy to ensure The Ministry of Finance and Treasury , and related financial agencies have in cooperated and factored environmental concerns into their policy instruments (Target 1).	Ministry of Finance and Treasury and other financial institutions has factored relevant actions and activities into their strategies and their effectiveness
3. D. By 2018, at the latest there has been a 10 % increase of funding allocation towards environmental protection and safe guide institutions (for example MECDM, environmental NGOs, CBOs, private sectors and research institutions) to enable them to scaled up their operations and the effective implementation of the NBSAP objective .	Percentage of funding allocation for environmental protection
3. E. By 2019, a National Environmental Trust Fund (ETF) and its mechanisms is developed and adopted to ensure a long term financial commitment towards environmental protection initiatives in country in concurrent to the NBSAP objectives and related policies objectives. Initial steps to include the operationalization of protected area trust fund (Target 12).	National Environmental Trust Fund (ETF) formulated and in operation
Target 4: By 2020, researches, encompassing traditional knowledge, science, social science, and economic investigations have been raised, while encouraging the transferring of relevant biodiversity technology such as Geography Information System (GIS), thereby enable Solomon islanders understand and appreciate, biodiversity values, functions, status, threats and the consequences of their loss, and have taken necessary steps to manage and mitigate threats accordingly.	
4. A. By 2017, 30 % of the researches identified in each priority areas have already been started, or steps have been initiated to undertake them. Research themes may include one or all of the following themes;	Number of research or survey conducted inconformity to the stated themes by high school students, tertiary students, NGOs, Government agencies and research institutions.
i. Degree of change of people's value towards biodiversity.	Number of surveys conducted and their application in achieving relevant

	targets.
ii. Effectiveness of environmental governance and their impacts on service deliverances.	Number of research undertaken on governance effectiveness and their applications in achieving relevant targets.
iii. Payment of ecosystem serves (PES) and feasibility studies on potential revenue sources.	Number of PES research conducted and their applications within the relevant targets.
iv. Population sizes, distribution of threatened species.	Number of research and their applications in the relevant targets particularly target 13.
v. Assessment of native species distributions, cultural and subsistence uses, and their potentials for commercial uses.	Number of research conducted and their applications in relevant targets particularly targets 6, 7 and 13.
vi. Bio-prospect study on marine invertebrates, single celled marine organism, forest and inland water biodiversity.	Number of research conducted and their applications in relevant targets particularly targets 6, 7, 8 and 13.
vii. Taxonomical study on montane forest, coastal and inland water biodiversity.	Number of research conducted and their applications in relevant targets particularly targets 6, 7, 8, 12 and 13.
viii. Develop a central database for native breeds, edible plants and planting systems.	Database for storing native breeds, edible plants and planting systems in place.
ix. Assessing of hydrologic process, soil characterization, evaporation, transpiration, and groundwater seepages and the effect of land based pollution on water shed and coral reef.	Number of research conducted and their applications in achieving relevant targets particularly target 14.
x. Assess and develop flood model for floodplain and lowland channels e.g. for Guadalcanal plain.	Number of assessments conducted and their applications in achieving relevant targets particularly targets 9, 11, 12 and 14.
xi. Analysis and monitoring of drinking water quality and river systems.	Number of research and assessments conducted and their applications in relevant targets particularly targets 9, 11, 12 and 14.
xii. Laboratory assessment for water quality measurement.	Number of research and assessments and their applications in relevant targets particularly targets 9, 11, 12 and 14.
xiii. GIS map of current protected areas including taboo areas.	Number of GIS map of protected area and their applications in relevant targets particularly target 9, 11, 12

	and 14.
xiv. Monitoring of potential entry point of marine invasive species such as ports and marinas.	Number of research and their applications in relevant targets particularly target 6, 7, 9, 11, 12 and 14.
xv. Effects of introduced and native invasive species under changing conditions such as waste and climate change.	Number of research and their applications in relevant targets particularly targets 9, 10, 11, 12 and 14.
xvi. Intra specific effects of invasive species on their native counterparts.	Number of research and their applications in relevant targets particularly target 10.
xvii. Effects of climate change on the inshore and tuna fishery resources, mangrove, coral reef, and coastal shrubs.	Number of research and their applications in relevant targets particularly targets 9, 11, 12 and 14.
xviii. Assessment of urban green infrastructure development to mitigate against climate change and disaster.	Number of research and their applications in relevant targets particularly targets 9, 11, 12 and 14.
4. B. By 2018, the Solomon islands has enhances and undertake an in-country technologies assessments for each priority areas, and develop strategies to fill gaps accordingly.	Number of technology assessments undertaken under each priority area and the effectiveness of the corresponding technology capacity development strategies.
4. C. By 2018, a national clearing-house mechanism is established, together with a strategy to improve access to, and sharing of new knowledge and technologies within the objectives of NBSAP and any other concurrent laws and policies.	A clearing house mechanism is in place and is under effective operation.
4. D. By 2019, traditional practices of resource management and related ecological knowledge have been documented and steps have taken to utilize them for the effective implementation of the NBSAP objectives and other concurrent policies and laws. Activities to include one or all of the followings;	Documentation of traditional practices and their applications in achieving relevant targets.
I. Survey and documenting of traditional knowledge and practices that are found in conformity to conservation and sustainable uses of biodiversity.	Documentation of traditional practices and their applications in achieving relevant targets.
II. Documenting of traditional knowledge and related management systems and the assessments	Research and documentation of traditional practices and their

of their potentials to integrate with modern agricultural management systems e.g. improving of traditional Temotu agriculture system.	applications in achieving relevant targets.
III. Document and develop inventory of traditional use of herbal medicines (Target 15).	Inventory of traditional herbal medicine and their applications in relevant targets particularly target 15.
Goal B: Reduce the direct and indirect pressures on biodiversity through ecosystem based management approach.	
Target 5: By 2020, the Solomon Islands has reinforced and reaffirmed its commitment, reciprocally to the regional and sub-regional offshore fisheries strategies and plans, particularly in effort to sustainably manage tuna, reducing of tuna by catch and instigating of incentives and subsidies to increase economic benefit/return from tuna development.	
5. A. By 2016, the Solomon Islands has developed and adopted a reviewed Fishery Act, thereby continue to provide the legal basis for the effective and efficient management of the Solomon Islands marine biodiversity and regulating of fishery development in concurrent to the NBSAP objectives and other related laws and policies.	Fishery Act has been reviewed, adopted and under effective implementation.
5. B. By 2016, the Solomon Islands has developed and adopted a policy instrument for addressing Illegal, Unreported, Unregulated (IUU) fishing and Monitoring, Control and Surveillance (MCS), thereby able to effectively manage and maximize benefits derived from tuna fisheries.	IUU and MSC policy in place.
i. Improving of the Monitoring, Control and Surveillance (MCS) system for tuna, and enhancing of an effective data management system.	MSC with effective data management system.
ii. Facilitate and enhance the Solomon islands commitment to the PNA Vessel Day Scheme (VDS) with the objective of (1); adding value to tuna fishery industry development, (2); achieving of a 30% reduction of tuna fishing effort,(3); achieving of a two month FAD closure, (4); promoting of the chain of custody and (5); commitment to a 100 % observer coverage.	1); % of revenue from tuna, (2); % reduction of tuna fishing effort,(3); number of days/months for FAD closure, (4); evidences of chain of custody been promoted and (5); % of observer coverages.
iii. Establish and strengthening of the national MCS coordination committee at the national level and promote avenues for national- regional cooperation and south-south interactions.	At least a national MCS coordination committee is in place

iv. Developing of sub legislations/ regulations for flag and port state control, boarding and inspections on high seas, conditions for license and gazette of notices, and harmonize these regulations with Western and Central Pacific Fisheries Commission (WCPFC), Harmonized Minimum Terms and Conditions (HMTCs) and the PNA Vessel Day Scheme and 3IA strategies.	Sub legislations/ regulations for flag and port state control, boarding and inspections is in place (also refer to target 5.A)
v. Explore the option for regional prosecution workshops and advocate for developing a unified and harmonized prosecutions for FFA members and CTI region.	As part of conference or meeting agendas.
vi. Improving of Port Controls and Monitoring and utilizing of current opportunities offered by regional networks with a special emphasis on the implementation of the HMTC related to pre-fishing inspections and effective data management.	Effectiveness of Port Controls and Monitoring.
vii. Initiate and advocate for adopting of a regionally harmonized Port State Inspection Scheme for all FFA members including those in the CTI region.	As part of agendas for relevant committee discussions or relevant organizational action plan/s.
viii. Capacity building in the area of port monitoring and consider advocating for FFA to assist in establishing regional hubs in key ports that would enable inspections in accordance with all relevant coastal state licensing requirements.	Relevant organizational action plan/s for port monitoring.
ix. Advocate for and using FFA to develop and adopt a standardized information management system for inspection process in port monitoring and control.	Regional standardized information management system.
x. Aligning of strategies with regional organizations to reduce tuna by-catch and continue to engage with fishing companies and fishers in workshops that aims for reducing tuna by catch.	Tuna by-catch strategy/ies in place.
xi. Advocate for addressing equity of highly migratory species particularly those species that are commercially harvested outside of the Solomon Islands and have share home range.	Relevant organizational action plan/s for addressing equity in highly migrating species.
Target 6: By 2020, coastal harvestable fish, mammals, reptiles and invertebrates, for commercial or subsistent uses, are harvested sustainably within the current legal and management instruments, while drawing special attentions on protecting threatened species, and restoring of vulnerable ecosystems.	

6. A[51]. By 2018, Solomon Islands has developed and adopted a national dolphin management plan and has reviewed and adopted a regulation for bottlenose Dolphin (*Tursiops truncatus*), to be complemented by provincial ordinances and CBO management plans. Supporting activities to include one or all of the following objectives;	At least, one national dolphin management plan, a reviewed regulation for *Tursiops truncates* are in place and number of provincial ordinances and CBO management plans that's provided provisions for dolphin management.
i. Further taxonomical study and identifying of population size, distribution, calving sites and factors that are contributing to dolphin population decline, as well as identifying of the sustainable harvesting threshold for those harvestable dolphin species (target 3).	Number of research conducted in concurrent to the proposed activity.
ii. Reduce tuna-by-catch and promoting of dolphin free tuna fishery (Target 5).	Number of initiatives undertaken to reduce dolphin caught as tuna-by-catch and measure of the approaches effectiveness.
iii. Develop and adopt provincial dolphin sanctuaries to compliment the Western Province dolphin sanctuary (Target 2).	Number of province declaring their provincial water as dolphin sanctuary.
iv. Review the current allowable export per year for bottle nosed dolphin based on science (Target 2).	Review of current allowable export quota.
v. Conduct dolphin conservation awareness while discouraging traditional hunting for dolphin by providing alternative uses such as ecotourism (Target 1 and 2).	Number of village/communities that put the traditional dolphin hunting on hold with evidence of alternative uses.
6. B. By 2015, 25% of the Solomon Islands communities have adopted and have already practicing a Community Based Resource Management modal (CBRM), and by 2016, a reviewed national action plan is developed and adopted as a post CTI-NPOA for the management of coastal resources by addressing food security, climate change and coastal biodiversity. Supporting activities to include one or all of the following objectives;	National action plan on Coral Triangle Initiative has been reviewed or readopted as its post national action plan.
i. Reducing the anthropogenic stress on coastal ecosystems while promoting sustainable harvesting of coastal biodiversity for food security and as a mechanism for climate change adaptation and	Evidence of the reduction of anthropogenic stress on coastal ecosystems e.g. waste on mangrove and number of species/groups under

[51] Dolphin Workshop minute (2012) hosted by MECDM and MFMR with assistance from SEMRICC project, UNDP.

mitigation (Target 9).	sustainable harvesting threshold.
ii. Enhancing of awareness on waste management on land based pollution e.g. sediment load, human and animal waste on coastal ecosystems thereby able to change people's perception from viewing coastal land and aquatic environment as dumping grounds and sites for defecating (Target 1).	Reduction of waste on coastal environment and changes of peoples' perceptions from viewing the coastal environment as dumping grounds.
iii. Phasing out dynamite fishing, regulating of fishing gears, hook sizes and fishing methods that are detrimental to biodiversity and, including regulating of mining of coral rock, and those activities that damage corals such as boat and tourist operations (Target 3).	Effective enforcement of the Fisheries Act and the Number of criminal offences and court cases resulting from the infringement of Fisheries Act.
iv. Enhancing researches on the valuating of coral reefs, mangroves and other natural infrastructure that insulated communities from sea-level rise, and assess the effect of climate change, invasive or native species on coral (Target 4).	Number of research conducted in consortium to the identified themes as stated in the proposed activities.
v. Reinforcing of the implementation of the National Adaptation Plan of Action (NAPA) on climate change particularly those priorities related to coastal environmental management (Target 11).	Action corresponding to this proposed activity as identified in NAPA is under effective implementation.
vi. Enhancing effort to achieve target on protected area to ensure coral reef ecosystem is well represented in the protected area system, and undertake taxonomical study on coral reef species and the associated invertebrates and fish (Target 12).	Percentage of coral reef under effective protected area management.
vii. Documenting of coastal and marine species, their distributions, cultural and subsistence uses and if necessary undertake aquaculture assessment on viable invertebrate (Target 4).	Number of research conducted with clear elucidation of the identified parameters of the proposed activity (also .see target 4 for indicator).
viii. Document the cultural uses of sea shells and conduct an economic study to identify the monitory value of betel nut lime uses, home decorations and traditional money uses (Target 4).	Number of research conducted with clear elucidation of the identified parameters of the proposed activity (also .see target 4 for indicator).
ix. Support and increase the community based conservation establishments (Target 3).	Number of CBO.
x. Reinforce and continue to enforce the periodic closure of sea cucumber export (Target 3).	Effective enforcement of the sea cucumber regulation.
xi. Promote and enhance bio-prospecting research on marine invertebrates and single celled marine organisms (Target 4).	Number of research conducted with clear elucidation of the identified parameters of the proposed activity

	(also .see target 4 for indicator).
xii. Reinforce and enhance the regular high-level discussion between planners and fishery managers to improve coordination between stake holders (Target 2).	Effectiveness of the corresponding coordinating mechanism.
6. C. By 2018, a policy, or management plan is developed and adopted for an integrated coastal zone management (CBRM) for the protection of intertidal zones that include, mangroves, sea grasses and algae ecosystem and if necessary efforts are made to restore and protect 50% of mangroves and 10 % of sea grass ecosystem thereby contributing to the national protected area system, while bolstering natural infrastructure development. Supporting activities to include one or all of the following objectives;	Number of policy in place and percentage of ecosystem under effective management.
i. Restoring and protecting of riparian and coastal vegetation and maintaining of mangroves and seagrass meadows to obstruct the flow of nutrients and sediments to coastal area and coral reefs.	Percentage of ecosystem type been protected or restored.
ii. Enhancing the capacity of management agencies to improve the ability of staff to understand the threats to coastal fish habitat, improving of networks between agencies and encourage the transferring of knowledge from experts to communities on the importance of conserving mangroves and seagrass (Target 1).	Effective stakeholder coordination and participation.
iii. Reinforcing research on mangroves, seagrass and algae ecosystem, their distribution, diversity and coverage and the ecosystem services they are providing (Target 3).	Number of research conducted with clear elucidation of the identified parameters of the proposed activity.
iv. Ensuring seagrass and mangrove conservation values are in cooperated in curricula development (Target 3).	Curriculum with seagrass and mangrove conservation.
v. Enhance and reinforce the collaboration on regional database monitoring of sea grass and mangroves ecosystem and linking them to global monitoring clearing house offered by Seagrass-Watch, www.seagrasswatch.org and Mangrove Watch, www.mangrovewatch.org.au (Target 3).	Effective utilization of the global seagrass and mangrove database by stakeholders.
vi. Profiling of total economic value of mangroves ecosystem services and advocate for their inclusion in national fiscal policy instruments (Target 2 and	National fiscal policy instruments emanating the elements of economic value of mangroves ecosystem and

3).	other related ecosystems.
vii. Enhancing of the development of alternative livelihoods (e.g. tourism activities) to improve current income generating activities at the village level and to reduce pressure on mangrove resources (Target 3).	Number of alternative livelihood activities undertaken instead of engaging in that put pressure on mangrove ecosystem.
viii. Develop mangrove policy or a management plan as an instrument to implement current legal instruments e.g. Fisheries ACT, Protected Area Act and improving the applying of EIA in development associated to or likely to affect mangrove ecosystem (Target 2).	At least a national mangrove policy or related instrument is in place with effective implementation e.g. through effective application of EIA.
ix. Develop or formulate a mangrove working group (Target 2).	At least a national mangrove working committee is established and under effective coordination.
x. Improve conservation of mangroves communication and awareness e.g. policy brief and newsletter (Target 1).	Mangrove awareness materials produced and widely disseminated.
6. D. By 2018, a national policy or management plan is developed and adopted for protecting of turtles and turtle nesting sites, and if necessary develop local actions plans for their recovery to complement regional and international turtle programme initiatives. Activities to include one or all of the following objectives;	At least a national turtle action plan is developed to elaborate on this action plan and to complement regional and international programme initiatives.
i. Adopt, collate, reinforce and recognize the current CBO programmes on turtle monitoring and recovering programmes.	Effective coordination between CBOs that are focusing on turtle protection.
ii. Regulating of solid waste in open water, rivers and coastline to reduce turtle mortality (Target 9).	A reviewed waste management strategy that in cooperate concerns for turtle protection.
iii. Enhance the effective enforcement of the Fishery Act (the reviewed Fishery Act) to control the mortality of turtle (Target 2).	Effectiveness of Fishery Act implementation
iv. Enhance awareness and empowering communities to form community based conservation for protecting turtles and their nesting sites (Target 1).	Number of CBO with management plans for protecting turtle.
6. E. By 2019, a policy or management plan is developed and adopted for elasmobranch found in the Solomon Islands water to compliment the Regional Plan of Action (RPOA) on shark,	At least one shark/elasmobranch policy or management plan is in place.

developed by SPREP. Supporting activities to include one or all of the following objectives:	
i. Raising shark awareness, thereby able to influence the in cooperating of shark themes in the CBOs' management plans (Target 1 and 2).	Number of stake holder engaged in shark awareness, and number of CBO management plans with shark conservation objective.
ii. Develop and adopted a national shark sub-legislation or management plan.	At least one national shark sub legislation or management plan is in place.
iii. Reinforce the commitment towards the PNA objectives on the provisions for the prohibiting of any foreign purse seine vessels fishing for tuna associated with whale sharks.	Level of national contributions and commitments toward the effective implementation of PNA action plans.
iv. Conduct taxonomic study on sharks and identify their distribution, population sizes and factors contributing to sharks modality (Target 4).	Number of research conducted with clear elucidation of the identified parameters of the proposed activity.
Target 7: By 2020, the genetic diversity of native cultivated plants, domesticated animals and their wild relatives, and or any socio-economical and culturally valuable species' population are maintained or increase.	
7. A. By 2017, current policies, regulations and management plan for agriculture sector are effectively implemented and/or reviewed by part or whole to adequately address biodiversity management concerns. Supporting activities to include one or all of the following objectives;	Number of policies, regulations and management plans that have been reviewed and in cooperated biodiversity management objectives.
i. Enhanced and improved the co-ordination between The Ministry of Agriculture and Livestock (MAL), The Ministry of Forestry and Research, the Aquaculture division of Ministries of Fisheries and Marine Resources, MECDM, NGOs, and financial institution to enhance and improved implementing of agro-biodiversity related activities and effectively decentralizing of functions to provincial and community levels.	Effective coordinating mechanism for agro-biodiversity mechanisms is in place.
ii. Reinforced and support the implementation of strategies for the maintaining of the genetic diversities of cocoa and coconut varieties while increasing the cocoa and coconut productions.	Number of cocoa and coconut species diversity and production of each industry per year.
iii. Reduce the use of fertilizers and synthesized chemicals in monoculture crops such as oil palm, cocoa and coconut and encourages the use of native plant and native fruits (e.g. pawpaw, taro, melon and other) for shades, and to support food	Amount of fertilizers and synthesized chemicals used in farms and number of community or household using native species for supporting

security.	agriculture development.
iv. Enhancing and disseminating of knowledge related to biological control in regulating diseases and pests associated to agriculture (Target 1).	Number of people using biological control.
v. Facilitate reforestation of logged areas or degraded forest with native plants.	Percentage of reforested area with native plants over logged area or degraded forests.
vi. Facilitate the restoring of native animals species/populations such as Sus papuensis-native pig, australops, rhode island reds, the feral breed of fowls found on Santa Cruz Island and the megapod birds.	Number of initiative to restore native species and their population sizes.
vii. Encourage and enhance traditional system of farming for livestock including encouragement of integrating livestock with crops in the villages and large scale plantation.	Number of communities practicing traditional farming and mix farming system.
viii. Promote awareness on the negative effect of interbreeding of native breed with introduced breed thereby enable people to maintain native breed genetic diversity (Target 1).	Number and population of native species (also see indicator for target 1)
ix. Raise honey bee productions and undertake research on the effect of bee on fruit trees.	Number of farmers engaging in honey bee production and quantity of production per year.
x. Control the spread of Apis cerana (Asian bee) and the varroa mite (invasive species) there by reduces negative effect on honey bee productions (target 10).	Asian bee and the varroa mite under control.
xi. Training for farmers on the importance of agro-biodiversity (Target 1).	Number of farmers trained
7. B. By 2019, population consuming of local food has increases while reducing the consumption rate of imported goods and thereby increase native species raising and planting.	Percentage of population consuming and producing local food.
7. C. By 2019, Solomon islands has revisited those environmental friendly agriculture production systems particularly with a special attention towards traditional practices that helped to maintain native species diversity.	Inventory of environmental friendly agriculture production systems.
7. D. By 2019, an ex-situ conservation action plan is developed and adopted for the conservation of identified native breeds and plants. Activities to include one or all of the followings;.	At least one national ex-situ conservation action plan is in place to elaborate and compliment this NBSAP.

i. Facilitate training and recruiting of livestock agro-biodiversity conservation officer in key ministries.	Number of training and number of farmers trained.
ii. Increasing of the level of commitment to regional communication on livestock agro-biodiversity conservation and sharing of information and technologies in supporting agro-biodiversity activities.	Effective implementation of regional livestock agro-biodiversity conservation initiatives.
7. E. By 2016, Solomon Islands has developed and adopted a post action plan for seaweed and aquaculture development.	A post action plan for seaweed and aquaculture in place.
7. F. By 2018, the level of aquaculture development particularly those initiatives that are focusing on improving of native breeds and plants have been raised. Activities to include one or all of the following objectives:	Number of communities or households engaging in aquaculture farming.
i. Facilitate and encourage increase of production of seaweeds, corals, clams and other marine ornamental trade.	Production of native commercial species per year
ii. Enhance training to implement aquaculture activities.	Number of training conducted and number of farmers involved.
iii. Increase the knowledge and capacity of fishery staff and extension officers for providing the necessary trainings for rural farmers (Target 1).	Number of MFMR officers and their extension officers who attended relevant aquaculture development trainings.
iv. Explore native species for aquaculture development such as rabbit fish while discouraging introduced species and LMO.	Number of native species assessed for their aquaculture development potentials.
v. Maintain a watch brief on advances in aquaculture technologies in other regions to identify opportunities to diversify the sector to cope with the changing climate.	Effectiveness of information transfer.
vi. Strengthening of the national capacity to manage the environmental issues related to development of aquaculture, and the application of Environmental Impact Assessment in aquaculture development.	Effectiveness of EIA application in aquaculture development.
Target 8: By 2020, the current deforestation rate of native forest by industrial logging and agricultural development have been reduced by 50%, restored 15% of fragmented logged areas and protect 10 % of the remaining virgin forests thereby able to enhance the Solomon islands forest ecology.	
8. A. By 2017, a national forest, mountain and plant	A national forest, mountain and plant

genetic working group or its remnant is formed or reinforced to coordinate and improved dialogue between relevant stakeholders and, is under effective operation.	genetic working group is formed and the effectiveness of the working group operation.
8. B. By 2017, a national forest management policy or plan has been developed or reviewed and adopted for managing of forest, mountain and plant biodiversity. Supporting activities to include one or all of the following objectives;	A national policy is in place, and is emanating elements of the stated activities.
i. Effective enforcement of the forestry regulations and monitoring of logging activities and ensuring that, by 2019 no logging activity is occurring in steep slopes, sensitive forest water catchment and protected areas.	The Effectiveness of the implementing measure for forestry regulations.
ii. Scale up the integrated forest management programme/project and provide alternative sustainable development options such as eco-tourism and payment of ecosystem services for identified sites in the country.	Proportion of land under integrated forest management and number of alternative industries promoted in the targeted areas.
iii. Reducing the rate of logging and slush and burn by 10 % and to ensure t by 2020 logging of native forest has been phased out and reforestation of commercial native species has been phased in.	Rate of forest degradation from logging and slush and burn.
iv. Restore current logged areas, non-forest land and wet land with native trees to enhance carbon stock and forest ecology.	Percentage of degraded forest been restored with native forest.
8. C. By 2019, the social conflict associated with logging activities at the community level is adequately addressed through effective applying of the EIA and monitoring system.	Number of EIA conducted and effectiveness of the monitoring system for logging operations.
8. D. By 2019, the Solomon Islands has developed and adopted strategy for conserving plant genetic resources and has elaborated into provincial strategies and community based management plans. Supporting activities to include one or all the following objectives;	A national strategy for conserving plant genetic resources is in place, with element of the strategy, emanating those activities stated here or from their results, and their elaboration into provincial strategies and community action plans.
i. identify intraspecific variation of plant species and undertake inventory of commercial species (Target 4).	Better definition of the vegetation type in the country.
ii. Raise awareness about genetic plant resources	Number of stake holder engaged in

and revisit demonstration plots and seed and specimen storages.	genetic plant resources awareness and number of demonstration sites and seed and specimens storages established.
iii. Develop system for monitoring and reporting of genetic erosion for forest genetic resources (Target 4).	A monitoring and reporting system for genetic erosion for forest genetic resources is in place.
iv. Develop programmes or projects to restore threatened plants and those listed in the Wild Life Management Act.	Number of project aiming to restore threatened species and those listed in the Wild Life Management Act.
v. Factor forest genetic resources into the national or sub national fiscal planning policies.	Number of sub national fiscal planning policies emphasizing on forest genetic resources
vi. Improve ex situ forest conservation, taking special attention to the need for its integration with social and economic components.	Effectiveness of forest conservation initiatives.
vii. Ensuring equitable sharing of forest genetic resources is in-cooperated into the intended national policy instrument for implementing of the Nagoya protocol (Target 15).	National policy framework for implementing Nagoya framework emphasizing equitable sharing of forest genetic resources.
viii. Improving of information on native biodiversity that support food security and disseminated to villagers and the wider public (Target 1).	Number of native biodiversity information produced by stakeholders and the extent of their dissemination.
8. E. By 2019, training for replanting of vulnerable terrestrial areas is enhanced.	Number of stakeholders and officers undertaking relevant trainings under the corresponding action theme.
8. F. By 2019, a management plan has been developed and adopted for the seasonal dry forest and grass land of Guadalcanal and Central province.	Number of management plan for seasonal dry forest and grass land.
8. G. By 2019, researches on the adverse effect of extractive resources such as logging, mining, large scale mono-crops are conducted and results emanating from these researches have been factored into an improved management plans (Target 4).	Number of research or EIA conducted for the named industries and effectiveness of management plans.
8. H. By 2019, the level of environmental education and public awareness about the need for discouraging people from unnecessary chopping of trees, burning of bushes , killing of birds, lizards and other animal as leisure activity have been	Number of stakeholders engaged in awareness according to the corresponding themes (See indicator for target 1)

raised (Target 1).	
8. I. By 2019, the national geospatial information working group has been re-instated and reinforced and results are adopted into relevant policies, capacity building and institutional strengthening strategies (Target 4).	Effectiveness of the geospatial information working groups.
8. J. By 2019, an action plan/policy instrument is developed and adopted at the national level to compliment regional exchange of forest and tree germplasm that aimed for a Regional Tree Seed Centre (Target 2).	An action plan/policy instrument for forest and tree germplasm is in place and under effective operation.
8. K. By 2019, current curriculums have been reviewed to include reforestation and biodiversity restoration theme particularly by the Rural Training Centers (RTC), high schools and tertiary institutions (Target 1).	Number of curriculum containing reforestation and biodiversity restoration themes.
8. L. By 2019, the level of research particularly, taxonomical classification of montane forest biodiversity - species identifications, distribution and status of reptiles , frogs and insects, thereby improved information to enhance the effectiveness of management plans to maintain or recover threatened species (Target 4 and Target 12).	Number of research conducted with clear elucidation of the identified parameters of the action point and their application in developing of effective management plans.
8. M. By 2019, a legal framework for the REDD+ initiative has established while effectively implementing the REDD+ roadmap in ensuring proper safeguarding of biodiversity and relevant institutional arrangements.	A legal framework for REDD+ is in place and REDD+ road map is under effective implementation.
Target 9: By 2020, wastes; solid waste, non-biodegradable waste and highly toxic waste, including excess nutrients has been brought to levels that are not detrimental to ecosystem functions and human health.	
9. A. By 2016, Solomon Islands has reaffirmed its commitment to the international and regional conventions on addressing wastes (e.g. the Stockholm Convention on Persistent Organic Pollutants (POP Convention), and thereby fully mainstreamed biodiversity concerns into national waste management strategy (Target 2).	Waste management strategy in cooperated biodiversity conservation concerns.
9. B. By 2016, the Solomon Island has developed and adopted a post national solid waste	A post waste management strategy is developed or have readopted as the

management strategy and action plan 2009-2014 while reaffirming commitment to the J prism project (Target 2).	post management strategy and effectiveness of J prism project in ensuring the safeguarding of biodiversity and human health.
9. C. By 2018, all development sectors have developed and adopted a waste management strategy in conformity to the national waste management strategy or other related rules, and has improve the independent monitoring of waste management and compliances in extractive industry developments (Target 2).	Number of relevant ministries and stakeholder with waste management strategy and effective monitoring of waste in extractive industries.
9. D. By 2018, waste management has been in-cooperated into all CBOs management plans and are under effective implementation (Target 2).	Number of CBO management plans that in cooperated waste management objectives and the effectiveness of its implementation.
9. E. By 2019, open defecation in town and villages has been brought down to 50%, thereby improved water quality and reduction of coliforms concentrations in rivers and coastal environments.	Number of open defecation strategy and are under effective operation.
9. F. By 2019, the Solomon Islands has improved its waste management coordination between relevant stakeholders (Target 2).	Effectiveness of waste management committee performances.
9. G. By 2019, 70% of the action plan stated in the biodiversity strategy is adopted and implemented and thereby able to reduce sediment influx into the river system and coastal environment.	Effectiveness of the implementations of the NBSAP action points.
9. H. By 2019 urban centres particularly in Honiara has developed and adopted an implementation plan to minimise waste in all aspects of development. An implementation plan to reinforce the current solid waste management strategy and to adopt one or all of the following objectives;	Number of waste management implementation plans and are emanating elements of the stated activities.
i. Improving and upgrading of existing waste management and disposal systems.	Effectiveness of waste management mechanism.
ii. Improving of waste management awareness and education (target 1).	Number of stake holders involving in waste management awareness.
iii. Providing relevant documented information for politicians and stakeholders (target 1).	Number of waste management materials produced and published.

iv. Provide a guideline and template for rural communities on waste management (target 1).	Number of waste management materials produced and the extent of their distribution.
Target 10: By 2020, invasive alien species and their pathways have been identified, and, measures are in place to control the potential entry of invasive species and developed and adopted an implementation plan to control or eradicate current invasive species that are threatening food security, trade and people's health.	
10. A. By 2018, a national strategy is developed and adopted for effective implementation of the Biosecurity Act in effort to reduce the spread of current invasive species that are threatening food security and biodiversity. Supporting activities/or strategy to include one or all of the following objectives;	Implementation strategy is in place, has been emanating the stated activities and are under effective operations.
i. Control and eradicate current invasive species particularly reinforcing and scaling up of effort to eradicate African snail in Guadalcanal and preventing them from spreading to other islands.	Population of African snail and the effectiveness of the measures of control.
ii. Develop strategic activities to control the spread of toad, fruit fly, cocoa borer and other potential invasive native species.	Corresponding elements provided in the invasive species strategy and under operation.
iii. Control the spread of Apis cerana (Asian bee) and the varroa mite that have negatively impacting on honey bee industry.	Corresponding elements provided in the invasive species strategy and under operation.
iv. Strengthened border control and relevant regulation enforcement to prevent entry of potential invasive species and LMO.	Corresponding elements provided in the invasive species strategy and under effective operation.
v. Ensure CBOs have in cooperated strategies to remove invasive species in protected areas.	Number of CBO management plan with Invasive species objectives and under effective operation.
vi. Enhance and reinforce collaboration reciprocally with Pacific region partnership on invasive species (Target 2).	Corresponding elements provided in the invasive species strategy and the effectiveness of collaboration between the parties.
vii. Discourage tilapia development, except those atolls that are threatened by climate change.	Corresponding elements provided in the invasive species strategy and presence of tilapia.
10. B. By 2019, a legal instrument is developed and adopted for the biosafety framework.	A legal framework is in place for regulating LMOs/GMOs.
10. C. By 2019, Honiara City Council has developed, adopted and has started implementing an invasive strategy particularly strategy to control dogs and eliminating of dengue mosquito through clean up	Honiara City Council with invasive species strategy and is under operation.

campaigns and waste management interventions.	
Target 11: By 2020, 50 % of the biodiversity management intervention priority areas in the NAPA and the Climate Change policy are under effective implementation , and a mitigation action plan is developed and adopted and , been integrated with infrastructure development and disaster risk management.	
11. A. By 2016, the Solomon Islands has reaffirmed has stepped up its efforts on the implementation of the biodiversity priority activities stated in the NAPA (2008) and the Climate Change Policy (2012). Supporting activities to include one or all of the following objectives;	See M & E as provided in NAPA document.
i. Manage the impacts of, and enhancing social and ecological resilience to climate change and sea-level rise within the scope of agriculture and food security, water supply and sanitation, human settlements, human health and education.	See M & E as provided in NAPA document.
ii. Enhance and continue to implement strategy for climate change adaptation on low-lying and artificially built-up islands and factored biodiversity themes into the implementing activities.	See M & E as provided in NAPA document.
iii. Enhancing of the resilience and the adaptive capacity of coastal communities and socio-economic activities.	See M & E as provided in NAPA document.
iv. Enhance and improve the understanding of the effects of climate change and climate variability including El Nino-Southern Oscillation on the inshore and tuna fishery resources (Target 1 and 5).	See M & E as provided in NAPA document.
v. Improving the resilience capacities of key natural infrastructures to climate change and sea-level rise in urban areas.	See M & E as provided in NAPA document.
vi. Integrating of climate change adaptation strategies and measures into tourism planning and development while considering environment safeguard theme in planning.	See M & E as provided in NAPA document.
11. B. By 2018, the Solomon islands has scale up the management of mangrove, coral reef, coastal and river vegetation to improve natural infrastructure from natural disaster.	Percentages of the respective ecosystem under effective management.
11. C. By 2018, a national mangrove management plan is developed and has adopted in at least two provinces consolidated by network of communities	A national management plan for mangrove and number of provinces

based management plans (Target 6).	with mangrove management plans.
11. D. By 2019, Honiara and the provincial towns have developed and adopted a green infrastructure policy. Supporting activities to provide for in the strategy include one or all of the following objectives;	Number of towns with green infrastructure policy and is emanating the proposed activities.
i. Improve biodiversity concerns in urban planning and development.	Urban plans emanating biodiversity concerns and under implementations.
ii. Improve human waste management e.g. effective network of sewerage pipes (Target 8).	Number of towns with effective sewerage system
iii. Scale up of the Honiara beautification work by in cooperating the planting of native trees in towns and create network of urban protected areas and recreation areas.	Honiara beautification work has been recognized by funding agencies and has scaled up their work, in cooperate native biodiversity in their operation.
STRATEGIC Goal C: Enhancing and promoting of protection and restoration of biodiversity to safeguard ecosystems, native species and genetic diversity.	
Target 12: By 2020, at least 10 percent of the terrestrial and inland water, and 15 percent of coastal and marine areas of the Solomon Islands are protected and managed effectively, enabling an ecological, representative and well-connected system of protected area, and has been integrated into the wider island and seascape management initiatives.	
12. A. By 2017, the Solomon islands has reinforced its commitments and maintained Lake Tenggano as its World Heritage site, and has developed and adopted an effective management plan, with special emphasis on developing of sustainable livelihood options such as ecotourism and infrastructure investment for those communities living within and close to the catchment area.	Lake Tenggano World Heritage site has been delisted as a heritage site in danger, and is under effective management.
12. B. By 2019, the trust fund under the Protected Areas Act (2010) is fully established and up and running with an establishment of a relevant sustainable finance mechanism (see target 3).	The Protected Area Trust fund has adopted a relevant sustainable finance mechanism and up and running.
12. C. By 2019, 50% of existing informal protected areas have developed and adopted an effective management plans using the GEF biodiversity effective management tool or other similar tools	Number of CBO with effective management plans and is emanating the corresponding proposed activities.

with special attention on developing of sustainable finance plan, strategic fundraising plan and promoting sustainable land use practices as livelihood options in adjacent areas . Supporting activities to include one or all of the following objectives:	
i. Ensure CBOs operating protected area are registered under the Charitable Trust Act and gazette under the protected area act (Target 2).	Number of CBOs operating protected area that have been registered as Charitable Trust Organization and have been gazette.
ii. Ensure management plans have incorporated traditional management practices.	Management plans emanating traditional management practices.
iii. Ensure adequate identifying of and addressing key threats under the effective management tool and, within the guidelines of the Protected Area Act and its regulations.	Number of threads identified and addressed effectively
12. D. By 2019, 50% of the mountain forest is in some form of active protection particular the highest peak of Guadalcanal, Kolombangara, Isabel, Rendova, Malaita, Choisuel and New Georgia thereby contributing to the terrestrial protected area coverage.	% of the mountain forest under protection with effective management.
12. E. By 2019, those identified area as having high conservation values, including important bird areas (IBAs), identifies Alliance for Zero Extinction sites (AZE sites) have been properly researched and consolidated and adopted an effective management plans for species restoration (Target 13).	% of important bird areas (IBAs) and those AZE sites under proper research and are effectively management.
12. F. By 2019, protected areas are integrated into wider islands and sea scape conservation planning.	Protected areas have been integrated into island and sea scape conservation planning.
Target 13: By 2020 the Solomon islands has reaffirmed and enhanced its commitments towards the reducing and managing of known globally endangered species, and prevented endemic species from undergoing local extinction; and has reinforced its commitments towards the global and regional efforts to prevent extinction of migratory threatened species.	
13. A. By 2017, the Solomon Islands has adopted and has started the implementation of the Strategic Plan for Migratory Species 2015-2023 (as related	Number of implementing plans

to range territory) and has reinforced its commitment towards developing of implementation plans for whales, dugongs, dolphins, and turtles in complimenting and localizing the implementing of the Pacific Islands Regional Marine Species Programme 2013-2017.	developed and adopted for the named group of animal or number of projects that are engaging in whales, dugongs, dolphins, and turtle conservation.
13.B. By 2019 Solomon islands has undertook relevant researches and consolidated local data on the globally threatened species, and including important native ornamental and culturally significant species, and has develop relevant management plans for their population recovery. Supporting activities to include one or all of the following objectives;	Number of relevant research undertaken and the IUCN red list.
I. Ensure the recommitment to the undertaking of research on crocodile (*Crocodyllus prosus*) and develop and adopt relevant conservation strategy for the species.	Research on Crocodile (Crocodyllus prosus) conducted.
II. Ensure the development and adopting of relevant plans for conserving of important native ornament and cultural significant plants and animals.	Number of plans aiming for restoring of native and threatened species.
III. Ensure further research and data collection on those identified 20 threatened birds in the Solomon Islands and developed and adopted management plans for their restoration.	Number of research on those identified threatened birds with management plan developed and adopted for their conservation.
IV. Ensure the development and adopting of an ex-situ conservation plan for captive rearing of birds such as parrots, eagles or other native species in the wild where their population are in decline.	An ex-situ conservation plan is in place and number of species under captive rearing.
13. C. By 2019, an implementation plan is developed and adopted for the management of dugong (Dugong dugong) and its associated ecosystem e.g. sees grass.	Management strategy for dugong is developed and adopted and under effective management
13.D. By 2019, develop and adopted a recovery or management strategies for at least 50% of the species listed in Wildlife Regulation and the Fisheries Act.	Number of species under Wildlife Act and the Fisheries Act under management or protection.
13. E. By 2019 Solomon islands has identify existing and potential protected areas where Endangered	Alliance for Zero Extinction or AZE sites

and Critically Endangered species are ~95% confined to single sites, conduct an analysis to highlight those that could benefit from new or enhanced protection, and develop an action plan to advance their conservation (also refer to target 12).	
Target 14: By 2020, ecosystems that provide essential services, particularly services related to water, its contribution to human health, livelihood and well-being, are restored and safeguarded, taking into account the needs of women, land owners, local communities, and the poor and vulnerable.	
14. A. By 2016, the Solomon Islands has reaffirmed its commitments to the fresh water management for improving drinking water quality, by effectively applying the Public Health Ordinances guidelines while enhancing and factoring biodiversity management into the objectives.	Drinking water quality at World Health standard.
14. B. By 2018, the Solomon Islands has developed and adopted an Integrated Water Resources Management (IWRM) or Catchment Management Plan (CMP) for at least 20% of the river systems in the Solomon Islands by reaffirming and scaling up lessons learned from the past and the current IWRM projects. Supporting activities to include one or all of the following objectives;	Percentage of river system with IWRM and emanating the corresponding supporting activities.
i. Improve and foster effective coordination between organizations responsible for water management at the site level.	Effectiveness of the coordinating mechanism for IWRM.
ii. Protect inland water biodiversity from the adverse effects of development and climate change, and to ensure ecosystem services provided by the water systems are maintaining their contributions to social, economic and ecological need of the Islanders, through the effective applying of the EIA and protected area management intervention.	IWRM emanating the corresponding objective and the effectiveness of the EIA.
iii. Enhance inland water biodiversity knowledge and those steps required for their protection, restoration and management (Target 1 and 4).	IWRM emanating the corresponding objective and number of people and community with inland water biodiversity management knowledge (see indicator 1).
iv. Facilitate an advance studies on the hydrologic process, soil characterization, evaporation, transpiration, groundwater seepages, and land	IWRM emanating the corresponding objective and number of study

based pollution of water shed and coral reefs (Target 4).	conducted.
v. Reinforcing of the enforcement of the Water Act to regulate the removing of trees and shrubs close to river system and sensitive water catchment areas and restoring of vegetation particularly those that can reduce sediment influxes into river systems.	IWRM emanating the corresponding objective and the effectiveness of the implementation of the Water Act.
vi. Facilitate removing of invasive species such as the water hyacinth, toad and discouraging of potential invasive species such as tilapia into new river or pond system (Target 9).	IWRM emanating the corresponding objective and number of rivers with the name invasive species and the degree of their coverages.
vii. Facilitate and develop flood model for floodplain and lowland channel e.g. Guadalcanal plains.	Number of floodplain with flood model.
viii. Facilitate the protecting of river habitats to act as a drought refuges for fish, prawns and all other mobile fresh water organism during long dry season.	IWRM emanating the corresponding objective and the effectiveness of the specific objective implementation.
ix. Facilitate and adopt farming, forestry and mining practices that have minimal soil loss to water system.	IWRM emanating the corresponding objective and the effectiveness of the specific objective implementation.
x. Enhance laboratory capacity for water quality assessment to improve monitoring of water quality (both for drinking and supporting biodiversity).	Number of laboratory capacity for water quality assessment (national)
xi. Facilitate taxonomic study on fresh water biodiversity (Target 3).	IWRM emanating the corresponding objective and the effectiveness of the specific objective implementation.
xii. Adopt a defecating free river, thereby reducing the level of e-coli contents in river system.	IWRM emanating the corresponding objective and the effectiveness of the specific objective implementation.
xiii. Disseminate local and modern knowledge related to building of stonewalls or restoring of trees to reduce salt water intrusions in atolls (Target 1).	IWRM emanating the corresponding objective and the effectiveness of the specific objective implementation.
xiv. Developed and adopted plans for inclusive participation with water related industries such as eco- tourism and bottle water industries.	IWRM emanating the corresponding objective and the effectiveness of the specific objective implementation.
14. C. By 2019, an IWRM has been developed and adopted for urban centers and has adopted in town planning, taking into account surface water run-off and ground water behavior, solid waste,	Number of towns with IWRM plan and has emanating the corresponding activities objectives.

liquate waste and sewages management to improve water quality in urban river systems, and to reduce urban dwellers vulnerability to natural disaster (Target 8 and 10). Supporting activities to include one or all of the following objectives;	
i. Ensure urban development has adequately conducted EIA and has in co-operated risks associated with climate change and natural disaster, drawing special attention to surface run-off water ways behavior in road and coastal development.	Urban IWRM plan emanating the corresponding activity and the effectiveness of the EIA.
ii. Re-vegetate catchment and riparian areas with native tree species to act as a biodiversity reservoir, to reduce pollutants entering river system and to act as natural infrastructure to reduce urban dwellers vulnerability to natural disaster.	Urban IWRM plan emanating the corresponding activity and the effectiveness of its implementation.
iii. Develop and enforce town regulations to protect aquatic habitats and the river system in town.	Effectiveness of town regulations.
vi. Develop and adopt a community-based management plan for river and stream system as part of the larger IWRM plan.	Community management plan is in place for stream and river system.
vii. Promote community education and public awareness through newspaper, schools and churches on the importance of freshwater and estuarine ecosystems in urban areas (Target 1).	Number of stakeholder taking part in education and public awareness on urban freshwater and estuarine ecosystems and number of people and communities that have been reached.
Strategic goal D: Enhancing the equitable sharing of benefits derived from biodiversity, and safeguarding traditional knowledge associated with biodiversity uses for the benefit of all.	
Target 15: By 2020, the Solomon Island has acceded to the Nagoya protocol and has developed and adopted a corresponding action plan and has undertaken the necessary steps to develop and adopt relevant national legal instruments.	
15. A. By 2016, the Solomon Islands has continued to take necessary steps to accede to the Nagoya protocol and by 2019, the Solomon island has become a member of the protocol. Supporting activities to include one or all of the following activity objectives;	Solomon Island has acceded to the Nagoya protocol.
I. Continue to facilitate human capacity building of relevant government officers in areas related to the protocol's objectives.	Number of government officers attending regional or global capacity building workshops.

II. Ensure the development of cabinet paper and its endorsement by the current government.	Cabinet paper developed and adopted by the Cabinet.
III. Develop and adopt a working group for coordinating Nagoya related objectives.	Working group is formulated and the effectiveness of coordination.
15.B. By 2019, a legal and policy reviews have been undertaken to develop a national framework for implementing of the Nagoya protocol. The framework to provide for one or all of the following objectives;	Legal document is in place and is emanating the following activity objectives.
i. Identify gaps and the disparity of benefits received from and between resources owners/users, government and business from biodiversity uses to provide basis for developing of policy/law to ensure sharing of benefits are done equitably and propositionally.	Evidence of gaps and the disparity of benefits received from and between resources owners/users, government and business from biodiversity uses has been identified and is emanated in the legal framework.
ii. Identify traditional knowledge essential for promoting of sustainable use of biodiversity and develop framework to guide and protect their disseminations.	Evidence of traditional knowledge essential for promoting of sustainable use of biodiversity have been identified and is emanated in the legal framework.
iii. Consolidated and elaborate further on the bio-prospecting standards provided in the Protected Area Act to fully emanate the Nagoya protocol objectives.	Evidence of bio-prospecting standards has been elaborated and is emanated in the legal framework.
vii. Guide the sharing of traditional knowledge associated with biodiversity with others outside the tribes/users.	Legal framework has provided provision for guiding the sharing of traditional knowledge associated with biodiversity.
15. C. By 2019, environmental education and awareness for utilization of traditional knowledge e.g. medicine are documented and widely disseminated and used and/or applied by other tribal communities (Target 1)	Number of stakeholder engaging in education and awareness on the corresponding action point and number of people reached.

Part 7: Implementation Mechanisms

It is expected for the NBSAP implementation to be supported by a number of mechanisms. These include (1); an administrative and coordinating mechanism, (2); a resource mobilization plan (3); an environmental education and public awareness plan (4); an evaluation and monitoring plan (5); Projects[1] and (6); sectorial plans, ministerial cooperate plans and Annual work plan, NGOs, CBOs and private sector strategies and plans. For 5 and 6 the strategy is to incorporate the relevant NBSAP action points into respective strategic plans. As adopted under the conceptual design section, the stated implementing mechanism serves only as a guide and the detail design of the implementing components are the responsibility of the relevant stakeholders, to suit their institutional context and mandates.

7.1 The administrative and coordinating mechanism

The MECDM will be entrusted with the responsibility to coordinate the implementation of the NBSAP. Part of this responsibility is to ensure the NBSAP is integrated into relevant project, sectorial plans, ministerial cooperate plans and annual work plans, NGOs, CBOs and private sector strategies and plans. More specifically it will be the Environment and Conservation Division which will have the responsibility to oversight the successful implementation of the NBSAP with line Ministries and partners. Being the host of the CBD focal point, ECD also administer the Environment Act (1998), The Wildlife Protection and Management Act (1998) and the Protected Area Act (2010). As noted in part three, the functional roles stipulated in the Environment Act (1998), has provided the main underpinning legal rationales for the priority areas and hence the NBSAP served as an implementing policy for the Environment Act (1998) and the CBD (1992) simultaneously.

To be able to provide necessary support, and decentralizing of duties, it is envisioned for various working group to be developed or reinforced at least within the priority areas as been provided under the corresponding target and action plans. For example, a waste management working group is anticipated under the priority on 'waste, pollution control and biodiversity', protected area working group is anticipated under the priority on protected area system. Relevant NBSAP actions and/or targets are expected to discuss as agendas.

Members of the working group will be drawn from relevant agencies, organization and partners who will meet as and when required, from time to time, under their own agreed terms of references.

7. 2 Resources Mobilization plan (2014-2018)

The NBSAP is an environmental sectorial and cross-sectorial strategy to compliment and reciprocate the NDS 2011-2020 within the context of environmental protection. The NDS is therefore adopted as the NBSAP mainstreaming policy. The intersections of these national strategies provide the resources mobilization plan for the NBSAP implementation which has then been elaborated into a resources mobilization plan 2014-2018 under the priority on sustainable finance. The NBSAP in itself is also developed to demonstrate and to emanate a resource mobilization attributes. At the same time the fifth report is also viewed as a component of the resource mobilization plan (see 7. 4).

With respected to funding mechanisms for the NBSAP implementation, it has been adopted here that the traditional funding mechanism such as the multilateral (particularly GEF) and bilateral donors will continue to provide for the funding for NBSAP implementation. Efforts will be made to ensure funders' country policy statements have adopted the Paris *Declaration* as envisaged in the NDS. The EU, the Japan country strategy, ADB are the first to seek interest in adopting the NDS as their Country strategy. It is with the view that when a country strategy of the funding agencies is aligns to the NDS, it will also ensure the adequate funding of the NBSAP as part of the NDS.

Leverage funding from Non CBD party will provide another mechanism. In-kind support from community will also form larger part of the NBSAP implementation. The contribution from private sector has been very significant over the years and forms a very important component.

Finally, the Solomon Islands government through its recurrent and development budget is committed to funding the NBSAP on a yearly basis through relevant ministries.

7.3 Communication, environment education and public awareness

The communicating of NBSAP will be conducted within the scope and need of each adopted priority areas. The contents of the action plan their milestones, activities and indicators will provide the basis for capacity building interventions, of which communication tools is anticipated to be customized, developed, adopted and delivered, accordingly.

In general environmental education and public awareness will include formal curricular developments, through the reviews of curriculum for early childhood education, primary and secondary science syllabus. It will also include the review of the course offered by the School of Natural Resources of the University of the Solomon Islands and Rural Training Center (RTC) as has been provided under the corresponding targets and as relevant to action points and proposed activities under the selected priority areas.

At the formal edge it is also envisioned to increase environmental scholars attending universities, regionally and internationally, and to collaborate with overseas research institutions and universities to facilitate knowledge and technology transfer. Particularly to undertake relevant proposed activities under the priority on 'research, traditional knowledge, science, information system and technology' and other relevant proposed activities under other priority areas.

Such formal education will also include training for government officers, provincial officers, community based conservation managers in one or all of the above mediums including attending electronic courses offered by the CBD and related thematic programmes such as the programme of work on protected area.

At the informal edge the NBSAP will be conducted through face-to-face communication, workshops, meetings, internet circulars, notices, media such as the Solomon Star, Island Sun, radio, TV, websites, public talk, church sermons, storytelling, music, arts and craft, notice boards, etc. Reiterating the adopted concept for the NBSAP, environmental concern will form the subject for communication, rather than the name 'NBSAP'.

7.4 Monitoring, Evaluation, Reporting and Review

The national report on the implementation of CBD will evaluate the implementation of NBSAP. The NBSAP structure and its contents particularly the action plan and indicators will serve as the tool for evaluating performances. Table 2 on the summary of status of ecosystems and taxonomic groups and the key threats provide in part 2 provides the guiding tool for evaluating the NBSAP impact.

The 6th report will serve as the next evaluation report, and to be built on the Solomon Islands 4th and 5th National Reports[1]. The CBD national focal point/s are responsible for submitting reports to the CBD. The State of Environment (SOE) will provide other avenues for reporting. In addition terminal evaluation of projects particularly the GEF funded project will serve as a very important evaluation tool for proving raw materials for NBSAP evaluation reports.

Finally, the NBSAP document shall be reviewed after 2020 or as and when considered necessary by the Minister of MECDM.

Annex 1: Summary of Solomon Islands NBSAP targets in correspondence to NBSAP (2009) and the Aichi Targets

The Updated NBSAP Target	NBSAP (2009) themes	Key Aichi Target
Vision: A unified, vibrant and informed Solomon Island's society, embodied with an environmental culture, where unique and endemic biodiversity remain part of the natural heritages and cultural identities, and where, ecosystem services continue to prevail, providing for the economic, social, spiritual and intellectual development for its people.		
Mission: Building an enabling environment for the effective safeguarding of the environment, and reducing the rate of the loss of biodiversity, and thereby by 2030 ecosystems continue to maintain their resiliencies and continue to provide essential services, securing the Solomon islanders variety of life, and contributing to people's well-being and the reduction of hardship.		
NBSAP revision objective: To consolidate, reaffirm and continue, creating an enabling environment for the proper safeguarding of biodiversity, through the effective mainstreaming of the United Nation Convention of Biological Diversity (CBD) and the Solomon Island Environment Act (1989) into the Solomon Islands developmental agendas, while improving coordination between stakeholders, and the instigating of necessary changes (people and institutional behavioral changes), to navigate purposefully towards the NBSAP vision.		
Milestone By 2015, Solomon Islands has reviewed, updated and reaffirmed its commitment to the NBSAP as its biodiversity policy and has already implementing 25% of the stated action points.	review	17
Strategic Goal A: Addressing the underlying causes of the loss of biodiversity by effectively and efficiently delivering of our mandates and developing of incentives and subsidies to improve and enhance biodiversity management.		
Target 1: By 2020, the people of Solomon Islands are aware of the value of biodiversity, and have taken the necessary steps for conserving, sustainable using, and sharing of benefits derived from biodiversity, equitably, within the scope of the NBSAP objective, and other concurrent policy objectives.	7	1, 2
Target 2: By 2020, existing environmental laws, regulations, policies, management plans and action plans have been effectively implemented, with special attention towards the effective implementation of those provisions for supporting of incentives and subsidies for biodiversity managements.	1, 12	3, 4.

Target 3: By 2020, the Solomon Islands, has developed and adopted a sustainable finance plan and its relevant mechanisms, to mobilize resources for the effective implementation of the NBSAP's objectives, in concurrent to the NDS 2011-2020, and other applicable environmental laws and policies.	6	20, 3, 2
Target 4: By 2020, researches, encompassing traditional knowledge, science, social science, and economic investigations have been raised, while encouraging the transferring of relevant biodiversity technology such as Geography Information System (GIS), thereby enable Solomon islanders understand and appreciate, biodiversity values, functions, status, threats and the consequences of their loss, and have taken necessary steps to manage and mitigate threats accordingly.	8	18, 4, 20.
Strategic Goal B: Reduce the direct and indirect pressures on biodiversity through ecosystem based management approach.		
Target 5: By 2020, the Solomon Islands has reinforced and reaffirmed its commitment, reciprocally to the regional and sub-regional offshore fisheries strategies and plans, particularly in effort to sustainably manage tuna, reducing of tuna by catch and instigating of incentives and subsidies to increase economic benefit/return from tuna development.	Not covered	6 , 3
Target 6: By 2020, coastal harvestable fish, mammals, reptiles and invertebrates, for commercial or subsistent uses, are harvested sustainably within the current legal and management instruments, while drawing special attentions on protecting threatened species, and restoring of vulnerable ecosystems.	Not covered	6, 12, 10
Target 7: By 2020, the genetic diversity of native cultivated plants, domesticated animals and their wild relatives, and or any socio-economical and culturally valuable species' population are maintained or increased.	9	7, 13.
Target 8: By 2020, the current deforestation rate of native forest by industrial logging and agricultural development have been reduced by 50%, restored 15% of fragmented logged areas and protect 10 % of the remaining virgin forests thereby able to enhance the Solomon islands forest ecology.	Not covered	5, 15, 10.
Target 9: By 2020, wastes; solid waste, non-biodegradable waste and highly toxic waste, including excess nutrients has been brought to levels that are not detrimental to ecosystem functions and human health.	11	8
Target 10: By 2020, invasive alien species and their pathways have been identified, and, measures are in place to control the potential		

entry of invasive species and developed and adopted an implementation plan to control or eradicate current invasive species that are threatening food security, trade and people's health.	4	9
Target 11: By 2020, 50 % of the biodiversity management intervention priority areas in the NAPA and the Climate Change policy are under effective implementation , and a mitigation action plan is developed and adopted and , been integrated with infrastructure development and disaster risk management.	10	10, 15.
Strategic Goal C: Enhancing and promoting of protection and restoration of biodiversity to safeguard ecosystems, native species and genetic diversity.		
Target 12: By 2020, at least 10 percent of the terrestrial and inland water, and 15 percent of coastal and marine areas of the Solomon Islands are protected and managed effectively, enabling an ecological, representative and well-connected system of protected area, and have been integrated into the wider island and seascape management initiatives.	3	11
Target 13: By 2020 the Solomon islands has reaffirmed and enhanced its commitments towards the reducing and managing of known globally endangered species, and prevented endemic species from undergoing local extinction; and has reinforced its commitments towards the global and regional efforts to prevent extinction of migratory threatened.	2	12
Target 14: By 2020, ecosystems that provide essential services, particularly services related to water, its contribution to human health, livelihood and well-being, are restored and safeguarded, taking into account the needs of women, land owners, local communities, and the poor and vulnerable.	Not covered	14, 15
Strategic Goal D: Enhancing the equitable sharing of benefits derived from biodiversity, and safeguarding traditional knowledge associated with biodiversity uses for the benefit of all.		
Target 15: By 2020, the Solomon Island has acceded to the Nagoya protocol and has developed and adopted a corresponding action plan and has undertaken the necessary steps to develop and adopt relevant national legal instruments and implemented effectively.	5	15