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**independent state of papua new guinea**

**PAPUA NEW GUINEA**

**NATIONAL OCEANS POLICY**

**DEPARTMENT OF JUSTICE AND ATTORNEY GENERAL**

**CENTRAL GOVERNMENT OFFICES, WAIGANI**

**papua new guinea**

**16 SEPTEMBER 2019**

**Executive Summary**

**Introduction**

The development of Papua New Guinea National Oceans Policy is at an important juncture of the country’s history in that we recognize our land resources are gradually being exploited at a rapid pace in achieving our country’s Vision by 2050, responsible sustainable development measure; and, shift of the Government and our communities’ focus into the ocean sector must be embraced as the long term measure- “a No Regrets Option”

The design, planning and development of the PNG National Ocean Policy, is a 10 years policy from 2020 to 2030, a collective effort by all Papua New Guineans and friends after consultations, reviewing and assessing the numerous reports, laws, literature to develop this policy.

Papua New Guinea (PNG) is an archipelagic nation in the oceans, with the main landmass comprising the eastern-half of the island of New Guinea in the Western Pacific Ocean ‘Rim of Fire’ Region, and in addition, within the prime influence of the ‘Pacific Warm Pool’ – the warmest part of any ocean on planet earth. PNG’s prime jurisdiction encompass an ocean space by its declared Exclusive Economic Zone (EEZ) of 3.12 million km2 with a coastline of 17.110 million km; a 88 percent area covered by the oceans in comparison to land. By virtue of this recognition our National Oceans Policy (NOP) and all sectoral policies must recognize that the ocean(s) is the major driver of all natural and physical systems which impact our natural environments or ecosystems whether on land or in the seas; which in turn pose consequences on our socio-economic livelihoods and aspirations for sustainable development.

The coastal, islands and the marine natural systems hold abundant natural renewable and non-renewable resources which are envisaged to meet the demands of PNG’s ever growing human population, which at present, is 8.5 million persons. The resources include: food, water, medicines, various components of biological diversity, minerals, hydrocarbons, energy; and opportunities for industrial and service sectors such as in fisheries, forestry, agriculture, transportation, business and finance, human settlement and infrastructure development, socio-economic livelihoods along the coasts and on islands, tourism, education and traditional knowledge, health, national security and international relations.

 **Basic Issues**

There are numerous natural and man-made disasters present at national, regional and international levels and cases such as protests, petitions and court proceedings is on massive uncertainties on the impacts of the marine environments by offshore deep seabed exploration and mining for minerals by foreign companies as experienced through the saga in our country and other Pacific Island nations.

It is noted that more than 90% of our people live within one kilometre of coastal and island environments are vulnerable and prone to hazards of complex dynamics and require modern risk assessments such as, the Vulnerability Index, to enable improved planning strategies and implementation of programs. The application of relevant marine scientific research is therefore crucial to appreciate and understand the nature of our oceans.

It evident that the current management of the oceans are undertaken on a sectoral policy basis at present by different national Government Agencies, State-Owned Enterprises and Institutions under their respective policy mandates and, or legislation. The main organizations include the, Departments of Foreign Affairs, Justice and Attorney General, Defence Force, Police, Lands and Physical Planning, Transport, Petroleum and Energy, Mineral Policy and Geo-Hazards Management, Mineral Resources Authority, National Fisheries Authority, Internal Revenue Commission, Customs Services, National Maritime Safety Authority, National Agriculture Quarantine and Inspection Authority, Tourism Promotion Authority, Conservation and Environment Protection Authority, PNG Ports Ltd, National Weather Service, and, the national Marine Scientific Research Committee.

This situation has consistently demonstrated territoriality and gross inefficiencies in the delivery of goods and services to rural coastal and island communities in particular. The major issue is that PNG lacks at present the overarching national oceans policy to address the current governance weaknesses. A bottom up policy development starting with our traditional and communities will indeed be a no regrets option.

**Approach to Resolving the Issues: the National Oceans Policy based on Integrated Oceans Management.**

There is consensus now by all the mainline organizations in different Government Ministries for a paradigm shift to embrace a national oceans policy based on the concept of an integrated ocean management (IOM). The implementation of programs and activities under the principles of good governance for an IOM policy must include our traditional ocean communities. The IOM policy is a national strategic policy document that sets out a planned-system wide approach to ocean management; and covers all sectors and all levels of governments in an integrated mode of developing policies, planning and implementation.

An IOM policy is not confined to PNG’s EEZ but also beyond its jurisdiction. PNG needs support and cooperation from other States, and relevant multilateral and bilateral arrangements under the auspices of the United Nations.

An integration of resources development, conservation and management, and binding into the next promising viable global economy – the blue economy - requires an appropriate national oceans policy framework. The blue economy entails the sustainable use of ocean resources for economic growth, improved livelihoods and jobs, while protecting the health of ocean ecosystems.

In essence, the IOM policy framework requires an appropriate governance structure for all actors on oceans to abide by; generally by a set of guiding principles which sets out integrated strategic actions for implementation. This envisages realizing the benefits of the blue economy.

In view of the above overviews we recognize the significance and values of an integrated oceans management system and adopt the concept as the foundation of our Papua New Guinea National Oceans Policy (NOP).

 **Purposes of the NOP**

The primary purpose of the PNG National Oceans Policy (NOP) is to develop and establish an integrated ocean management system within its national jurisdiction and at the same time mutually cooperate and collaborate in areas beyond its national jurisdiction. The supporting objectives of the NOP are:

1. Strengthen the implementation of UNCLOS and the *Maritime Zones Act* 2015 with mutual cooperation and collaboration from international, regional and domestic partners and stakeholders
2. Strengthen cooperation and collaboration from relevant domestic policies and legislation in the implementation of the NOP.
3. Support the implementation of the primary national policies namely, the *Papua New Guinea Vision 2050* and the *National Strategy for Responsible Sustainable Development for Papua New Guinea* (STARS), and
4. Support the implementation of the National Constitution.

**Development of the NOP and Institutional Arrangements.**

In the development of our NOP we have taken into account different approaches in various international, regional and national policy settings on oceans. In this context we have adopted the Pacific Regional Ocean Policy framework as a start. Some of the noted features which have being constructive in the development of our NOP, are listed below and these include:

* Indigenous participation according to the prevailing traditional and customary tenure systems;
* Taking into account the aspirations embodied in the National Constitution;
* Implementation of relevant programs in the PNG Vision 2050;
* Articulation of programs in the Responsible Sustainable Development (STARS) – for implementation according to The PNG Ways;
* Taking into account the PNG Medium Term Development Plan III framework;
* Highlighting the significance of jurisdictions exercised by the maritime Local-Level and Provincial Governments in the delivery of goods and services to coastal and island communities;
* Highlighting our interests and issues on offshore mining and related extractive activities with the urgent requirement of coastal and marine environmental impact assessments as a pre-requisite to safeguard the health of our oceans;
* Advocating our support and proactive participation in the conservation and sustainable use of marine biological diversity beyond PNG’s national jurisdiction;
* Expressing our interests for investments in mineral exploration and related economic ventures in the High Seas; and
* The need for priority attention on marine scientific research to develop our appropriate regime(s) of marine environmental impact assessments, the application of the precautionary approach and the polluter-pay principle.

The NEC Decision No. 3/2015 established the PNG National Oceans Office (NOO), and subsequently its Secretariat through the workings of the National Oceans Committee and its Technical Sub-Committee since 2016-2017 with guidance by DJAG and DFAT. The governance framework included a Ministerial Oceans Committee to provide relevant reports to the National Executive Council. Our NOP strengthens the organizational development and establishment of the NOO and its working Committees, and the governance framework.

The NOP supports relevant reforms and includes the national Marine Scientific Research Committee to assume a new status as the National Oceans Council, and the Council to urgently review its mandate and programs to implement this NOP with coordination by the NOO.

As an archipelagic maritime State the national security measures as required within PNG’s national jurisdiction and beyond its national jurisdiction is of high priority and warrants attention. Our NOP reinvigorates the urgency for appropriate national security measures as provided for by the National Constitution and amplified in the PNG Vision 2050, relating to our ocean’s natural resources, and preparedness for maritime piracy, terrorism and armed conflict.

The NOP strengthens PNG’s resolve under mutual international cooperation and collaboration to safeguard PNG’s sovereignty and national security is presented and embraced.

Finally, the NOP as developed is summarized below with its Vision, Goal, its Five (5) Guiding Principles, and the envisaged Outcomes.

**Papua New Guinea National Oceans Policy**

**Vision**: Our vision of the NOP is, *A healthy oceans that achieves the responsible sustainable development outcomes and aspirations of the PNG communities*.

**Goal**: *The ultimate goal of this policy is achieve the PNG Vision 2050 and ensure sustainable development measures from the use of the oceans and its resources and our partners are achieved then.*

**Guiding Principles and Implementation Strategy: 2020 - 2030**: The Five (5) umbrella guiding principles in achieving the Objectives, Vision and Goal of our NOP for implementation, are outlined in the implementation strategy. The Strategy is based on Five (5) Guiding Principles with their respective Strategic Actions, Themes, Initiatives and Actions. These are presented in the main part of this policy document.

For purposes of this Executive Summary the Five Guiding Principles are listed below as:

* Principle 1. *Improving our understanding of the oceans;*
* Principle 2. *Achieve responsible sustainable development and management of the use of oceans resources;*
* Principle 3. *Maintaining the health of the oceans;*
* Principle 4. *Promoting and enhancing the peaceful use of the oceans*; and
* Principle 5. *Creating Partnership and promoting cooperation*

 **Outcomes**

The envisaged main outcomes of planning and implementing the NOP in its initial 10 years are:

1. Adoption of the NOP by the three-levels of Governments and implementation of programs under the Five Principles.
2. Strengthening the capacity of maritime wards, local and provincial jurisdictions on good governance for integrated oceans management (IOM).
3. Institutional and human capacity strengthening in respective maritime wards, local-level and provincial governments.
4. Ensuring sustainable livelihoods and food security, protection of coral reefs and enhanced fisheries management for coastal and island human communities.
5. Conservation of oceans and sustainable use of natural and related resources in the EEZ and areas beyond national jurisdiction.
6. Promote and support national, regional and international partnerships and cooperation for suitable arrangements and implementation.
7. Promote and support for peace in the use of oceans.
8. Harmonization and appropriate reforms in policies and legislation on integrated oceans management.
9. Securing resources and financial sustainability to manage the NOP for long-term purposes.
10. Ensuring an efficient and effective robust system is established for monitoring and evaluation of the NOP through its implementation.

**ACRONYMS**

ABS Access and Benefit Sharing

CTI-CFF Coral Triangle Initiative – Coral Reefs, Fisheries and Food Seccurity

EEZ Exclusive Economic Zone

EIA Environmental Impact Assessment

FELA Fiji Environmental Law Association

GOC Government of China

GOI Government of Indonesia

GOPNG Government of Papua New Guinea

ICM Integrated Coastal Management

ICIM Integrated Coastal and Island Management

IOM Integrated Oceans Management

IPRs Intellectual Property Rights

MPAs Marine Protected Areas

MSP Marine Spatial Planning

MSRC Marine Scientific Research Committee

MTDP Medium Term Development Plan

NARI National Agriculture Quarantine and Inspection Authority

NFA PNG National Fisheries Authority

NOO National Oceans Office

NOP PNG National Oceans Policy

PIP Public Investment Program

PNG Papua New Guinea

R&D Research and Development

SDG Sustainable Development Goal

UNCLOS United Nations Convention on the Law of the Sea

UNESCO United Nations Educational, Scientific and Cultural Organization

SIDS Small Island Developing States

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**1. INTRODUCTION**

The development of the Papua New Guinea National Oceans Policy (NOP) is at an important juncture of the country’s history in that we recognize our land resources are gradually being exploited at a rapid pace in achieving our country’s Vision by 2050, our responsible sustainable development measure; and, it is imperative for shift by the Government and our communities’ attention into the ocean sector in an integrated approach to achieve economic sustainability, must be embraced as the long term measure.

The design and planning of our NOP is for an initial 10 years from 2020 to 2030; a great collective effort of all Papua New Guineans and friends.

 **1.1. Overview**

Papua New Guinea (PNG) is an archaepelagic maritime Nation (refer Figure 1) within the centre of the longest and largest archaepelagic chain of islands in the world with a vast ocean space encompassing 88 percent (Lili and Kaluwin, 2016) of PNG’s physical size; an Exclusive Economic Zone (EEZ) of 3.12 million km2, and the coastline stretch of 17,110 km (GOPNG, 2009). This oceanic geographical setting presents the nature of PNG’s physical and natural systems; a setting of very complex and dynamic interactions between the space, atmosphere and the geosphere.

Figure 1. The Papua New Guinea National Maritime Jurisdiction.

(Source: *Maritime Zones Act* 2015, Schedule 5 Charts: PNGMBDP 2015/6)



The ‘Pacific Ring of Fire’, the adjacent close proximity of the ‘Pacific Warm Pool all have contributed to the evolution of PNG’s unique and rich biogeography both on land and the oceans. This biogeography is in the main influenced by the Indian and the Pacific Oceans. PNG is home to a global biodiversity at 10% (>700,000 species) within its less than one percent coverage of the Earth and signifies PNG as one of the 17 mega-diverse or biologically wealthiest nations in the world. This estimate is dominated by terrestrial-based species with the obvious gross inadequacy on new records and discoveries for PNG’s oceanic species. In addition PNG’s biodiversity is richly intertwined with the traditional-cultural knowledge in noting the ethno-biological diversity of 851 languages spoken – that is, more than one quarter of the total world’s languages by PNG’s current population of 8.5 million persons.

**1.2. Oceans and Resources**

The economic implications to PNG by having the benefit of both the oceanic Exclusive Economic Zone (EEZ) and continental shelf beyond 200 nautical miles (304.4 km) has this advantage, unlike many other coastal and island States. These areas contain diverse and substantial potential in oceanic or marine resources development including fisheries, minerals, hydrocarbons, wave and thermal energy, wind power and tourism. This huge ocean space includes biological and physical features with their socio-economic significance. Securing these resources must be brought into focus through an appropriate policy development.

The abundant natural resources of both non-renewable and renewable are defined as such by natural and physical phenomenon. The minerals, hydrocarbons and soils together with the influences of the solar system have presented us the nature of our present biodiversity; the latter being the basis of our socio-economic livelihoods, and noting especially the significance of coral reefs, fisheries and food security.

In addition, we are beginning to be aware and still to understand the sciences of life below the photic zone (>200m) in the deep oceanic natural ecosystems in the absence of light energy (eg. the biochemistry of chemosynthesis in deep marine ecosystems). This has been crystallized through the on-going international modern scientific research expeditions that are primarily for minerals in oceanic regions including the mid-oceanic ridges and hydrothermal vents in the oceans. PNG‘s experience to-date is from the Government-backed Solwara 1 deep sea mining initiative. Needless to reiterate at this juncture the overall context is that our oceans is the major driver of natural and physical systems which influence our socio-economic livelihoods and development, and at the same time the disasters that befall us whether by natural disorders or due to anthropogenic impacts.

**1.3. Challenges, Threats and Risks to achieving Responsible Sustainable Development.**

A contextual characteristic of PNG in terms of general governance, social, environmental and economic settings with implications on the significance of the ocean and its resources are shown in Table 1 below. The greatest challenge being the doubling of PNG’s population every decade after the projected 2019 figure of 8.6 million and the envisaged exponential demand for resources to exceed the 2018 GDP of 0.3% and race to more than 2.5%, and the HDI to drastically improve from the current 0.25 to realize the targets of the PNG Vision 2050. The significance of this current scenario is premised on the development of land-based resources since pre-Independence with more pressing issues. The ocean and its resources are being mooted as the next major economic development front.

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| Table 1. General features of PNG’s human population, coasts and marine zones.(Based on DEC, NFA and NCC, 2013) |
| Human population – 2019 (Worldometers. Info, 2019) | 8,586,525 |
| Human population density – 2018 | 19 pers.km2 |
| No. of Current Living Spoken Languages (Mitchell, 2019) | 851 |
| Length of coastline | 20,197 km |
| % Human population living within 100 km of coast | 61 |
| Claimed Exclusive Economic Zone (EEZ) | 1,673,759 km2 |
| Territorial Sea (12 nautical miles from national base-lines) | 752,256 km2 |
| % Biodiversity (marine biodiversity – baseline still not known) | 10 |
| Area of Coral Reefs | 40,000 km2 |
| % Coral Reefs under protection | 0.2 |
| Coral species numbers | 345-429[[1]](#endnote-1) |
| Area of mangrove forests | 4,586 km2 |
| % Area of mangrove forests under protection | 23 |
| Area of seagrass beds | 2,000 km2 |
| % Area of seagrass beds under protection | 20 |
| Fisheries Production |  |
| Fisheries Trade Value (PGK) | 700 million -1 billion |
| GDP (%) [World Bank (a), 2019] | 0.3 |
| HDI (2017) [GOPNG, 2018] | 0.25 |
| Estimated Population Growth Rate (%) [GOPNG, 2018] | 3.1 |

Some of the pressing global challenges are elated to climate change, variability and weather patterns which are profoundly the modern day cross-cutting issues affecting human habitation on the planet Earth with the greatest impact on coastal, islands and the marine environment. The effects of climate change are unavoidable forces influencing the warming of the oceans and atmosphere. These issues can only be tackled from the national front through understanding and development of an appropriate oceans policy.

Given this background we take into account the thrust of the Government development policy, which is, to maximize benefits in the development of the ocean resources for the benefit of the peoples (Lili and Kaluwin, 2016). The extended PNG jurisdiction under the auspices of the *United Nations Convention on the Law of the Sea* (UNCLOS: Montego Bay-1982) makes it possible to envisage self-sufficiency in energy and food security in PNG, if appropriate policies are devised and fully implemented. Consideration of several new factors are required and thee include surveillance over the EEZ; surveys and exploration of the EEZ in respect of hydrography and geology; evaluation of living and non-living resources; establishment of appropriate navigational aids including both traditional and more advanced technologies; provision of adequate infrastructure including ports and related facilities; establishment or expansion of shipping services; application of new technologies including aquaculture and mariculture; development of energy from the sea (such as in wave, currents, wind, tidal and ocean thermal energy conversion (OTEC).

This requires a sound national ocean policy within the overall environment, governance, and socio-economic development strategy that would set out the objectives in the ocean-marine sector and for policy instruments requiring appropriate allocation of resources within and between the relevant sectors and the economy as a whole.

A national ocean policy would contrast complementary and competing objectives such as: increasing national income; contributing to improvement in the living conditions of coastal and island communities; increasing food and protein availability and access to safe drinking water at all times; creating employment; introducing new technologies; and conserving the marine environment.

The policy necessary to attain these aims involves consideration of the relevant technologies, the organizational and legal structure within which they are considered and the economic and related factors determining their application.

Given the international and regional influences also, it is necessary to foster regional cooperation to make the best of available opportunities. These include exchange of information, experiences and ideas, and noting especially the sharing of costs of marine scientific research. This also includes harmonizing the exchange of experiences in regard to fishing agreements, licenses, shipping services, use of foreign experts are all too important. Coordination and cooperation between international and regional institutions, agencies and organizations would be very useful.

There is need for a national ocean policy to: recognize the significance of living and non-living resources of the ocean toward the economic development of PNG; establish and maintain PNG’s legal sovereignty over the EEZ and its resources recognized by UNCLOS; and, establish an integrated approach to ocean governance through policy and an appropriate institutional framework.

One of the underlying important concerns poverty, hunger and starvation – a fact that our total national food production is inadequate to feed the ever-growing population (eg. NARI, 2019). This means that international food imports have now formed the basic essential food staples to stay hunger and starvation issues at present and into the foreseeable future. We must endeavor to instill innovative policies and strategies to address this by having access and availability of more food to feed the increasing population.

Our successive Governments are still haunted by this single paramount issue on how to develop the surplus national food production for domestic consumption and for international exports; such a development strategy will fundamentally reduce and/or eliminate the massive import bill on foods. One of the main Government policies to offset the population-inadequate food issue over the years is consistent high investment in extractive-based projects in mining (eg. minerals) and fossil fuels (eg. oil, gas, coal). This policy strategy through previous national plans including MTDPs I and II appear to be ineffective in addressing the issue even at this present time. We have high optimisms on the deliverables by the MTDP III (GOPNG, 2018) on this issue, and the final major impact projects are the mooted Wafi-Golpu and Freida Coppper mines with support from the two LNG projects by Exxon (Central Highlands) and Total (Gulf of Papua) are very critical indeed.

**1.4. Weaknesses in Current Oceans Governance**

The governance of the ocean in PNG is fragmented and being managed in isolation by several government agencies – in short, PNG does not have a National Oceans Policy, and this is an initial start. In the absence of a national policy there is no nationally structured body to coordinate the policy in a holistic and unified way. There is need to immediately institute a review of the current ocean policy strewn across the national agencies being done under their respective legislation. This is the opportunity to identifying issues and priorities toward the development of a comprehensive ocean policy and its implementation strategy.

There are the mandates and obligations under international law especially through the development process of the UNCLOS, UNCED and SIDS obligating PNG to implement their requirements and the related treaties and instruments. This can only be done successfully through a nationally coordinated policy and centralized government body to support its implementation.

**1.5. Improved Oceans Governance: Blue Economy and Integrated Oceans Management.**

The issue is, what happens after these major impact projects come to their end and the rescue package to our national food production woes are not solved by then?

Our own traditional and modern sustainable development champions foresee this dire strait and advocate our oceans and its bountiful natural resources to provide the much needed support – including food security - to our present economic development as the great economic gateway. Under this socio-economic seascape there is high optimism on biodiversity research and development (R&D) to be at the helm - the catalyst under appropriate governance systems to instill the required industrial development status. The current mood of international consensus policies and laws on oceans are being underpinned by the concept of blue economy, and as such PNG must embrace its basic principles.

 1.6. **Context of Blue Economy**

This international scenario invites the adoption of the blue economy – *“…. the new system of oceans-based Green Economy that interweaves creative neo-science and technologies with the oceans. More precisely, it implies a new growth engine by promoting both the sustainable use and preservation of the Oceans, ensuring the Earth’s continued survival* (eg. Kathijotes, 2013). There are implications in the long-term for the survival of PNG and all our neighbours in the Pacific Region and beyond, if the mooted blue economy is not managed properly.

The rapid international development for blue economy is exemplified by the World Bank’s (World Bank (b), 2019) Blue Economy Program and ProBlue; the generic definition of blue economy is the sustained use of ocean resources for economic growth, improved livelihoods and jobs while protecting the health of the ocean ecosystems. This blue economy program is supported by ProBlue – the new Multi-Donor Trust Fund (MDTF) - to make available financial resources to support actions on healthy and productive oceans as underlined by the SDG 14. Pro-Blue focuses on four key themes and these are:

* Management of fisheries and aquaculture;
* Threats posed to ocean health by marine pollution including litter and plastics;
* Sustainable development of key oceanic sectors such as tourism, maritime transport and off-shore renewable energy; and
* Building capacity of governments to manage their marine and coastal resources in an integrated fashion to deliver more and long-lasting benefits to countries and communities.

Given the international scene as such, the rationale for harnessing through appropriate means the coastal resources and diving into the resources of the blue oceans in PNG does not warrant any arguments and debates – the blue economy is realistic and provides opportunities for all into the future. The much needed conversations must be focused on development and establishment of best approaches to protect the oceans and sustainably use the inherent resources. PNG has the opportunity now to access technical resources and finances through international, regional and national institutions, and the World Bank’s Pro-Blue is a program that could be explored in earnest. The underlying principle for the blue economy to be successful is by adopting the integrated oceans management (IOM) concept.

 1.7. **Concept of Integrated Oceans Management**

This can only be enjoyed by us in managing the wholeness of the oceans by the national policy and not managed by the current management regimes *per se* of revenue raising sectors, and hence, the territoriality mode of natural resource development policies and laws, institutional governance structures and administration systems. This requires an innovative governance policy strategy for an IOM which can extend from the coastal belt to the open oceans. A summed discussion of the concept of the IOM is presented in Section 3 on Key Concepts of this Policy document (adapted from FELA and EDO NSW, 2017).

The fundamental principles of integrated oceans management are requirements of the international treaty, the UNCLOS. PNG acceded to the treaty in 1994 and entered into force for PNG in 1996. The treaty provides the legal basis for the enactment of our principal domestic legislation, the *Maritime Zones Act* 2015. The integrated oceans management concept is envisaged to capture the implementation of all the other relevant international policies, treaties and instruments notably the Rio-based treaties and instruments, and mirror the efforts on the domestic undertakings for appropriate reforms in policies and legislation.

A PNG National Ocean Policy (NOP) is therefore necessary, in order, to bring together every aspect of the Policy from a cross-section of users and managers who have the interests and concerns on PNG’s ocean affairs. These include policy makers in government, administrators, traditional owners, research and training institutions and national and international organizations.

The inclusiveness of the cross-section of partners and the wider stakeholders in the development of the NOP requires an IOM model. Guidance as such is multiplying rapidly in various regional seas and ocean programs worldwide. It is imperative in all respects for PNG to adopt an IOM model with much focus on a bottom up approach starting with working with our traditional owners of our coastal and ocean resources.

**1.8. Adoption of Integrated Oceans Management Concept**

In view of the above overviews we recognize the significance and values of an integrated oceans management (IOM) system and adopt the concept as the basis of our Papua New Guinea National Oceans Policy (NOP).

2. **Purposes**

The primary purpose of the PNG National Oceans Policy (NOP) is to develop and establish an integrated ocean management system within its national jurisdiction and at the same time mutually cooperate and collaborate with international and regional States and partners in areas beyond its national jurisdiction.

The supporting objectives of the NOP are:

1. Strengthen the implementation of UNCLOS and the *Maritime Zones Act* 2015 with mutual cooperation and collaboration from international, regional and domestic partners and stakeholders,
2. Strengthen cooperation and collaboration from relevant domestic policies and legislation in the implementation of the NOP.
3. Support the implementation of the primary national policies namely, the *Papua New Guinea Vision 2050* and the *National Strategy for Responsible Sustainable Development for Papua New Guinea* (STARS), and
4. Support the implementation of the National Constitution.

**Organization of the Policy Document**

Given the above outline of PNG and implications cast by the ocean and its resources, the major considerations in the NOP are presented and discussed here starting with the overview and purpose of the NOP.

The policy development covers the following main Sections:

* Key concepts in undertaking ocean policies are emphasized (Section 3);
* Significance and values of PNG’s traditional and customary tenure systems as the foundation of ownership of the coastal and ocean space in the Key concepts are highlighted;
* Inclusion of international and regional initiatives and development of policies and laws on oceans (Section 4). The onus of marine conservation and environmental protection by virtue of traditional and customary tenure systems are consistently re-emphasized in the current PNG ocean policy framework, legislation and institutional arrangements, and leading to the significance of the second and the third tier Governments.
* In addition highlights the interests and basic policy conditions on off-shore extractive activities. The pertinent international, regional and national oceans policy regimes for PNG to take into account for ocean areas beyond national jurisdiction, while the importance of marine scientific research is captured
* The recognition of the administration by coordination of policy development and compliance by the National Oceans Office embraced and significance of national security is included.
* The consideration and planning for sustainable resources including finances for the NOP to be effectively coordinated and implement the basic framework of the NOP is noted (Section 5). This is followed by the implementation of the NOP (Section 6), and its envisaged outcomes (Section 7).

At this juncture the debates on competing interests and therefore issues for ocean resources development and the medium for its various services offered have emerged that entail appropriate responses. Three of the policy fronts with implications on the development of relevant laws are on: PNG environment protection and biodiversity conservation by noting in particular the requirements of the environmental impact assessments (EIA) as denoted in Annex 1 (GOPNG, 1976); and, directly related to that is guidance on the development of principles and establishment of marine protected area (MPAs) by the Secretariat of the Pacific Community (SPC) which are presented in Annex 2 (Cecarrelli et. al, 2018). In addition, for purpose of marine scientific research the current Guidelines managed by the PNG national Marine Scientific Research Committee (MSRC) are provided in Annex 3 (Kwa, 2004).

**3. KEY CONCEPTS**

The inclusiveness of the cross-section of partners and the wider stakeholders in the development of the NOP requires an integrated ocean management model. Guidance as such is multiplying rapidly in various regional seas and ocean programs worldwide as discussed. An example is offered in discussions for the oceans policy development in the case of Fiji as denoted in Table 2 (FELA and EDO NSW, 2017). A simple comparison is made to show the distinction between management under territoriality modes and an integrated management model (IOM). It would be wise in all respects for PNG to adopt an IOM model.

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| Table 2. Current Oceans Management and Integrated Oceans Management (IOM) |
| Issue | Current Framework | IOM |
|

|  |  |  |
| --- | --- | --- |
| General Approach  |   |   |

 | Policy-making is carried out by individual sectors such as fisheries, tourism, oil and gas, shipping, conservation. | Consensus between competing sectors is achieved and expressed in IOM policy providing an overarching framework for future sectoral policy-making. |
| Focus on ocean environment  | Some overarching policy-making is carried out regarding biodiversity conservation, Green Growth and climate change.  | The ocean environment becomes the focus for policy-making whilst also incorporating issues relating to Green Growth, biodiversity conservation, climate change and so on.  |
| Timeframes  | Sectoral planning and management is short-term and within a narrow sectoral perspective.  | Sectoral planning and management also includes a long-term perspective that fits within the goals of IOM.  |
| Relationship between sectoral policies  | Sectoral policies may compete against each other because of conflicting interests.  | Competing sectoral interests are resolved and prioritised within the broader framework of IOM.  |
| Coordination  | Little coordination between levels of government and traditional communities.  | All levels of government are involved in the preparation and implementation of policy and coordination mechanisms are established.  |
| Management  | Management focuses on parts of an ecosystem rather than the whole (such as a particular fish stock).  | Management focuses on relationships, processes and trade |
| Measure to protect species  | Measures are taken to protect individual species.  | Measures are taken to protect multiple species within identified ecosystems  |
| Marine Protected Areas (MPAs)  | Marine Protected Areas are established to protect vulnerable or important coastal or marine ecosystems.  | A network of Marine Protected Areas is established to protect vulnerable or important ocean ecosystems and may be located with a broader regime of Marine Spatial Planning  |
| Human activities  | Human activities are evaluated as individual activities.  | The impact of human activities is evaluated within an ecosystem framework.  |
| Use of resources  | Individual sectors are responsible for managing the use of the resources falling within their sector.  | Use of resources by each sector is guided by an overarching management regime with agreed goals applicable to an identified region or ecosystem.  |
| Scientific monitoring  | Scientific monitoring is narrowly focused.  | Scientific monitoring is geared towards adaptive management.  |
| Scientific research  | Scientific research tends to be single purpose observation with little consultation or coordination.  | Shared and standardised observations in scientific research and application  |

The NOP is underpinned by Key Concepts pertaining to integrated oceans management (IOM) and are outlined below. These are captured in our NOP in principle to focus and strengthen our planning and research programs at all levels in the further development of our NOP and related sectoral policies for the long-term.

1. Traditional and customary tenure systems and community-based resource management.

Our NOP reaffirms the recognition of indigenous and local communities the ownership regimes of any ocean space and natural resources therein within PNG’s national jurisdiction by virtue of our traditional and customary tenure systems. This assertion therefore elevates the indigenous and local communities as the primary custodians of community-based resource management in terms of opportunities to gain maximum benefits.

1. Protecting customary use of resources.

In noting the above the modern development interventions from the traditional norms require appropriate protection to be offered to indigenous and local communities on the wise use of their given resources.

1. Sustainable Use.

With the onset of modern research, science and technology the traditional knowledge on conservation and management are eroding at rapid rates. Whilst there are some success and policies developed now, the requirements for polices and best practices relating to sustainable use of natural resources including on fisheries and marine biodiversity need emphasis and actions must be embraced.

1. Ecosystem-based management.

Understanding the dynamics of natural coastal and marine ecosystems is crucial to realize appropriate policy initiatives for management of viable populations *in-situ*. The main aspects of interests are on understanding the various but integrated components of ecosystems in terms of their structure, services and functions (eg. Constanza et. al., 1997). This is critical in an ecosystem-based management; includes planning and design of marine protected areas (MPAs) and the application of marine spatial planning (MSP) within an integrated oceans management (IOM) framework.

1. Precautionary approach.

The need for comprehensive scientific research for all maritime zones is needed as there is limited information to guide the development of sectoral policies and regulatory regimes. This limited or lack of adequate scientific knowledge should not be used as a reason or excuse not to take any marine conservation or management actions. This principle is a core tenet of integrated oceans management.

1. Marine spatial planning.

The marine spatial planning (MSP) model is internationally accepted whereby all partners and stakeholders are involved in various processes of planning and decision-making at different levels to enable allocation of different marine areas for human use in terms of space and over time periods – the zoning system. The zoning system establishes criteria and limitations for use by under regulations. The overall outcome is achieving environmental protection, conservation and sustainability of the natural resource base, and thereby improving the socio-economic livelihoods of local communities, and supply of public goods and services to areas beyond the demarcated zones.

1. Integrated coastal and island management.

The integrated coastal management (ICM) or integrated coastal and island management (ICIM) is focused on coastal and whole islands, and assumes also the basic principles of the integrated oceans management (IOM) concept. Given the dynamic nature of environmental conditions in coastal areas and whole islands’ ownership, and in addition, they are the prime attraction for human settlement and related development activities, the issues are complex and warrant attention. The attention desired includes reviewing and establishing appropriate policies, programs and projects under the ecosystem-based management process by all the partners and stakeholders. In noting that the coastal areas are the interface between the atmosphere, sea and land, and land-based impacts to the sea are substantial, it is of significance in the ICM processes to take into account the nature of the river basins and catchments as a continuum to the oceans.

1. Marine protected areas.

The primary purpose of marine protected areas (MPAs) is to protect marine biodiversity. The MPAs apply the same principle of ‘no-take’ areas in coastal and marine areas under both the traditional conservation practices according to specific societal customs, and, the introduction of conventional marine protected areas. The undertakings under marine spatial planning (MSP) processes and zoning systems are required in order to consider appropriately the value of MPAs in fisheries management, and levels of restrictions and interests on extractive and partial extractive activities.

1. Multiple use management.

Multiple use management draws attention to the uses of a coastal or marine area by different groups for various purposes. Effective and efficient management of multiple uses ensures broader understanding of sustainable use.

1. Adaptive management.

The concept of adaptive management works well under conditions that foster learning and change to deal with uncertainties. The conditions or issues to be addressed emerge from ecological conditions, socio-economic conditions, and institutional conditions; and lend support for integrated management values as outlined in the aforementioned key concepts.

11. Blue economy

The application of a ‘blue’ economy concept would be a big step on the right path for PNG. ‘Innovation’, is the key word on which to work on in the ocean environment. The world’s marine ecosystems provide essential food and livelihoods to millions of people. According to the United Nations Environment Programme (UNEP) Secretariat, a switch to a blue economy would unlock the potential of the marine-based economy while reducing ocean degradation and alleviating poverty

Management decisions and investments that focus on the well-being of the oceans are essential if we are to continue to profit from this rich natural resource. Many natural resources found in marine environments are being degraded by unsustainable use, ultimately putting their ecosystems, food security and climate regulations at severe risk.

**4. INTERNATIONAL AND REGIONAL OCEANS POLICIES AND LAWS**

There are a number of important international and regional treaties and laws that PNG has signed on and as a Party to these laws and which are linked to the development of the NOP are presented.

**4.1. International Policy**

Papua New Guinea (PNG) recognizes its geographic setting as an important strategic maritime gateway into and from the Pacific Blue Region. This entails PNG to undertake significant mutual international and regional arrangements which criss-cross a diverse geopolitical spectrum. In this context PNG upholds and embraces the international ocean policies under the auspices of the United Nations (UN) and the adoption of the *United Nations Convention on the Law of the Sea* (UNCLOS: Montego-Bay-1982). PNG is facing a multitude of challenges and issues in achieving successful outcomes in the implementation of most of the multilateral environmental agreements (MEAs) and includes the UNCLOS. Our resolve is for the NOP to be adopted and strengthened to improve the implementation of UNCLOS and our domestic legislation, the *Martime Zones Act* 2015 over time.

In this strategic implementation framework we take into account a number of relevant excerpts under the umbrella of oceans from an historical development perspective that have paved the developments to the present, and only a few selected UN Conferences are noted for emphasis and implementation in our NOP and subsequent reforms.

The 1972 *Declaration of the United Nations Conference on the Human Environment*, Principle 7 declares, *States shall take all positive steps to prevent pollution of the seas by substances that are liable to create hazards to human health; to harm living resources and marine life; to damage amenities or to interfere with other legitimate uses of the seas*.

A decade later in 1992, PNG dispatched its largest-ever official delegation to any UN Conferences led by the Head of State, for the UN Conference on Environment and Development. The noted Principles in the *Rio Declaration on Environment and Development* (Quarrie, 1992) are:

* Principle 1. Human beings are at the centre of concerns of sustainable development. They are entitled to a healthy and productive life in harmony with nature.
* Principle 3. The right to development must be fulfilled so as to equitably meet the development and environment needs of present and future generations.
* Principle 6. The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority. International actions in the field of environment and development should also address the interests and needs of all countries.
* Principle 15. In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.
* Principle 17. Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.
* Principle 22. Indigenous people and their communities and, other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interest and enable their effective participation in the achievement of sustainable development.
* Principle 24. Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary.
* Principle 25. Peace, development and environmental protection are interdependent and indivisible.
* Principle 26. States shall resolve all their environmental disputes peacefully and by appropriate means in accordance with the Charter of the United Nations.

In the implementation of the NOP we also recognize the relevance of the Rio UNCED program in Chapter 17 of Agenda 21 entitled, *Protection of the oceans, all kinds of seas, including enclosed and semi-enclosed areas, and coastal areas and the protection, rational use of their living resources*. Its preface notes:

The marine environment – including the ocean and all seas and adjacent coastal areas – forms an integrated whole that is an essential component of the global life-support system and a positive asset that presents opportunities for sustainable development. International law as reflected in the provisions of the United Nations Convention on the Law of the Sea … sets forth rights and obligations of States and provides the international basis upon which to pursue the protection and sustainable development of the marine and coastal environment and its resources. This requires new approaches to marine and coastal area management and development, at the national, subregional and global levels, approaches that are integrated in content and are precautionary and anticipatory in ambit.

Furthermore its, *A. Integrated management and sustainable development of coastal and marine areas, including exclusive zones*, denotes the basis of action as:

The coastal area contains diverse productive habitats important for human settlements, development and local subsistence. More than half the world’s population lives within 60 km of the shorelines, and this could rise to three quarters by the year 2020. Many of the world’s poor are crowded in coastal areas. Coastal resources are vital for local and indigenous communities. The exclusive economic zone (EEZ) is also an important marine area where the States manage the development and conservation of natural resources for the benefit of their people. For small island States or countries, these are the areas more available for development activities.

Since the 1992 UNCED there have been further developments by different UN Conferences which address interests and issues on oceans. These include the 1994 *Declaration of Barbados*, 2002 *Johannesburg Declaration on Sustainable Development*, and, the 2012 Rio+20 *The Future We Want – Our Common Vision*. It is worthwhile to note that over this time period until to the present some States have ventured into development of their national ocean policies. These include Australia (GOA 1998), China (GOC 1998, Japan (The National Diet 2007), Vanuatu (GOV 2017) and Indonesia (GOI 2017). Such undertakings by coastal and maritime States offer varied opportunities for PNG to understand, and foster appropriate mutual international and regional cooperation and collaborative arrangements for the long-term.

PNG upholds the outcomes of the dedicated and focused consolidation of interests, issues and the positive international resolve on commitments from the 2017 UN Conference on Oceans as expressed in the UN General Assembly Resolution (31/712) on *Our Ocean, Our Future: Call for Action*; and the Seventy Second General Debate Session of the UN General Assembly (July 2017). PNG provided commitments in these respective UN Conferences. Of particular interest under these commitments is the Communities Of Ocean Actions (COAS) that focus on nine (9) themes, and these are on:

1. Coral reefs,
2. Implementation of UNCLOS,
3. Mangroves,
4. Marine and coastal ecosystems,
5. Marine pollution,
6. Ocean acidification,
7. Scientific knowledge, research and development, and technology transfer,
8. Sustaining the blue economy, and
9. Sustainable fisheries.

Our NOP reaffirms PNG’s commitments and support for developments on international policy on oceans and will endeavor to integrate the implementation of relevant international commitments under multilateral and bilateral arrangements.

**4.2. International Law**

PNG recognizes its inherent inadequate capacity in all aspects to effectively implement the multilateral and bilateral treaties it is a Party of, including the UNCLOS. It is the prevalent issue and needs priority for relevant Government interventions. Our NOP addresses this weakness by focusing on selected international treaties to strengthen the policy and legislative reforms to ensure effectiveness and efficiency in the implementation of relevant programs and projects. For purposes of initial undertakings in the NOP, only a selected set of international treaties including the Rio Treaties are noted hereon for re-articulation as a catalyst for improved complementary implementation.

* *United Nations Convention on the Law of the Sea* (UNCLOS-1982).

The UNCLOS treaty was adopted in 1982 (since 1958) and came into force in 1994. The main objectives of UNCLOS are the protection of the marine environment and the conservation of fishery species. A significant aspect of UNCLOS which is relevant for PNG and needs priority actions is rules relating to marine scientific research (MSR), and highlighting the element relating to research and development (R&D). The relevant part of the UNCLOS on MSR is Part XIII and especially Article 256. This specific element is significant for PNG and therefore is the core of Principle 1 (Improving Our Understanding of the Oceans - The Papua New Guinea Oceans Policy) of our NOP; the prerequisite to comprehend the nature and complexity of the oceans. General guidance is provided in the abstract below to appreciate the significance of marine scientific research in PNG (Kwa, 2004).

This provision recognizes that coastal States have the inherent jurisdiction to develop consent regimes for MSR in their internal, contiguous and territorial seas. Article 246 lays down the consent regime for MSR in the Exclusive Economic Zone (EEZ) and on the continental shelf. Under article 246, the coastal States have the right to regulate and authorize the conduct of MSR in the EEZ and on the continental shelf. Thus, access by other States or competent international organisations to the EEZ or the continental shelf for the conduct of MSR is subject to obliged to grant consent where the research is for peaceful purposes and fulfils certain domestic criteria.

The debate on whether a coastal State has the right to regulate the conduct of marine scientific research in an area of water traditionally recognized as the high seas created and other significant components of the treaty were accepted by the parties.

The EEZ is a *sui generis* zone of its own. It is neither a territorial sea nor high seas. Article 56 of UNCLOS stipulates that the coastal State is given only sovereign rights for the purpose of exploring and exploiting the natural resources of the sea, (both living and non-living) on its seabed and subsoil. In this zone the coastal State is given the jurisdiction to regulate MSR to be conducted by other States within the EEZ, in accordance with the relevant provisions of the Convention, in this case, Part XIII of the treaty.

PNG has ratified this treaty and thus, is required to implement its obligation under the treaty. In PNG, the Marine Scientific Research Committee (MSRC) is responsible for regulating MSR in PNG waters. The MSRC has recently adopted a set of guidelines which be applied to MSR activities in PNG.

The guidelines are included as Annex 3 to provide a guide in the development process of the NOP and its governance. PNG is implementing the UNCLOS through the *Maritime Zones Act* 2015.

* *Convention on Wetlands of International Importance, Especially as Waterfowl Habitat* (Ramsar-1971).

The Ramsar or Wetlands Convention provides a specific framework for the conservation and wise use of wetlands – swamps and marshes, lakes and rivers, wet grasslands and peatlands, oases, estuaries, deltas and tidal flats, near-shore marine areas, mangroves and coral reefs, and human-made sites as fish ponds, rice paddies, reservoirs, and salt pans. The Convention has a close affinity with the *Convention on Biological Diversity* (CBD-1992) and hence there is mutual synergy between the Conventions. Furthermore the Ramsar Convention provides the continuum from the wetland basins or catchments to the coastal and marine ecosystems, and hence is significant to take into account; especially in the provision of transboundary migratory routes for birds over PNG while enroute from the north to south and vice versa.

PNG is a Party to the Convention and was linked to the now repealed, *Fauna (Protection and Control) Act* 1966 by the 2014 *Papua New Guinea Policy on Protected Areas* (PNGPPA) PNG has been successful in listing two Wetlands of International Importance (Ramsar Sites); these are, the Tonda Wild Management Area in Western Province, and the Lake Kutubu Wild Management Area in Southern Highlands Province.

* *Convention on Biological Diversity* (CBD-1992)

The Convention provides the umbrella for many specific species-based related treaties beforehand. Under its ambit the three principal aims of the Convention are, (1) conservation of biological diversity, (2) sustainable use, and (3) the equitable sharing of benefits use of biological derived from the use of biological diversity.

In essence, all the provisions of the Convention are generally applicable to the oceans, and one of the main specific programs on oceans is traced to the development of the 1995 *Jakarta Mandate on Coastal and Marine Biological Diversity*. Its mandate is based on the following six principles: (1) the ecosystem approach (2) precautionary principle (3) importance of science (4) full use of roster of experts (5) involvement of local and indigenous communities’ traditional knowledge, and (6) three-levels of program implementation at national, regional and global. This program has set the tone for subsequent marine initiatives which include: biological diversity indicators, species, taxonomy and systematic, Global Taxonomy Initiative (GTI), incentive measures, environmental impact assessment, sustainable use, and sustainable tourism. Part of the undertakings addressed the coral reefs and Small Island Developing States.

PNG is a Party to the Convention. There is no consolidated framework piece of legislation at present although a greater part of its provisions are implemented by different sectoral policies and legislation. The 2014 NPPAs is envisaged to fill this umbrella vacuum with the enactment of the *Protected Areas Bill* 2016 still pending.

* *Cartagena Protocol on Biosafety to the Convention on Biological Diversity* (Montreal-2000)

The Biosafety Protocol is referenced to the Convention’s Article 19 on *Handling of Biotechnology and Distribution of Its Benefits,* which seeks to protect biological diversity from potential risks posed by living modified organisms (LMOs) created by the use of modern biotechnologies. It is the only international legal instrument that deals exclusively with LMOs in terms of risk assessments and protocols on universal communication for trade of LMOs for direct use as food, feed or processing.

PNG is a Party to the Protocol. There is very limited innovations and inventions in this field to date, however it offers viable opportunities for research, scientific advances and technological developments for marine biodiversity and coastal-marine LMOs.

* *Nagoya–Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety* (Nagoya-2010)

The Supplementary Protocol (Nagoya-2010) to the Cartagena Biosafety Protocol (Montreal-2000) aims to contribute to the conservation and sustainable use of biodiversity by providing international rules and procedures in the field of liability and redress relating to living modified organisms (LMOs), as stated in its Article 1. The Protocol applies to damage resulting from living modified organisms which find their origin in a transboundary movement. It provides for an indicative list of factors that should be used to determine the significance of an adverse effect. The Supplementary Protocol requires in Article 4 that a causal link between the damage and the living modified organism be established.

PNG is not a Party to the Supplementary Protocol and through our NOP relevant considerations will be made on its adoption by PNG for consistency with the Convention and the Biosafety Protocol.

* *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity* (Nagoya-2010)

The Access and Benefit Sharing (ABS) Protocol is referenced to the Convention’s Article 15 on *Access to Genetic Resources*.

PNG has immense vested interests in this Protocol, however PNG is not a Party. As denoted earlier, various aspects of the ABS principles have also been developed and are implemented by different sectoral policies and legislation. These sectors include forestry, agriculture and livestock, fisheries and energy; and of particular interests are issues on traditional knowledge and intellectual property rights based on biodiversity. An advanced discussion on PNG’s ABS policy and legal framework is in the public domain and only requires the formalities for the NEC and the National Parliament to endorse and approve the respective policy and Bill (eg. refer Kwa et. al. 2011, Final Draft *Institute of Papua New Guinea Biodiversity Bill* 2008).

The NOP will advance the process for PNG to accede to the ABS Protocol and thereby draw international and regional attention for the much needed resources and updates on international and regional policy developments.

* *United Nations Framework Convention on Climate Change* (UNFCCC-1992)

The UNFCCC provides a backdrop of human activity which is continuing to increase the anthropogenic concentrations of greenhouse gases (GHGs) which alter radioactive balances and warm the atmosphere. These alterations have led to impacts including ozone layer depletion, climate change, desertification, deforestation, air pollution and acidification, toxic waste, water pollution, exhaustion of non-renewable resources, loss of biodiversity, species extinction and health problems such as, cancer, malaria, cholera and mouse plague. This meant that the global response was urgently needed to address the problems. The initial intention was for the Convention to determine targets for reduction of GHGs which failed, and aimed to pursue in future negotiations; it however sets out the main international programs on mitigation and adaptation.

PNG is a Party to the Convention and faithfully participates in its annual negotiations however, there is limited achievements in terms of compliance requirements.

* *Kyoto Protocol to the United Framework Convention on Climate Change* (Kyoto-1997)

The Kyoto Protocol is the culmination of international negotiations on some of the major unresolved issues at the 1992 UNCED. One of the main controversial issues resolved was setting achievable targets for GHG emissions. In addition, a further component agreed to was the establishment of three flexible mechanisms notably: Joint Implementation (JI), Emission Trading (ET), and the Clean Development Mechanism (CDM). The most appropriate mechanism and opportunity provided for developing countries was through the CDM. The CDM mechanism provides five significant opportunities; they are (1) enhancement of the sustainability of the country’s forest resources, (2) financial benefits, (3) technology transfer, (4) capacity building, and (5) enhancement of biodiversity protection and sustainable use.

PNG is a Party to the Protocol and has utilized the CDM mechanism of projects in the extractive industry relating to energy on geothermal and in agri-foresry for palm oil biofuel. The Protocol is implemented in PNG under the *Climate Change Management Act* 2015. The Act provides for the regulatory framework to, (a) promote and manage climate compatible development through climate change mitigation and adaptation activities, (b) implement any relevant obligations of the State under applicable rules of international law and international agreements related to climate change, and (c) established PNG’s Designated National Authority for the purposes of the Kyoto Protocol and any such other or subsequent arrangements or agreements made under the Kyoto Protocol.

* Paris Agreement (Paris-2015)

After reviewing the Kyoto Protocol, the Conference of the Parties (COP) approved the Paris Agreement. The Agreement defined two long-term global emission goals, (1) to have emissions peaking as soon as possible, whilst recognizing that this will take longer for developing countries to achieve, and (2) the goal of net greenhouse gas neutrality within the second half of this century. It also introduces the compulsory submission of Nationally Determined Contributions (NDCs) by nation States, alongside a complementary system of global stock-take, to outline and measure future objectives in relation to the Agreement, predominately in their emissions reductions efforts. These NDCs are to be updated every five years with each NDC representing a progression in ambition. In short, the Agreement is for all Parties to contribute to reduction of the global temperature is below 2oC this century, and for all parties to similarly declare their NDCs. By 2030 PNG must developed its Intended National Determined Contribution (INDC) and must link this to its laws and taking into account the ocean (blue carbon) and land resources contributions.

PNG is a Party to the Agreement; and has domesticated its implementation by enacting the *United Nations Paris Agreement (Implementation) Act* 2016.

* *United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Especially in Africa* (UNCCD-1994).

The Convention aims to address the issues on desertification – the problem of land degradation in dryland regions which continues to worsen. The Convention promotes a fresh new approach to managing dryland ecosystems and - just as important - to managing development aid flows.

PNG is a Party to the Convention. There is no specific domestic legislation implementing the Convention however, there is implementation of many of its components by all sectors under their sectoral policies and legislation.

It is noted that currently, PNG is developing a 10 year strategic plan framework and actions plans in these 6 broad areas: (1) sustainable developed achieved, (2) land management governance and policy, (3) education, training and awareness, (4) knowledge, information and research, (5) evaluation and monitoring, and (6) partnership and financing.

The NOP is embarking on dovetailing relevant provisions of the Convention for coastal and island ecosystems, especially for research and application in agriculture and livestock, and protection of freshwater lenses and water tables on isolated and remote islands and atolls.

* *Convention Concerning the Protection of the World Cultural and Natural Heritage* (UNESCO-1972)

The World Heritage Convention seeks to protect the cultural and natural heritage protection by encouraging parties to nominate and manage such sites within their national jurisdictions. PNG’s first World Heritage Site is the Kuk Archaeological Site in the Western Highlands Province. The site is protected under the provisions of the *Conservation Areas Act* 1979.

PNG is a Party to the Convention and has an historical link in the implementation of the Convention through the development and establishment of *National Parks Act* 1982 and the *Conservation Areas Act* 1979. These legislation have been repealed by virtue of the 2014 *National Policy on Protected Areas* and its entailed forthcoming Protected Areas Bill.

Other important legislation include, the *National Cultural Property (Preservation) Act* 1965, *National Museum and Art Gallery Act* 1992 and, the *National Cultural Commission Act* 1994. These legislation provide the leading framework in complementing the implementation of the *Maritime Zones Act* 2015, Schedule 7, on *Convention on the Protection of the Underwater Cultural Heritage* (UNESCO-2001).

* *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (Washington DC-1973)

The CITES regulates the international trade in specimens of species to offer protection to plants and animals; whether they are live, dead, in parts or derivatives – by ensuring that their international trade does not jeopardize the survival of their viable populations in the wild. The species are covered in three Appendices which provide three levels of protection, and these are:

* Appendix I: includes species threatened with extinction; trade in these specimens is permitted only under specific conditions and normally excludes ‘primarily for commercial purposes’. A PNG example is the marine whales. It is instructive to note its Article III, 5, on *Introductions from the sea*.

5. The introduction from the sea of any specimen of a species included in Appendix I shall require the prior grant of a certificate from a Management Authority of the State of introduction. A certificate shall only be granted when the following conditions have been met:

1. a Scientific Authority of the State of introduction advises that the introduction will not be detrimental to the survival of the species involved;
2. a Management Authority of the State of introduction is satisfied that the proposed recipient of a living specimen is suitably equipped to house and care for it; and
3. a Management Authority of the State of introduction is satisfied that the specimen is not to be used for primarily commercial purposes.
* Appendix II: includes species not necessarily threatened with extinction; however the international trade is strictly restricted or controlled by an international permit system in order to avoid utilization not compatible with their survival in the wild. A PNG example is the hard and black corals.
* Appendix III: lists species that are protected in at least one country, which has requested other CITES parties for assistance in controlling the trade.

PNG is a Party to CITES and implements the treaty by the *International Trade (Fauna and Flora) Amendment Act* 2003 to regulate the international trade of CITES species.

* *International Convention for the Prevention of Pollution from Ships* (MARPOL-1973).

The Convention is the principal international treaty that covers prevention of pollution of the marine environment by ships from operational or accidental causes. Its international regulations are aimed at preventing and minimizing pollution from ships and currently include six technical Annexes. Special Areas with strict controls on operational discharges are included in most of the Annexes. PNG is party to the treaty by being a member of the Western and Central Pacific Fisheries Commission (WCPFC) through the undertakings in *Tackling Marine Debris in the 21st Century*. The respective Annexes are listed below:

* + Annex I. *Regulations for the Prevention of Pollution by Oil* (entered into force on 2 October 1982).
	+ Annex II. *Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk* (entered into force 2 October 1982).
	+ Annex III. *Regulations of Pollution by Harmful Substances Carried by Sea in Packaged Form* (entered into force on 1 July 1992).
	+ Annex IV. *Prevention of Pollution by Sewage from Ships* (entered into force on 27 September 2003).
	+ Annex V. *Prevention of Pollution by Garbage from Ships* (entered into force on 31 December 1988).
	+ Annex VI. *Prevention of Air Pollution from Ships* (entered into force on 19 May 2005).
* *Agreement on Trade-Related Aspects of Intellectual Property Rights* (WTO-1994).

The TRIPs Agreement is closely related to the international agreements that established the World Intellectual Property Organization (WIPO and the World Trade Organization (WTO). It covers five broad areas of: (1) how basic principles of the trading system and other international intellectual property agreements should be applied, (2) how to give adequate protection to intellectual property rights, (3) how countries should enforce those rights adequately in their own territories, (4) how to settle disputes on intellectual property between members of the WTO, and (5) special transition arrangements when the new system is being developed and introduced.

The TRIPs Agreement in its core function is to protect rights given to persons over creations of their mind, which usually the gives the creator an exclusive right over the use of his/her creation for a certain period of time. The two main areas of protection of intellectual rights are: (1) copyright and rights related to copyright; and (2) industrial property rights. The former encourages and rewards creative work, while the second deals with protection of (a) distinctive designs, and (b) protection offered to primarily stimulate innovation and the creation of technology by patents for inventions, industrial designs and trade secrets.

PNG is a Party to the WTO and hence the TRIPs Agreement. The domestic compliance is undertaken by the Intellectual Property Office of PNG (IPOPNG) through the *Copyrights and Neighbouring Rights Act* 2000 and the *Patents and Industrial Designs Act* 2000. There are obvious opportunities also in PNG to advance the development of intellectual protection under the *sui generis* regimes pertaining to traditional knowledge on biodiversity, and cultural properties.

PNG recognizes the immense value of intellectual property rights (IPRs) and, also as the bench-mark on the status of PNG’s industrial status. Our NOP will enhance IPR programs through appropriate coastal and marine scientific research and development (R&D) programs in order for Papua New Guineans to excel in application of traditional knowledge and cultural properties, and modern scientific-based industries; to enjoy the benefits of their creations.

**4.2. Regional Ocean Policies**

The regional ocean policies and related treaties and related instruments of which PNG is a Party of require consistency with the international ocean policies and treaties in terms of implementation. This will streamline the potential issue(s) of duplication of program and the required financial membership subscriptions to the various international and regional treaties.

The relevant main regional ocean policy developments at this juncture which PNG cooperates and collaborates are the Pacific Islands Forum (PIF) and the Coral Triangle Initiative (CTI). Their respective contexts and significance are highlighted below.

**4.2.1. Pacific Islands Forum**

In 2005 the *Pacific Islands Regional Ocean Policy and Framework for Strategic Action* (Secretariat of the Pacific Community, 2005) was released as a regional to guide to member States and territories to adopt appropriately. The Five Principles in the Policy are:

* Principle 1 - Improving our understanding of the ocean,
* Principle 2 – Sustainably developing and managing the use of ocean resources,
* Principle 3 – Maintaining the health of the ocean,
* Principle 4 – promoting the peaceful use of the ocean, and
* Principle 5 – Creating partnerships and promoting cooperation.

The above Principles and Strategic Actions have been adopted as a guide in the development of PNG’s NOP.

The enhancement of the Pacific Islands interest on oceans was reinvigorated as the Blue Pacific in the 2017 UN Ocean Conference. The Brief at the Conference articulated our Blue Pacific – where countries demonstrate innovation in sustainably managing their part of the Pacific Ocean.

The Blue Pacific is the world’s largest oceanic continent, made up of a grouping of Pacific island countries and territories engaged in innovative and unique initiatives that show leadership toward strong regional ocean governance and the sustainable management and conservation of the ocean and its resources.

Blue Pacific – Our Sea of Islands, Our Livelihoods, Our Oceania: Achieving SDG 14 through effective implementation of Pacific Islands Regional Ocean Policy, was an opportunity for the Pacific region’s key decision makers to highlight the cooperation currently guiding ocean governance in the Pacific.

PNG is a foundation member of the Pacific Island Forum and all its Regional organizational affiliates, to implement relevant programs as the Region collectively raise issues and seek support from the international community to address the plight of the oceans.

PNG is conscious of interventions by China in the Region at present as a new development partner based on bilateral arrangements; and noting in particular PNG is a recipient of intensive investment by China-AID in the last decade. This regional presence of China has raised informal geopolitical positions in this context (Taylor, 2019) and may need a Regional consensus approach in the near future.

The NOP is committed to supporting and collaborating on the Pacific Regional Ocean Policy initiative(s) into the long-term. The NOP has adopted as a start the Five Regional Policy Principles and commitments made at the 2017 UN Conference on the Ocean and subsequent developments to date.

**4.2.2. Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security**

The significance of the Coral Triangle and the Coral Triangle Initiative is summed in the following notes (CTI-CFF Newsletter Archive, 2019).

The Coral Triangle is located along the equator along the confluence of the Pacific and Indian Oceans. The boundaries of this region cover all or part of the exclusive economic zones of six countries: Indonesia, Malaysia, Papua New Guinea (PNG), the Philippines, Solomon Islands, and Timor-Leste.

Often referred to as the “Amazon of the Seas,” the Coral Triangle has 76% of all known coral species; 37% of all known coral reef fish species; 53% of the world’s coral reefs; about 3,000 species of reef fish; the greatest extent of mangrove forests in the world; and serves as the spawning and juvenile growth areas for the world’s largest and most valuable tuna fishery.

The marine and coastal resources of the Coral Triangle—and the many goods and services they provide—are at immediate risk from a range of factors, including the impacts of climate change, over-fishing, unsustainable fishing methods, and land-based sources of pollution. These factors adversely affect food security, employment opportunities, and the standard of living for more than 120 million coastal people dependent on fishing, nature tourism, and other coastal and marine resources for their livelihoods. Fisheries exports and coastal tourism revenues—each of which provides about $3 billion in annual foreign exchange income in the region—are threatened.

The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) is the first of its kind – a multilateral arrangement between six countries working together in partnership with various donors to sustain extra-ordinary marine and coastal resources by addressing the main issues on food security, climate change and marine biodiversity. It was formed in 2009 with host countries being Malaysia, Indonesia, Papua New Guinea, Philippines, Solomon Islands and Timor Leste.

The CTI-CFF Regional Plan of Action comprises of 5 Goals which are reflected in each of the countries’ National Marine Action Plans. These are:

* Goal 1. Priority seascapes designated and managed effectively.
* Goal 2. Ecosystem approach to management of fisheries (EAFM) and other marine resources fully applied.
* Goal 3. Marine protected areas (MPAs) established and effectively managed.
* Goal 4. Climate change adaptation measures achieved.
* Goal 5. Threatened species status improving.

PNG is in the third phase of implementing the National Marine Action Plan from 2018 to 2020. One of the recently adopted initiatives by the Region is on cooperation and collaboration on marine scientific research among and between universities under appropriate university consortiums. This has not materialized yet in PNG under the lead of the University of Papua New Guinea (UPNG). PNG has also taken note of informal expressions by Solomon Islands and Timor Leste to join PNG.

The NOP will support and strengthen the implementation of this Regional initiative and also infuse the principles of good governance relating to transparency and accountability of the national program in the first instance, secondly to contribute to relevant policy and governance interests on the regional level, and thirdly, implement the marine scientific research collaboration by a establishing an appropriate consortium of universities under lead of PNG (UPNG), Solomon Islands and Timor Leste.

**Pacific Regional Laws and Agreements**

In general there are varying degrees of achievements in the implementation of the Pacific Regional treaties that PNG is a Party to, due primarily to inadequate and, or the lack of capacity and resources. The noted treaties include the:

* *Convention on Conservation of Nature in the South Pacific* (Apia-1976)

The oldest regional environmental treaty in the world; it promotes the conservation, utilization and development of natural resources of the South Pacific Region through careful planning and management for the benefit of present and future generations.

* *Convention for the Protection of the Natural Resources and the Environment of the South Pacific Region and Related Protocols* (Noumea-1986).

The Convention aims to protect the South Pacific marine environment from pollution and other harmful acts.

* *Agreement Establishing the South Pacific Regional Environment Programme* (Apia-1993)

The Agreement was aimed to establish SPREP as a regional organization with broad mandates to reflect many themes from an international perspective. It also acts as a regional link between multilateral and national institutions. Its main function is to coordinate and/or facilitate international initiatives at the regional level and include, promote cooperation in the South Pacific region on environmental matters, providing assistance to protect and improve the environment of the South Pacific, ensuring sustainable development for present and future generations through use of natural resources; via Action Plans adopted from time to time.

* *Nauru Agreement Concerning Cooperation Concerning the Management of Fisheries Common Interest* (as amended, April 2010).

This is a an Oceania subregional Agreement between the Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Solomon Islands and Tuvalu. The Agreement sets out the terms and conditions for purse seine fishing licenses in the said Region. The Agreement was signed on 11 February 1982 and entered into force on 4 December 1982.

* *South Pacific Forum on Fisheries Agency Convention – Forum Fisheries Agency* (FFA)

The FFA headquarters is at Honiara, Solomons Islands; and administers and provides support for negotiations and meetings required for several fishing treaties and agreements. These are the Niue Treaty, the Tokelau Arrangement and the USA Multilateral Treaty. PNG is a member of the FFA.

* *Treaty on Fisheries Between the Governments of Certain Pacific Island States and the Government of the United States of America*

This treaty is between the USA and 16 Pacific Island Countries; the countries are, Australia, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, USA and Vanuatu.

The treaty allows for US purse seine vessels to fish in the EEZs of the countries. The treaty entered into force in 1988 and extended in 1993, 2002 and in 2016.

The parties involved agreed in 2016 to an updated treaty in view of the USA’s modernized ways that US fishing vessels secure access to the productive tuna fishing waters of the treaty nations. The treaty defines the number fo fishing days as well as defining a mechanism for US vessels to arrange for additional fishing access directly with the countries involved.

The treaty is considered as model for international fishery cooperation and has supported the establishment of fisheries observer and data reporting requirements, monitoring, control and surveillance standards for the region’s fisheries, all of which are vital to deter illegal, unreported and unregulated fishing.

* *Niue Treaty on Cooperation in Fisheries, Surveillance and Law Enforcement in the South Pacific Region*.

The treaty promotes cooperation in the enforcement of fisheries laws and regulations of contracting parties (FFA members) and in developing regionally agreed procedures for the conduct of fisheries surveillance and law enforcement.

* *Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific*

The Convention is aimed at banning long driftnets fishing in the South Pacific Region because of its deleterious effects on fishing and the marine environment.

* *South Pacific Nuclear Free Zone Treaty* (Rarotonga-1985)

This treaty targeted the French Nuclear Testing program in French Polynesia and its long-term impacts on the environment of the Region. The treaty was successful in that the five of the major powers of the world ratified the treaty.

* *Protocol for the Prevention of Pollution of the South Pacific Region by Dumping* (1986)

The Protocol is related to dumping of wastes in the South Pacific Region

* *Protocol Concerning Cooperation in Combating Pollution Emergencies in the South Pacific Region* (1986).

The Protocol is aimed at promoting cooperation amongst contracting parties in dealing with pollution incidents.

* *Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Waste and to Control the Transboundary Movement and Management of Waste within the South Pacific Region* (Waigani-1985)

The Convention is aimed at banning the importation of radioactive wastes and also regulating the management of hazardous wastes in the South Pacific Region.

Our NOP reaffirms PNG’s commitment to the regional treaties and protocol, and will set up processes to undertake appropriate reviews for improved implementation. This initiative will be tested with the Noumea and Waigani Conventions.

**5. PNG Policies AND LAWS ON OceanS.**

The following PNG policies and laws have strong linkages to the National Ocean Policy and include:

**5.1. National Constitution**

The National Constitution is premised on the platform of the Eight Point Plan (Brunton and Colquhuon-Kerr, 1984) and the latter’s relevance is echoed in the PNG Vision 2050. The Five National Goals are listed below.

1. Integral Human Development

We declare our first goal to be for every person to be dynamically involved in the process of freeing himself or herself from every form of domination or oppression so that each man or woman will have the opportunity to develop as a whole person in relationship with others.

2. Equality and participation

We declare our second goal to be for all citizens to have an equal opportunity to participate in, and benefit from, the development of our country.

3. National sovereignty and self-reliance

We declare our third goal to be for Papua New Guinea to be politically and economically independent, and our economy basically self-reliant.

4. Natural resources and environment

We declare our fourth goal to be for Papua New Guinea’s natural resources and environment to be conserved and used for the collective benefit of us all, and be replenished for the benefit of future generations.

5. Papua New Guinean ways

We declare our fifth goal to be to achieve development primarily through the use of Papua New Guinean forms of social, political and economic organization.

For purposes of our NOP on coastal and oceans, together with the participation of indigenous and local communities, these two elements are enshrined in the Fourth Goal and its Directive Principles. The emphasis in the Directive Principles are reflected below.

4. Natural Resources and Environment

We declare our fourth goal to be for Papua New Guinea‘s natural resources and environment to be conserved and used for the collective benefit of us all, and be replenished for the benefit of future generations.

WE ACCORDINGLY CALL FOR—

(*1*) wise use to be made of our natural resources and the environment in and on the land or seabed, in the sea, under the land, and in the air, in the interests of our development and in trust for future generations; and

(*2*) the conservation and replenishment, for the benefit of ourselves and posterity, of the environment and its sacred, scenic, and historical qualities; and

(*3*) all necessary steps to be taken to give adequate protection to our valued birds, animals, fish, insects, plants and trees.

In addition, the Fifth Goal and its Directive Principles provide the recognition of the use of PNG’s own traditional and cultural forms to achieve the modern undertakings in the policy on responsible sustainable development for the coastal and ocean areas:

5. Papua New Guinean Ways

We declare our fifth goal to be to achieve development primarily through the use of Papua

New Guinean forms of social, political and economic organization.

WE ACCORDINGLY CALL FOR—

(1) a fundamental re-orientation of our attitudes and the institutions of government, commerce, education and religion towards Papua New Guinean forms of participation, consultation, and consensus, and a continuous renewal of the responsiveness of the institutions to the needs and attitudes of the People; and

(2) particular emphasis in our economic development to be placed on small-scale artisan, service and business activity; and

(3) recognition that the cultural, commercial and ethnic diversity of our people is a positive strength, and for the fostering of a respect for, and appreciation of, traditional ways of life and culture, including language, in all their richness and variety, as well as for a willingness to apply these ways dynamically and creatively for the tasks of development; and

(4) traditional villages and communities to remain as viable units of Papua New Guinean society, and for active steps to be taken to improve their cultural, social, economic and ethical quality.

Furthermore, our NOP reiterates the significance of *s117* of the National Constitution; it sets out the required protocols for any and all international engagements and arrangements by PNG; this includes commitments to the United Nations and its various organs.

Our NOP is consistent with the aspirations of the National Constitution and at the same time can be a catalyst where appropriate for adjustments in implementing the ‘PNG Ways’ on development of natural resources and protection of our coastal and marine environments. Our NOP seeks a policy reform on the maximum benefits be accorded to the coastal and marine ocean owners.

**5.2. PNG Vision 2050**

Our PNG Vision 2050 underlies the aspiration that by 2050, *We will be a Wise, Smart, Fair and Happy Society* (GOPNG, 2009)*.* In its summation, the Vision advocates that:

 ‘… opportunities will be created under the combined scenarios for Papua New Guineans to take part in the development processes:

* empowering the people through improved education and life-skills;
* working the land and benefiting from spin-offs from major projects;
* enhancing the level of service delivery and basic infrastructure; and
* increasing trade volume.’

One of its important undertakings is in Part 20; this identified the Core Strategic Development Areas. The selected relevant Core Areas include the oceans and coastal areas which provide the mainstay of livelihoods and economic activities in fisheries and tourism. The other prime opportunities are on marine biodiversity, transportation infrastructure, some mining activities, and human settlement.

**5.2.1. National Security and International Relations.**

PNG’s interests on national security and international relations pose an immense challenge to safeguard its sovereignty, especially for the maritime zones as underlined by the EEZ. The excerpt below in the PNG Vision 2050 is a reiteration to enhance attention as they are matters of national interest.

**1.17.8 *Security and International Relations***

**1.17.8.1 Social Security**

**1.17.8.1.1** Improve Papua New Guinea’s ranking from 158 out of 180 countries12 on the Corruption Perception Index to a ranking of above 50;

**1.17.8.1.2** Maintain a ranking of 50 on the Crime Index Ranking out of countries surveyed;

**1.17.8.1.3** Improve police personnel-population ratio from 1:1 317 to 1:450 (UN benchmark is 1:450);

**1.17.8.1.4** Provide 100 percent management capacity building for the Correctional Service; and

**1.17.8.1.5** Negotiate bilateral and multilateral support for Vision 2050.

**1.17.8.2 National Security**

**1.17.8.2.1** Provide 100 percent capacity building for the National Intelligence Organisation to monitor internal and external hostile activities;

8 **1.17.8.2.2** Ensure that the Customs Office and the National Agriculture Quarantine and Inspection Authority provide 100 percent quality assurance of all inbound imports and outbound exports;

**1.17.8.2.3** Allocate funding to the security forces for relevant infrastructure, including applications of space science and technology, to facilitate internal and external border surveillance covering sea, land, and air borders; and

**1.17.8.2.4** Allocate funding for the relevant state agencies to assist the security forces in border enforcement.

**1.17.8.3 International Relations**

**1.17.8.3.1** Redirect all foreign aid to nationally determined priorities;

**1.17.8.3.2** Establish Trade Commission Offices in relevant countries;

**1.17.8.3.3** Increase bilateral relations with the rest of the world and relevant international organizations; and

**1.17.8.3.4** Ensure that Papua New Guinea’s Foreign Policy reflects the national interest.

Our NOP is consistent with these selected aspired objectives as well as the general intent of the PNG Vision 2050 with special attention on national security of the maritime zones; the major policy drive in our NOP is maximum benefits must be provided to the coastal and ocean resource owners under these various arrangements through appropriate means.

**5.3. Responsible Sustainable Development (StaRS) – The PNG Ways**

The Responsible Sustainable Development policy (StaRS) is the paradigm shift in PNG’s strategic policy development for planning and related needs via a new paradigm labelled as the Responsible Future Economic Growth; that is, transitioning from the current conventional ‘brown growth’ to the ‘green growth’ (GOPNG, 2014). The latter is reflected within the framework of the PNG MTDP III. The advocated major strategies and envisaged benefits in the StaRS are set out in the 21 Principles. The primary tone of the principles includes our interests on coastal and oceans. These are echoed as:

The sustainable development framework helps to achieve the development directive of the National Constitution to achieve a high quality of life of all Papua New Guineans through integral human development, equality and participation, enhancement of national sovereignty and self-reliance, proper management and use of natural resources for environmental sustainability, and through Papua New Guinean ways,

Our NOP is consistent with the STARS and enhances the national strategy for responsible sustainable development by extension of its principles and objectives with the onset of the current world shifting to the blue or ocean economy. Our NOP is envisaged to provide the lead in the development of the blue ‘growth’ and economy.

**5.4. Legislation and Mandates of Agencies and Institutions**

A number of Government agencies are mandated by their respective legislation in the conduct of their activities and responsibilities in the coastal and marine sector. The noted governmental entities are reflected below.

Local-Level Administration and Ward Development

By virtue of the traditional and customary tenure regimes, that is, the primary owners of natural resources, the basic units of indigenous and local communities in Local-Level Government or Council areas are the primary targets of all national, provincial, regional and international socio-economic development planning and environmental protection policies and legal regimes. However, they do not feature in any substantive initial negotiations and the hence the current undertones of natural resources are owned by the peoples and not the three levels of the Governments per se in PNG. This is the reality upon which the present Marape-Steven Government’s development platform has emerged, and is consistently portrayed in our NOP.

Our NOP enhances the conversations on the bottom-up national planning framework to the fore – the paradigm shift based on the National Constitution and STARs – the PNG Ways; and thereby ensures the constituents of maritime Local-Level Wards to receive maximum benefits under appropriate access and benefit sharing arrangements.

The noted legislation of relevance include implementing *s44* on law-making powers of the maritime Local-Level Governments under the *Organic Law on Provincial Governments and Local-Level Governments* 1995, *Local-Level Governments Administration Act* 1997 and budgetary support under the *District Development Authority* 2012.

Provincial Administration and Districts

The Provincial Administration systems functions through the *District Development Authority Act* 2012 for the delivery of goods and services to the consolidated maritime Provincial-based Districts. Their law-making powers are provided for by *s42* of the *Organic Law on Provincial Governments and Local-Level Governments* 1995 and the *Provincial Governments Administration Act* 1997.

National Government: Central Agencies

* Department of the Prime Minister and the National Executive Council (DPMNEC)

The Department functions as the principal supervisor and coordinator in the implementation of the National Executive Council (NEC) policy directions and decisions. It plays the crucial link on policy development and approval processes to the NEC and where appropriate to the National Parliament. This will include the formal processes and adoption of the NOP.

* Department of Justice and Attorney General (DJAG)

The Department is the principal policy and legal advisor to the National Government and the public service. It oversees the legal compliance and coordination of all ocean governance work ensuring all enforcement is undertaken in compliance with legal frameworks in place in consultation with the National Oceans Committee’s Core Team. The Department administers the *Maritime Zones Act* 2015, and notes in particular the implementation of provisions relating to the conduct of marine scientific research in PNG waters, and also assuming the Chair of the National Marine Scientific Research Committee.

* Department of Inter Government Relations (DIGR)

The Department administers the *Organic Law on Provincial Governments and Local Level Governments* (1995) and will now assume a greater role and responsibilities in fostering partnerships for ocean governance with the maritime Provinces in concert with cooperation by DJAG. Within its functions and roles the Department collaborates with the National Economic and Fiscal Commission in ensuring intergovernmental financing and funding arrangements. The delimitation in the respective maritime zones is required with the NEFC for future determinations on financing and funding arrangements where the *National Economic and Fiscal Commission Act* 1996 will be a pivotal legal mechanism to offer relevant development planning and funding appropriations.

National Government: Line Agencies

* Department of Foreign Affairs (DFA)

The Department will ensure its Minister administers the Maritime Zones Act and related legislation and polices in accordance with ocean governance based on international law and State Practice.

* PNG Immigration and Citizenship Service (PNGICS)

The PNGICS administers the *Migration Act* 16 and the *Citizenship* Act Chapter 12. It is responsible for assessing and issuing of visas and checking documentation of arrivals at designated ports, airports, or at sea.

* Department of Transport (DOT)

The Department is empowered by the *Harbors Board Act* 1963 (as amended in 2002) to exercise regulatory functions of harbors and ports. Under an Instrument of Delegation from the Department to PNG Ports Corporation Ltd, the latter exercises the powers to manage and regulate the port industry within the declared ports in the country.

* Department of Health (DOH)

The Department administers a host of pieces of legislation that are of relevance to coastal and oceanic communities to ensure public health and sanitation safeguards are in place (refer also Kwa, 2004). These include the *Public Health Act* Chapter 226 and *Public Hospitals Act* 1994.

* Department Mineral Policy and Geohazards Management (DMPGM)

The DMPGM is the policy arm of the mining sector and includes also the administration of the geo-hazards in PNG. The Department has undergone the reviews of the *Mining Act* 1992. It has also introduced a *Mine Closure Policy*. An *Offshore Mining Bill* and a *Seabed Policy* are new changes that are being mooted to exploit the seabed resources of the oceans through an environmental friendly and sustainable framework to be coordinated with CEPA and NMSA given that any installation at sea including robotic equipment to mine the seabed would fall within scope of the new Marine Pollution legislation. Other changes would include a waste management system for the mining sector and review of the outdated mine safety legislation.

These new developments require the development of appropriate science-based criteria and standards for environmental impact assessments on Level 3 under the *Environment Act* 2000 of any coastal and oceanic-marine environments to be impacted.

* Department of Petroleum and Energy (DPE)

The DPE is responsible for licensing of all LNG and petroleum exploitation under the *Oil and Gas Act* 1998. That includes developments at sea considering the legislation applies in the EEZ as well. The safety of installations and pipelines and abandonment of installations, environmental considerations including roadstead’s are matters that need to be updated with the Department to ensure the requirements of UNCLOS and the *Maritime Zones Act* 2015 are fulfilled. These include the development of relevant provisions for Level 3 in the *Environment Act* 2000.

* Department of Lands and Physical Planning (DLPP)

The DPLL administers the *Land Act* 1996 and the *Physical Planning Act* 1983. The Office of the National Mapping Bureau and the Office of the Surveyor General are the technical agencies for implementing delimitation and boundary work. The definition of land includes the seabed area of PNG. Some changes to the definition of land include the foreshore which will have implications for regulating the foreshore for sand mining and reclaimed areas in terms of environmental considerations and should be determined under Level 3 of the *Environment Act* 2000.

* Department of Education

In addition to the Department’s core functions and roles in the education sector of developing relevant curricula and delivery, the Department hosts the National Commission for UNESCO; the Commission will play an important facilitating and coordinating role in the national undertakings for implementing Schedule 7 of the *Maritime Zones Act* 2015 on protection of the underwater cultural heritage as an obligation to the *Convention on the Protection of the Underwater Cultural Heritage* (UNESCO-2001).

In this initiative the other relevant institutions expected to take an active part under the coordination of the National UNESCO Commission include the National Museum and Art Gallery (NMAG) by virtue of administering the *National Cultural Property (Preservation) Act* 1965 and the *National Museum and Art Gallery Act* 1992, and the National Cultural Commission (NCC) in administering the *National Cultural Commission Act* 1993.

* Department of Higher Education, Research, Science and Technology (DHERST)

The DHERST is crucial in enhancing the support in higher education in modern cutting-edge marine sciences, research and technological developments in terms of updated curricula and delivery in the national universities. Of particular importance is the Department hosting the Office of Research, Science and Technology (ORST). The Office administers in essence the *Papua New Guinea Science and Technology Council Act* 1992; the Council is the national premier entity that peers reviews planning strategies and the nature of research, sciences and technologies in PNG. In this context there exists a mutual synergy with the National Oceans Office (see Subsection on Papua New Guinea National Oceans Office) in supporting the functions and roles of the Marine Scientific Research Committee and vice versa.

National Government: State Owned Enterprises, Authorities and Commissions

* PNG Customs Services

The PNG Customs Services was created as an Office under the *Public Services (Management) Act* 1995 separating it from the Internal Revenue Commission (IRC). Primarily the Customs Service is responsible for the administration of the *Customs Act* 1951 and related Regulations, and the *Customs Tariff Act* 2000. The Customs Service is required to conduct inspection and provide customs clearance on all goods landed or transshipped in ports. It has the authority to impose customs duty and tariff on all import of goods.

* PNG Port’s Corporation Limited (PPCL)

The PPCL a commercial entity was created by the *PNG Harbours Act* 240 Consolidated to No 15 of 2002 as amended and incorporated under the Companies Act. This entity will provide port services to the shipping industry.

* National Maritime Safety Authority (NMSA)

The NMSA was created by the *National Maritime Safety Authority Act* 2003, and defines its functions and powers among other things relating to maritime safety, marine pollution, search and rescue operations, including regulating standards for international shipping, maritime labour and maritime standards and registration of ships, under the *Merchant Shipping Act* Chapter 242. Four new pollution legislation came into force in 2015; these are the *Marine Pollution (Ships Installation) Act*) *Marine Pollution*, Sea Dumping Act, *Marine Pollution (Preparedness & Responsibility) Ac*t, *Marine Pollution (Liability and Cost) Recovery Act*.

* PNG National Fisheries Authority (NFA)

The NFA was created by the *Fisheries Management Act* 1998. Among other matters the NFA is responsible for all exploitation of commercial fisheries in PNG and includes the licensing of foreign fleets fishing in PNG’s EEZ. All fisheries are regulated through various management plans. The Authority is also responsible for monitoring, control and surveillance for all licensed fishing vessels and is undergoing changes in relation to the introduction of regulatory measures to curb IUU operations.

* PNG Mineral Resources Authority (MRA)

The MRA is the licensing arm of the Mining Sector. It administers the *Mining Act* 1992 in terms of licensing of all mineral exploitation in PNG. The Authority works with the Department of Mineral Policy and Geohazards Management in terms of reviews into the *Mining Act* 1992 and the related offshore legislation. The introduction of geothermal policy and eventual legislation to be introduced will set the pace for introduction of alternate energy sources.

* Conservation Environment Protection Authority (CEPA)

The CEPA is the key organization which administers the *Environment Act* 2000, and other related legislation such as, the *Conservation Areas Act*. The *Environment Act* 2000 is the key legislation that applies across all economic exploitation of natural resources. A number of changes need to be made to the manner in which EIA are undertaken and a strategy for the Government in the EIA process will be addressed as a reform especially for the offshore exploitation of natural resources on Level 3. An EIA specifically for the oceans will be developed namely for seabed mining ventures both for areas under national jurisdiction and also for areas beyond national jurisdiction. The Protected Areas Policy has already been approved. Current efforts for a new Protected Areas legislation is in place and future work on the Nagoya Protocol on Access Benefit Sharing namely for developing guidelines for economic developments to genetic resources and other research and development initiatives to be eventually aligned with integrated licensing systems.

* Office of Climate Change Development Authority (OCCDA)

The OCCDA is regulated by the *Climate Change Act* 2015. The Climate Change policy is in place. The new legislative framework allows the new authority to administer climate related matters based on a system of levies and user pay principles. All extractive industries will be targeted to pay levies in the exploitation of the environment that contribute to the climatic conditions. The Authority will also be responsible for coordinating with other sectors in addressing food security issues for coastal and island communities. In addition, the Authority administers also the *United Nations Paris Agreement (Implementation) Act* 2016.

* National Information and Communication Technology Authority (NICTA)

The NICTA comes under the *National Information and Communication Technology Act* 2009 is responsible for the regulation and licensing of information communication in PNG and would be responsible for all communication cables to be laid in the seabed of PNG.

* Internal Revenue Commission (IRC)

The IRC is responsible for collection of tax revenues under various pieces of legislation and include the *Goods and Services Tax* 2003, *Income Tax Act* 1959 and *Stamp Duties Act* 1952. The offshore installations out at sea for economic development will be subject to appropriate tax regimes.

The blue (oceans) tax being recommended in our NOP (see the later Subsection on Sustainable Resourcing and Financing) warrants attention by the IRC and the Department of Treasury; the concept being a levy of 1t or 2t from every 1 litre of any oil, gas or petroleum product or derivative sold is paid into a consolidated trust fund to serve the dedicated needs of implementing the NOP activities.

* National Agriculture Quarantine & Inspection Authority (NAQIA)

The NAQIA was created by the *National Agriculture Quarantine and Inspection Act* 1977. It is responsible for the *Quarantine Act* 1953, the *Animal Disease Control Act* 1952 and the *Plant Disease Control Act* 1953. It provides for monitoring and surveillance functions at airports, seaports International mail exchanges; import and export facilitation into PNG and to minimize risks associated with introduction of exotic plant and animal diseases.

National Government: Institutions

* Papua New Guinea Maritime College

The Papua New Guinea Maritime College is established by the *Maritime College Act* 1976 to provide courses of training and other instructional facilities for the theoretical and practical training of persons in maritime skills. It was previously known as the Nautical Training Centre. An appropriate robust review and development of its educational program is well over due and must be strengthened by this NOP to meet the needed national human resources with qualifications and under relevant international accreditation systems.

* PNG National Weather Service

The PNG National Weather Service is responsible for the determination and forecast of weather patterns in the country. It is also responsible for meteorological and climatology research and including deployment of weather buoys, moorings systems, radiation measurements in the waters of PNG that assist with general prediction of weather in the Pacific region. Some of its work would interrelate to the Office of Climate Change, National Disaster Office and the Marine Scientific Research Committee for research applications.

* National Agriculture Research Institute (NARI)

The NARI is established by the *National Agriculture Research Institute Act* 1996 to identify, adapt and transfer agricultural technologies and information and the provision of technical services to improve the welfare of rural families and communities who depend wholly or partly on agriculture for their livelihood and to enhance the productivity, efficiency, stability and sustainability of the smallholder agriculture sector. The NARI Council play an important function on the national food security issue and must now focus its attention on coastal and especially the requirements of oceanic islands and coralline atolls – limited freshwater and fertile soils - to improve relevant subsistence agriculture practices, livestock activities and work collaborate with NFA on relevant aquaculture and mariculture programs, and to where appropriate assume the lead in appropriate research and development (R&D) involving biotechnology on food, feed, and related goods and services.

* National Institute of Standards and Industrial Technology (NISIT)

The NISIT is established by the *National Institute of Standards and Industrial Technology Act* 1993 to provide for the establishment and use of uniform measurement and technical standards or integrated standardization for the promotion and undertaking of technology development. One of NISIT’s major functions of relevance to development of coastal and oceans natural resources is to ensure the accreditation of facilities and related for scientific research, and research and development (R&D) according to international standards. The facilities include marine laboratories to undertake advanced R&D activities.

**5.4.1. Indigenous Participation: Customary and Traditional Tenure Systems**

The prevailing given traditional and customary tenure systems is that all environments and oceanic waters within the jurisdictions of the indigenous communities command ownership and different regimes of user rights. The principle of resources on land below ‘six (6) feet’ owned by the State cannot be extended to the oceans. From time immemorial PNGs have traversed the length and breadth of the ocean and ownership extends in all dimensions even to the oceanic water columns, the seabed and below the seabed. In short, PNGs own 100 percent of the ocean resources and therefore the principles of fair and equitable sharing of benefits (ABS) require an urgent policy reform to define the manner of distribution of benefits between various partners including the State and its agencies and international investors.

Our NOP asserts for the maximum benefits to be provided to the coastal and island ocean owners, and not the State and its agencies per se.

**5.4.2. Local-Level and Provincial Governments Jurisdictions**

The PNG White Paper on Offshore Mining Policy makes explicit the current issues on exercising of jurisdictions relating to legally demarcated boundaries between the National and Provincial Governments, and also between the Provinces, the EEZ boundaries and neighbouring States (Raymakers, 2011). The maritime provincial-level jurisdictions of interests are: (1) Western Province (2) Gulf Province (3) Central Province (4) National Capital District (NCD), (5) Milne Bay Province (6) Oro Province (7) Morobe Province (8) Madang Province (9) East Sepik Province (10) Sandaun Province (11) Manus Province (12) New Ireland Province (13) East New Britain Province (14) West New Britain Province and (15) the Autonomous Region of Bougainville (AROB). The forthcoming referendum by AROB in 2019 pose further implications for further adjustments of legal boundaries if and when the peoples of AROB may decide to secede. A finer issue is on the demarcation of District and Ward boundaries, the function and roles of the Local-Level Governments, and, the nature of the traditional and customary tenure systems at coastal, inshore and offshore marine systems.

The devolution of appropriate legal functions to Provincial and Local-Level Governments within their boundaries - in addition to their law-making powers will ensure a relative improved level of benefits being derived from the ocean resources and services, especially for the Local-Level Governments and their Wards. This is by taking into account the Internal, Archipelagic and Territorial maritime zones and also exploring opportunities for the Provinces and Local-Level Governments in the other zones within the EEZ.

Our NOP highlights the requirements for improved levels of resources and finances to Provinces and especially to the Local-Level Governments to be more efficient and effective in managing their coastal and marine environments through appropriate lessons-learned on successes in the Ward system; and to pioneer an innovative autonomy concept in decentralization and devolution of certain powers to Provinces and Local-Level Governments.

 **5.5.2. Off-shore Mining and Related Extractive Activities**

The prevailing policy and legal undertones seek appropriate reforms relating to indigenous ownership of natural resources, and more benefits from exploration and their extraction of minerals and hydrocarbons. These have been fuelled also by environmental issues and debates on socio-economic benefits since Independence. The issues in the last decade have been more complex and is referenced to the Solwara 1 Project (refer Raymaakers, 2011); however it is a very significant indeed to acknowledge the current Marape-Steven Government is establishing a reformed platform and processes to deal with mining, oil and gas and related extracted industries, or natural resources over time. The Green Paper (GOPNG, 2003) and the White Paper (Raymaakers, 2011) for the mining sector in PNG need appropriate attention.

In recognizing the precautionary principle and polluter-pays principle all mining and related extracted activities must employ and deploy science-based evidences for geological surveys, mineral exploration; and especially proven technologies for mining operations at the coastal belts and in the maritime zones with no significant levels of negative environmental impacts in particular. In mining operations either in-shore or off-shore the employed or deployed technologies must have been fully tested *in-situ* for at least 15-20 years and also internationally approved and/or accredited for application.

Our NOP entails all mining and related extractive activities from the coastal belt to the maritime zones within PNG’s national jurisdiction are consistent with it; that is, scientific research and testing of technologies of more than 15-20 years are prerequisites for the required approvals to be given.

**5.4.3. Ocean areas beyond National Jurisdiction**

**5.4.3.1. Conservation and Sustainable Use of Marine Biological Diversity.**

PNG’s interests are being solicited under the auspices of the United Nations General Assembly (UNGA) Resolution 69/292 of 19 June 2015, and, the dealing with the recommendations of the Preparatory Committee’s Fourth Session in New York from 10-21 June 2017; the main recommendation is for the UNGA to adopt an international legally binding instrument under the UNCLOS (Montego Bay-1982). PNG is participating in these international negotiations primarily to consolidate consensus on its proposed Section A (conservation and sustainable use) and diligently deal with its Section B (principle of common heritage for humankind).

PNG’s active participation in the adoption and ratification of the international legally binding instrument bodes well for the country in enhancing the national wealth if and when appropriate investments are undertaken, and the principles of access and the fair and equitable sharing of benefits are negotiated properly with development partners. One of the main investments would be to acquire through appropriate mechanisms PNG own modern-hi-tech ocean research vessel.

Our NOP supports PNG’s interests on the conservation and sustainable use of marine biological diversity of areas beyond our national jurisdiction. In principle at this present stage our position is consistent with the stances adopted by the Pacific Islands Forum (PIF), Alliance of Small Island States (AOSIS), Small Island Developing States (SIDS) and the Group 77 plus China (G77+China). The policy in addition advocates for a major investment in PNG’s own modern hi-tech ocean research vessel.

**5.4.3.2. Investments in Mineral Exploration in High Seas**

In concert with the addressing marine biological diversity is PNG’s interest also in investments in exploration and mining for minerals and related natural resources. Particular interest is on rare earth elements (REEs) which will always be in exponential demands because of the super-conductors in the high-technology industries into perpetuity. The governance of the High Seas is under the oversight of the UNCLOS International Seabed Authority (ISA) and that PNG should consider the merits of bid for claimable zones in the High Seas in the Pacific, Indian and other Oceans. PNG notes the active participation at this present time of some South Pacific Island States have made claims in the Clarion-Clipperton Zone for polymetallic nodules. The States include Cook Islands, Kiribati, Nauru and Tonga.

PNG’s active participation in exploration and mining in the High Seas will only enhance the national wealth if and when appropriate investments are undertaken, and the principles of access and the fair and equitable sharing of benefits are negotiated properly with development partners. One of the main investments would be to acquire through appropriate mechanisms PNG own modern-hi-tech ocean research vessel.

PNG’s NOP supports relevant investments by the PNG Government s), research institutions and universities, commercial companies and other entities to invest in exploration and mining activities in the High Seas. The Policy in addition advocates for a major investment to acquire PNG’s own modern hi-tech ocean research vessel in improving understanding the understanding of the oceans and its atmospheric environment.

**5.4.3.3. MARINE SCIENTIFIC RESEARCH**

As part of our visions to explore and understand the planet earth’s atmosphere and other planets using technologies such as satellites and similarly scanning the interior of the Earth, the opportunity to explore the oceans and its resources is now available. The last decade has generated the oceans economic frontier ascribed by the blue economy and so the significance of marine scientific research both under pure and applied research is so much needed to harness the bountiful natural resources such as minerals, oil, gas, fisheries and mariculture, medical drugs, and, its ecosystems services such as in tourism and transportation. The research and development (R&D) innovations are envisaged to offer advanced research, sciences, technologies including biotechnology (and modern biotechnology) and realization of benefits from intellectual property rights. This is a requirement which must be implemented as stipulated in the *Maritime Zones Act* 2015, Part XII, *Marine Scientific Research* (*s45-s49*), and the function and role(s) of the marine scientific research in PNG by the national Marine Scientific Research Committee (MSRC) in *s47* and *Schedule 6*.

Our NOP provides the framework for diligent commitment and undertakings with relevant partners in the regions and international research institutions to advance this policy. The institutional and human capacity of marine research institutions in PNG must be enhanced; and these include the University of Papua New Guinea (UPNG)’s Motupore Island Research Centre in Central Province, the National Fisheries Authority (NFA)’s Nago Island Fisheries Research Station at New Ireland Province, and the PNG Maritime College in Madang Province.

**5.4.3.4. PAPUA NEW GUINEA NATIONAL OCEANS OFFICE**

The NEC Decision No. 03/2015 established the PNG National Oceans Office (NOO), and subsequently its Secretariat through the workings of the National Oceans Committee and its Technical Sub-Committee since 2016-2017 with guidance by DJAG and DFAT. The governance framework included a Ministerial Oceans Committee to provide relevant reports to the National Executive Council.

Our NOP adopts in principle the organizational development and establishment of the NOO and its working Committees, and the governance framework and includes the implementation of the IOM. The main reforms include the MSRC to assume a new status as the National Oceans Council, and the Council to urgently review its mandate and programs to implement the NOP.

**5.4.3.5. NATIONAL SECURITY AND INTERNATIONAL RELATIONS**

 General Undertakings

PNG, being a maritime State, our NOP recognizes the international, regional and domestic challenges on national security; that is, in provisions of relevant national policy security strategies and actions to address both the protection of natural resources in the oceans, and taking into account the preparedness for any acts of maritime terrorism and armed conflicts.

Our NOP will complement the current and development of relevant national maritime policy initiatives on security and international relations.

International Border Treaties

PNG places high priority on the international border treaties and related agreements with Australia, Federated States of Micronesia, Indonesia and Solomon Islands. As a maritime semi-Island State, PNG recognizes the significance of the treaties to maintain and improve regional stability in the use of the oceans for peaceful purposes. PNG also acknowledges the inadequacy and lack of resources and relevant capacity to fulfill commitments in the respective treaties and agreements, these are listed below.

Australia

* *Agreement between Australia and Indonesia Concerning Certain Boundaries between Papua New Guinea and Indonesia* (Jakarta-1973)
* *Treaty between Australia and the Independent State of Papua New Guinea Concerning Sovereignty and Maritime Boundaries in the Area between the Two Countries, including the Area known as the Torres Strait and Related Matters* (Canberra-1978)

Federated States of Micronesia

* *Treaty between the Federated States of Micronesia and the Independent State of Papua New Guinea Concerning Maritime Boundaries between the Federated States of Micronesia and the Independent State of Papua New Guinea* (1991)
* *Amendment to the Treaty between the Federated States of Micronesia and the Independent State of Papua New Guinea Concerning Maritime Boundaries and Cooperation on Related Matters* (Port Moresby-2015)

Indonesia

* *Agreement between Australia and Indonesia Concerning Certain Boundaries between Papua New Guinea and Indonesia* (Jakarta-1973)
* *Indonesia Border Agreement Act* Chapter 85 (1976)
* *Agreement between the Government of Indonesia and the Government of Papua New Guinea Concerning the Maritime Boundary between the Republic of Indonesia and Papua New Guinea and Cooperation on Related Matters* (1980)

Solomon Islands

* *Treaty between the Independent State of Papua New Guinea and Solomon Islands Concerning Sovereignty, Maritime and Seabed Resources between the Two Countries, and Cooperation on Related Matters* (1989)
* *Agreement between the Government of Papua New Guinea and the Government of Solomon Islands Concerning the Administration of Special Areas* (Port Moresby-2004)

One of the main concerns and anxieties by the general public is on compliance by foreign military and, or related activities within PNG’s EEZ. The relevant provisions of UNCLOS including Subsection C on *Rules Applicable to Warships and Other Government Ships Operated for Non-Commercial Purposes* in Articles 29 to 32; and, Part VI on *Rights of Passage* in the *Maritime Zones Act* 2015, offer promises of peaceful uses of the oceans. These concerns need to be addressed through PNG’s national security strategies and arrangements.

The NOP will strengthen its commitments in the relevant provisions on maritime interests and issues in the respective international border treaties; includes the domestication of relevant treaties and agreements, and relevant public information on military and related activities need addressing, for an improved implementation.

**5.4.3.6. SUSTAINABLE RESOURCING AND FINANCES**

The implementation and further development of our NOP is subject to the normal finances by National Government MTDP’s recurrent budget and development programs. The DJAG, as the custodian of the NOP and management of the NOC, will seek a PIP for the short to medium term to urgently commence the implementation strategic framework. The need for immediate interventions in the integration processes require appropriate sustainability strategies and especially financing for long-term purposes. The overall policy intention is a dedicated set of resources and finances at relative higher levels from the norm, to be provided firstly to priority programs at the local-level communities and districts.

The NOP envisages during its planning and implementation phase(s) to commence diligent sourcing of resources and financing, and investment strategies with international, regional and national financial partners, and include the an extension of the domestic taxation regimes and include blue (ocean) taxes and trust funds. The blue taxes is an opportunity within the energy sector to focus on petroleum products as a start, and the potential to establish a specific dedicated off-shore trust as the, Papua New Guinea Blue Innovation Ltd. Other opportunities for the latter include investments in the PNG Sovereign Wealth Fund, NASFUND Ltd, Nambawan Super Ltd, Papua New Guinea Sustainable Development Program Ltd, PNG Mama Graun Conservation Trust Fund, Biodiversity Trust Fund, Port Moresby Stock Exchange and other related trust funds.

**6. PAPUA NEW GUINEA NATIONAL OCEANS POLICY**

**6.1. Introduction**

The protection and care of the ocean health is the responsibility of all our people as agreed in our five Goals in the Constitution. The oceans are inter-connected and interdependent, covering some 70% of the world’s surface. They are the last great frontier and their conservation and sustainable use is vital to the well being and survival of the human race.

PNG and the Pacific Island States inhabit the islands scattered throughout the ocean across which some of the most inspiring migrations in human history have taken place, over many thousands of years. The ocean unites PNG and its communities more than anything else. It has supported generations of our communities – not only as a medium for transport but also as a source of food, tradition and culture including trade.

Our ocean, coastal and island ecosystems contain high biological diversity that has sustained the lives of PNG since first settlement. It contains the most extensive coral reefs in the world, globally important fisheries, significant seabed mineral resources and high number of threatened species. These ecosystems may contain many undiscovered resources of potential use to humankind.

More than 1,600 of islands and atolls are entirely coastal in nature and surrounded by the warmest pool of ocean in the world. This energy it contains will always influence our lives both on land and islands and the ocean resources and the entire country. The ocean is not only a lifeline; it is also a source of hazard and can create disasters linked to one of the global challenges such as climate change, sea level rise and variability. These hazards can be increased by the impact of human activities both within and external to the Pacific Islands region.

Our ocean provides the greatest opportunities for responsible sustainable development measures for our people. Responsibly managed, it has the potential to support PNG communities in perpetuity.

As Pacific Island communities, we are acutely aware that over ninety eight per cent of the 38.5 million square kilometers of the Earth’s surface over which we have direct influence is ocean. But concerns for the long- term health of the ocean are not confined to the areas covered by sovereign rights, they extend equally to adjacent areas of high seas.

Our commitment to the development of a common Policy for this ocean stems from our collective awareness of an increasing number and severity of threats to its long-term integrity.

This Policy is planned and designed to embrace the framework for the PNG Responsible Sustainable Development, of the resources and habitats within the PNG. It provides guiding principles for individual and collaborative action that will promote responsible stewardship of this large ocean for the country, Pacific and global benefits. The Policy is intended to promote PNG as an ocean champion/environment in support of our Responsible Sustainable Development Policy. It is not a legal document, however its guiding principles are founded on international law, as reflected in the United Nations Convention on the Law of the Sea, UN Sustainable Development Goals (2015) and other international and regional agreements.

Our commitment to the development of a common Policy for this ocean stems from our collective awareness of an increasing number and severity of threats to its long-term integrity. This Policy presents a framework for the responsible sustainable development, management and conservation of the resources and habitats in the country. It provides guiding principles for individual and collaborative action that will promote responsible stewardship of this large ocean for PNG and partners to mutually benefit.

The umbrella guiding principles are: improving our understanding of the ocean; sustainably developing and managing use of ocean resources; maintaining the health of the ocean; promoting the peaceful use of the ocean; and creating partnerships and promoting cooperation.

We invite and respect others to recognize our commitment to these guiding principles and support our strategies to implement this Policy to help ensure our ocean, coasts and islands remain healthy and sustain the livelihoods and aspirations of Pacific Island communities.

 **6.2. Rationale for Papua New Guinea National Oceans Policy**

The need for a policy is based on our collective awareness of the transboundary and dynamic nature of our ocean, the increasing number and severity of threats to its long-term integrity, and the reality to PNG ‘s Responsible Sustainable Development strategy will be dependent on wise use of the ocean and its resources. It is also based on our awareness and poor understanding of the ocean and its resources, potential for fragmentation of programs and for conflicting commitments in different sectors as ocean-related activities increase. This requires increased respect for all including regional collaborative arrangements among PNG and our partners.

**6.3. Capacity Building**

In order to replenish and sustain our knowledge base, it is necessary to generate new knowledge and understanding of the oceans upon which our way of life depends. Fundamental to the sustained generation of new knowledge is the continuing education of a cadre of scientists and policy makers. Educating and training our people within our country is the best strategy for ensuring the continuity in understanding and replenishment of knowledge of our ocean and related marine sciences.

**6.4. Vulnerability**

PNG communities are particularly vulnerable to certain governance, environmental, economic and livelihood circumstances.

Environmental factors include: climate variability, climate change and sea-level rise; immediate natural hazards such as earthquakes, tsunamis, and volcanic events, fragile ecosystems and natural resource bases, and geographic isolation.

Economic factors include: limited land area and freshwater resources; limited local markets; high import dependencies; fluctuating world prices for commodities; and isolation, including large distances to world markets.

Livelihood factors include: population growth and distribution; health, housing, education; human and food security; external influences, cultural dilution and loss of traditional knowledge and practices.

**6.5. Rights and Responsibilities - Governance**

The ocean has been the major influence in the history of PNG communities. Throughout the country and its provinces, customary association with the sea forms the basis of present-day social structures, livelihoods and tenure systems, trade and traditional systems of stewardship governing its use.

International law and instruments confer rights on PNG communities relating to the use of the ocean and its resources. With these rights come responsibilities, especially for implementing the Responsible Sustainable Development Policy pertaining the ocean’s living resources and for the protection of the ocean environment and its biodiversity.

PNG has established national laws, based on international principles and customary practices, which provide for responsible management and use of the ocean and its resources within its areas of jurisdiction. Our communities will work with partners to promote the application of compatible integrated policies by those partners in areas subject to their jurisdiction and surrounding waters, and with all other countries having interests in the region.

PNG communities respect the rights and interests of others to participate in legitimate activities. With this sharing comes the expectation that they will also meet their obligations and responsibilities to our ocean.

This Policy promotes good stewardship which refers to active engagement by PNG and its communities in caring for the oceans. It draws upon ideas, policies, institutions and enforcement procedures needed to protect the oceans and coasts from abuse including the effects of land- based activities. A bottom up approach in dealing with our people first is an important “No Regrets Option”.

**6.6. Context for the PNG National Ocean Policy**

The PNG Ocean Policy reflects a long term vision for ‘Á healthy ocean that sustains the livelihoods and aspirations of Pacific Island communities’. In an age when the oceans are subject to unsustainable exploitation and usage, the call for a healthy ocean from PNG is reassuring. The Pacific Ocean – as world’s largest and one of the last remaining sources of healthy fisheries and habitats should be managed properly to ensure its continued survival and use.

This Policy demonstrates our commitment within the EEZ and our island neighbors to care of our ocean, which has been the most dominating feature of their surrounding since their forefathers settled the islands after their epic journeys across the world’s largest islands. The ocean continues to provide for our island countries and will be the source of their future livelihood.

If the resource potentials of the oceans are to be realized, the people in our resource-strapped islands will have very bright futures. However, there are many constraints that need to be addressed. Most of the hazards such as extreme natural events such as tidal waves, earthquakes and cyclones, pollution and illicit and illegal human activities threaten the ocean’s resources and its life-supporting services. For these reasons PNG needs to take proper care of the ocean starting now.

This is our ocean, our future and our people and our Government call for urgent action.

The PNG Ocean Policy is not legally binding, yet it is founded on international and regional treaties and instruments. We have learnt and contributed to global, regional agreements our partners, now its our turn to develop and implement the NOP based our laws and our peoples priorities.

The Policy is intended as a framework that can guide the formulation and implementation of our Responsible Sustainable Development goals and policies within the Region. However, in many Provinces where local capacity is limited and nonexistent, this Policy is over-due and a welcomed development that will prompt the country to look after the ocean and its resources, in areas under their jurisdictions.

Particular issues require special consideration in PNG and its Provinces because they will influence the implementation of the Policy. These issues include capacity building, vulnerability and the enjoyment of rights and responsibilities. Capacity building is required to provide the knowledge base necessary to generate information about the ocean upon which life is dependent.

Understanding the ocean and its resources is still the greatest challenge to PNG and our small island Nations. We have just started our journey in developing this Policy. It is a priority we dedicate greater resources to marine scientific research, such as:

* Inter-disciplinary research and sustained ocean and coastal observation, as well as the collection sharing of data and knowledge including traditional knowledge, in order to increase our knowledge of the ocean
* To strengthen the development of coordinated early warning systems on extreme weather events and phenomena,
* To promote decision-making based on the best available science, and
* To encourage scientific and technological innovation as well to enhance the contribution of marine biodiversity to the development of our Provinces and our country as a whole.

PNG requires a cadre of scientists, policy makers and community leaders who can formulate the most appropriate strategies for utilizing and managing the ocean ad its resources. Our partners and specialized organizations and Pacific Countries can enhance the process by providing support and opportunities for developing local capacity.

Vulnerability can be manifested in terms of environmental, economic and social circumstances. Examples of environmental vulnerability include climate change, sea level rise and extreme natural events. PNG is economically vulnerable because it has small economies that are isolated from main markets and are dependent on the export of primary produce. PNG lacks the high-skill and capital requirements of the oceanic fisheries sector. Social vulnerability is related to population growth and distribution, food security and the loss of traditional knowledge.

The enjoyment of rights and responsibilities is a feature of international law, such as UNCLOS. Whilst PNG was given the rights to claim different maritime zones and resources, PNG is expected to undertake resources surveys and organize management regimes for different resources within its jurisdictions. These regimes may require PNG to collaborate and form partnerships to improve performance. PNG is encouraged to conduct scientific research and to collaborate with those with resources and capacity. In return, countries are allowed to conduct research within its waters and be willing to share the information, human development and technology.

Having being complacent and focused on exploiting our land resources for our Responsible Sustainable Development policy for more than 100 years, the shift and confidence into extracting resources from the ocean is indeed exciting in terms of enhancing our economic and human capacity in the long-term.

With this Ocean Policy, PNG is renewing its commitment to sustainable use the resources of the ocean. PNG expects other countries, entities and individuals to respect their rights to manage their resources and promise to support other management initiatives that are instituted. Good stewardship and involvement communities are emphasized because the communities should be responsible for the care of their resources.

**6.7. Vision**

Our vision of the NOP is, *A healthy oceans that achieves the responsible sustainable development outcomes and aspirations of PNG communities*.

**6.8. Goal**

The ultimate goal of our NOP is, *Achieve the PNG Vision 2050 and ensure sustainable development measures from the use of the oceans and its resources and our partners are achieved then*.

**6.9. Guiding Principles and Implementation Strategy: 2020 - 2030**:

The Five (5) umbrella guiding principles in achieving the Objectives, Vision and Goal of our NOP for implementation, are outlined in the following strategy. The Implementation Strategy is based on the Five (5) Guiding Principles with their respective Strategic Actions, Themes, Initiatives and Actions.

**6.9.1. Principle 1**

**Principle 1. *Improving our understanding of the oceans***: This Principle captures contemporary and traditional understanding of the oceans and provides the basis for sustainable use of the oceans and its resources, for the amelioration of pollution and harmful practices and for the prediction of weather, climate change and oceans variability.

Strategic Actions.

* To identify and prioritize information needs and the co-operative mechanisms for acquiring, accessing and disseminating information.
* To support and strengthen national and regional capacity, encourage partnerships between regional and international organizations, and the public and private sectors, to improve our understanding of the oceans.
* To facilitate access to this information, encourage its wide application in the implementation of this Policy and any compatible national oceans policies that may be developed in association with it.
* To have regard for traditional knowledge and its potential to contribute to better under-standing the oceans and to the effective management of resources.
* To promote further formal education and training of local people in marine science and marine affairs disciplines.

**Theme 1. Improve governance of the coasts and oceans.**

*Initiative 1.1. Establish high-level leadership on oceans issues with a commitment to effective management of oceans resources.*

Actions.

1.1.1. Develop a proposal, including funding, to establish a national (and Provincial) Ombudsman whose office would generally investigate oceans-related developments affecting more than one nation, or of transboundary scope, reporting to member countries on the conformity of that development with PNG Oceans Policy principles.

1.1.2. Promote high-level leadership on oceans issues and commitment to effective management of oceans resources.

1.1.3. Incorporate oceans issues into national and provincial agendas.

1.1.4. Actively promote the PNG Oceans Policy and Framework for Action to national governments and partners, and maintain a focal point within provincial Governments.

1.1.5. Establish professional development programs for leaders, senior decision and policy makers on cross-sectoral and governance issues.

*Initiative 1.2. Review, strengthen and/ or establish policy, legal and regulatory mechanisms in accordance with Provincial and national needs and capacities.*

Actions.

1.2.1. Assist PNG government and its Provinces to effectively negotiate, accede to and implement all relevant international and regional instruments.

1.2.2. Develop and enact necessary national-level policies and/or legislation and harmonize conflicting legislation and agency regulations.

1.2.3. Effectively participate in relevant global initiatives (such as the United Nations Informal Consultative Process on Oceans and Law of the Sea or UNICPOLOS) to further develop international legal frameworks for protecting oceans resources.

1.2.4. Explore mechanisms for strengthening compliance with relevant multi-lateral agreements.

1.2.5. Develop methods by which traditional knowledge and marine-related intellectual property belonging to Pacific Islanders can be protected from unauthorized exploitation.

1.2.6. Provide technical support to Provincial governments to enable them to establish zones of national sovereignty (e.g. territorial seas) and maritime jurisdiction (e.g. contiguous zone, exclusive economic zone, and continental shelf).

1.2.7. Support to establish maritime boundaries in areas where claimed national maritime zones overlap maritime.

*Initiative 1.3. Engage stakeholders, including local communities, civil society organizations and national government agencies, in resource management decision-making and strengthen consultative, coordination and implementation arrangements.*

Actions.

1.3.1. Develop mechanisms to identify and engage all stakeholders, especially local communities and the private sector, on oceans resource management.

1.3.2. Provide support and empower communities to take on resource management and monitoring responsibilities.

1.3.3. Enhance inter-agency coordination at the national level and develop a strategic approach to information sharing and decision-making.

*Initiative 1.4. National Oceans Policies and Action Plans.*

Actions.

1.4.1. Develop a national task force to assist all provincial governments on request in the development and implementation of national oceans policies and action plans that complement the PNG Oceans Policy and its action plan.

1.4.2. Develop mechanisms to assist Provincial government in implementing oceans policies and plans, including toolkits, guidelines, processes and case studies.

1.4.3. Promote country-to-country exchanges.

**Theme 2. Improve understanding of the oceans.**

*Initiative 2.1 Identify and prioritize information needs and expand information gathering efforts.*

Actions.

2.1.1. Document the existing information and knowledge base, in part through an inventory of past and current marine research activities.

2.1.2. Prioritize information and knowledge requirements and identify significant gaps.

2.1.3. Develop mechanisms for coordinating relevant observing and monitoring activities, including initiatives from within the region and access to data and products generated by external partners.

2.1.4. Develop regional and national guidelines to monitor and coordinate research, in accordance with UNCLOS provisions.

2.1.5. Build capacity to conduct and strengthen the requirements for socio-economic valuation and assessment of resources, of biological processes, and of pollution.

2.1.6. Undertake an assessment of the value of the PNG Oceans (including considerations of subsistence use, ecological services, recreational value and similar factors).

*Initiative 2.2. Improve access to information and ensure protection for sensitive information, enhance knowledge management and improve the use of information in decision-making.*

Actions.

2.2.1. Establish a regional network, with agreed- to procedures, formats and protocols for oceans-related information management and sharing.

2.2.2. Ensure all Provincial Governments and LLGs have access to data from global and regional observation systems.

2.2.3. Promote development of adequate communications systems for Provincial Government to access and exchange information.

2.2.4. Establish clearinghouses for various types of oceans-related information and establish convenient means to broadly share and distribute information (via websites, PNG GISRS, etc.).

2.2.5. Enhance knowledge management within the region, including through the enhancement and/or establishment of tertiary and other training opportunities to improve knowledge and information management capacity.

2.2.6. Provide technical assistance to PNG and Provincial Governments to facilitate the incorporation of scientific and technical information in decision-making.

2.2.7. Ensure agencies (e.g. research institutions, private sectors agencies and NGOs) report scientific information in a form that is readable and understandable by the public and decision makers.

2.2.8. Develop regional protocols and more general processes for the sharing and return of oceans research results to local communities, and the broader region.

*Initiative 2.3. Promote formal and informal education, training and capacity building of local people in marine science, marine affairs and related disciplines.*

Actions.

2.3.1. Identify and address gaps in formal and informal education programs in the areas of oceans science and governance.

2.3.2. Enhance opportunities for technical training in oceans-related areas through both formal and informal means.

2.3.3. Develop and implement in-country training programs in priority areas.

2.3.4. Enhance teacher training and curriculum in oceans-related subjects.

2.3.5. Consider and develop informal training mechanisms for transfer of skills in marine science and oceans governance.

2.3.6. Seek opportunities for coordinating and combining education, training and capacity building initiatives with other regional initiatives.

*Initiative 2.4. Communicate oceans issues effectively to build strong public support for sound oceans management.*

*Actions.*

2.4.1. Collaborate, engage with and sensitize the media regarding oceans, coastal and island issues.

2.4.2. Develop communications strategies, including national and regional awareness campaigns, for making technical information available to the public in an understandable form, which take into account different stakeholder interests and characteristics.

2.4.3. Raise the profile of the need for responsible governance of the oceans and coasts, including through a regional and national launch of the PNG Oceans policy.

 **6.9.2 Principle 2**

**Principle 2. *Achieve responsible sustainable development and management of the use of oceans resources*:**

This Principle articulates that coastal and island communities in PNG are heavily reliant on the wide range of resources and services that the oceans provides for social, cultural and economic security.

Strategic Actions.

* Identify, priortise and implement resource development and management actions and regimes, in accordance with the precautionary approach.
* To encourage equitable sharing of resource access and benefits at local, national and regional levels.
* To engage, as appropriate, local communities and other stakeholders in resource management decision making.
* To build capacity of PNG communities for sustainable resource development and management.
* To establish and protect traditional knowledge rights and cultures.
* To establish and protect intellectual property rights.

***Theme 3. Sustainably developing and managing the use of oceans resources.***

*Initiative 3.1. Adopt an integrated approach to development and management of the oceans.*

Actions.

3.1.1. Promote the adoption approach to management of oceans resources.

3.1.2. Strengthen processes that support integrated or ecosystems-based management, and assist PNG communities and landowners in developing capacity to undertake integrated management that is responsive to local conditions.

3.1.3. Identify and enhance mechanisms that promote the use of traditional knowledge in management, policy and decision-making.

3.1.4. Build capacity to undertake environmental and socio-economic assessment and monitoring of the impacts of policy and development initiatives.

3.1.5. Incorporate impact assessment into decision- making (through Environmental and Socio- economic Impact Assessments or similar mechanisms).

3.1.6. Adopt and implement codes of best practices for activities (e.g. tourism, shipping, fishing) impacting on marine resources resource management.

3.1.7. Promote community-initiated resource management activities and empower local communities and stakeholders to undertake resource management.

3.1.8. Sustainably develop and manage inshore marine resources within an integrated coastal management framework.

3.1.9. Assist Provincial governments to develop integrated management plans and strategies for inshore areas.

3.1.10. Develop an integrated national management plan and strategy for offshore and high seas areas.

*Initiative 3.2. Address social, economic and cultural issues associated with resource development and management.*

Actions.

3.2.1. Ensure socio-economic and cultural issues are considered and addressed in the course of marine resource development and management.

*Initiative 3.3 Encourage equitable sharing of resources through the principles of access and benefit-sharing at local, national and regional levels.*

Actions.

3.3.1. Establish frameworks and mechanisms that facilitate negotiation of equitable resource sharing.

 **6.9.3. Principle 3**

**Principle 3. *Maintaining the health of the oceans*:**

This Principle highlights the natural linkages on the health and productivity of our oceans and is driven by regional-scale ecosystem processes, and is dependent upon preserving the ecosystem integrity and minimizing the harmful impact of human activity.

Strategic Actions.

* To adopt an integrated transboundary approach, through harmonized institutional arrangements, including existing international and regional agreements, to managing marine ecosystems for long-term sustainable benefit.
* To incorporate sound environmental and social practices into economic development activities.
* To protect and conserve biological diversity of the oceans ecosystem at local, national and regional scales.
* To reduce the impact of all sources of pollution on our oceans environment.

***Theme 4. Maintaining the health of the oceans.***

Initiative 4.1: Assess and address all sources of pollution and contamination impacting the oceans and coasts.

Actions.

4.1.1. Establish and increase national and provincial capacity to address monitoring, enforcement and clean up of marine-source pollution. Support the transfer and/or adoption of appropriate technologies that minimize pollution.

4.1.2. Develop and implement environmental management plan(s) for all major ports in the region. Undertake a regional risk assessment /sensitivity mapping for areas adjacent to major shipping routes.

4.1.3. Assess the options for dealing with ship borne waste, including national capacity to dispose of ship-borne waste without adverse impacts on island systems and communities.

4.1.4. Strengthen capability for real-time monitoring of oceans and coastal ecosystems to provide input into management decisions.

4.1.5. Establish and increase national and provincial capacity to address monitoring, enforcement and clean-up of land-based pollution.

4.1.6. Strengthen the control of trans-boundary movement of hazardous waste, especially through the enhancement of activities under relevant agreements.

4.1.7. Develop and transfer methodologies to rehabilitate coastal and oceans ecosystems degraded as a result of pollution or other impacts.

4.1.8. Encourage governments to incorporate “user- pays” principles in permitting and regulatory processes.

**Initiative 4.2. Address threats from introduced and invasive species.**

*Actions.*

4.2.1. Implement existing regional commitments on control of introduced and invasive species.

4.2.2. Develop and implement provincial and national plans to address introduced and invasive species.

4.2.3. Develop policies and best practices addressing priority issues, including for the: freshwater species; marine organisms in ballast water; aquaculture and mariculture species; genetically modified materials; and inter-island and intra-country transfer.

4.2.4. Improve understanding and raise awareness of the threats posed by invasive organisms, and management options.

*Initiative 4.3 Protect and conserve biological diversity, including ecosystems, species and genotypes, at local, national and regional scales.*

Actions.

4.3.1. Establish a representative national and regional network of Marine Protected Areas (MPAs) and Locally Managed Marine Areas that includes oceanic MPAs.

4.3.2. Support existing coordinating mechanisms that address biodiversity management.

4.3.3. Ratify and implement relevant regional and international biodiversity-related protocols.

4.3.4. Develop and implement regional plans of action, recovery plans and protection for specific species of concern, including rare, threatened and endangered species.

 **6.9.4. Principle 4**

**Principle 4. *Promoting and enhancing peaceful use of the oceans***

This Principle underlines the peaceful uses of the oceans and elimination of risks and threats to our oceans - the major source of sustainable livelihoods for PNG communities as well as the Pacific Islands.

Strategic Actions

* To ensure that all activities carried out in our oceans meet all relevant international and regional standards, and do not cause environmental damage, social or economic hardship in the region.
* To seek remedial action in the event of an incident resulting from non-peaceful use of the oceans.
* To ensure that the oceans is not used for criminal activities nor for other activities that breach local, national or international laws.
* To encourage cooperation.

***Theme 5. Promoting the peaceful use of the oceans****.*

*Initiative 5.1. Enhance monitoring, compliance and enforcement initiatives.*

Actions.

5.1.1. Assist national and provincial states in fully implementing surveillance and monitoring systems.

5.1.2. Strengthen compliance, monitoring and enforcement initiatives at the provincial, national and regional level.

5.1.3. Broaden and enhance partnership networks that monitor and report on compliance provincial, nationally and regionally.

5.1.4. Support capacity building initiatives to strengthen monitoring, control and surveillance.

5.1.5. Establish appropriate mechanisms for conflict resolution.

*Initiative 5.2. Ensure all activities meet relevant international, regional and national standards.*

Actions.

5.2.1. Develop national and provincial focal points or other highly- placed advocates who can help build political will and accountability and generate community support for prosecution.

5.2.2. Promote awareness activities pertaining to local oceans and coastal laws and regulations.

5.2.3. Educate, inform and involve industry, law- enforcement agencies, armed forces, judiciaries and others in enforcement for oceans management.

Initiative 5.3. Monitor progress in implementing the PNG National Oceans Policy.

Actions.

5.3.1. Institute annual reporting to governing council regarding progress against PNG Oceans policy and action plan initiatives.

5.3.2. Formally evaluate implementation progress, as well as the impact of the PNG Oceans Policy (at both Provincial and national levels) after five years (in 2025).

 **6.9.5. Principle 5**

**Principle 5. *Creating Partnership and promoting cooperation***

This Principle recognizes values of partnerships and cooperation as essential for responsible sustainable management of our oceans in-country; furthermore, PNG is surrounded by communities of other Pacific Island States with varying economies of scale and we all need a united voice for international advocacy, strengthening our regional power-bloc to increase our international influence, and commitment to relevant regional and international fora for development of coordinated actions on oceans issues of mutual interest and/or on transboundary implications.

Strategic Actions.

* To foster partnerships and cooperation in the areas of security, monitoring, enforcement and the sustainable use of resources.
* To make fullest possible use of regional and international partnerships and collaboration, such as Pacific organizations, oceans-related treaties, and bilateral arrangements as appropriate.
* To have regard for the oceans policies of oceans jurisdictions adjoining our own, and advocate that their policies have regard for this Policy.
* To encourage and support of other Pacific Island countries to develop national oceans policies that complement and are consistent with this Policy.

***Theme 6. Creating partnership and promoting cooperation.***

*Initiative 6.1 Develop international partnerships that promote the interests and special concerns of Pacific Island states.*

Actions.

6.1.1. Support existing and emerging international partnerships that are contributing benefits and enhanced capacity to the PNG.

6.1.2. Raise awareness in international arenas of the development challenges faced by PNG.

6.1.3. Improve communication of PNG issues and views to global audiences, including regional reporting to international fora.

6.1.4. Promote south-south relationships, partnerships with the private sector, civil society and NGOs.

6.1.5. Seek recognition and cooperation from neighbouring jurisdictions in the implementation of the PNG Oceans policy and this integrated action plan.

*Initiative 6.2. Utilize partnerships and collaboration to the fullest extent possible in the implementation of PNG Oceans Policy*

Actions.

6.2.1. Establish intra-provincial oceans committees to strengthen linkages both within country and at the provincial level.

6.2.2. Enhance collaboration among UN and Pacific regional bodies in areas of shared responsibility through the establishment of integrated consultative arrangements.

6.2.3. Develop partnerships and financing arrangements.

6.2.4. Establish a network or registry of relevant NGOs, non-state actors, and private sector interests.

**Theme 7. Monitoring and Evaluation.**

*Initiative 7.1. Monitoring, Evaluation and Adaptive Management (MEAM)*

Actions.

7.1.1. Internally, monitor and evaluate the NOP Strategic Plan on a regular basis.

7.1.2. Identify and commission an independent evaluation of the implementation for the first medium term.

7.1.3. Make appropriate adaptive changes after the review (s).

*Initiative 7.2. Developing the basic criteria required for the application of the MEAM in the NOP and its implementation; and at the same time being consistent with the PNG MTDP III M&E framework.*

Actions.

7.2.1. Establish an Ad-Hoc Technical Working Group under the workings of the National Oceans Committee and the Technical Team to address Theme 7 and Initiatives 7.1 and 7.2.

**7. IMPEMLENTATION OF THE PAPUA NEW GUINEA OCEANS POLICY**

The implementation strategy is based on the adoption of the NOP by the National Executive Council, and thereby ensuring the establishment of the National Oceans Office and its Secretariat.

The Secretariat will assume the lead in the development of details for implementation and coordination within and between partners and stakeholders; and also in facilitating resources and finances, for the NOP. This will also entail a definition of the main outcomes.

**8. OUTCOMES OF THE NATIONAL OCEANS POLICY**

***The envisaged main outcomes of implementing the NOP in its initial 10 years are:***

1. Adoption of the NOP by the three-levels of Governments and implementation of programs under the Five Principles.
2. Strengthening the capacity of maritime wards, local and provincial jurisdictions on good governance for integrated oceans management (IOM).
3. Institutional and human capacity strengthening in respective maritime wards, local-level and provincial governments.
4. Ensuring sustainable livelihoods and food security, protection of coral reefs and enhanced fisheries management for coastal and island human communities.
5. Conservation of oceans and sustainable use of natural and related resources in the EEZ and areas beyond national jurisdiction.
6. Securing resources and financial sustainability to manage the NOP for long-term purposes.
7. Promote and support national, regional and international partnerships and cooperation for suitable arrangements and implementation.
8. Promote and support for peace in the use of oceans.
9. Harmonization and appropriate reforms in policies and legislation on integrated oceans management.
10. Support the development and establishment of the national maritime security policy regime.
11. Ensuring an efficient and effective robust system is established for monitoring and evaluation of the NOP through its implementation; with a greater sense of ownership and benefits enjoyed by the coastal and maritime indigenous and local communities in PNG.

**9. REFERENCES**

Brunton, B. and Colquhoun-Kerr. D., 1984. *An Annotated Constitution of Papua New Guinea*, UPNG Press, Port Moresby.

Cecarrelli, D. M., Matoto, V., Raubani, J., Jones, G. P., Harris, P. and Fernandez, L., 2018. *Biophysical Design Principles for Off-shore Networks of No-take Marine Protected Areas*, Technical Summary, MACBIO, SPREP, IUCN, GIZ.

Constanza, R., d’Arge, R., de Groot, R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, S., O’Neil, R. V., Paruelo, J., Raskin, R. G., Sutton, P. and van de Belt, M., 1997. ‘The value of the world’s ecosystem services and natural capital’, *Nature, 387: 253-260*.

CTI-CFF Newsletter Archive., 2019. *History of CTI-CFF*. [www.coraltriangleinitiative.org](http://www.coraltriangleinitiative.org) (Accessed: 9 June 2019).

DEC, NFA and NCC., 2013. *The Papua New Guinea Marine Program on Coral Reefs, Fisheries and Food Security - National Plan of Action: 2013-2017*, DEC, Waigani.

Fiji Environmental Law Association (FELA) and EDO NSW., 2017. *Towards an Integrated Oceans Policy for Fiji: Policy and Law Scoping Paper*, The University of South Pacific Press, Suva.

GOPNG., 1976. *The Environment and Conservation Policy: Statement of Principles*, Office of Environment and Conservation, Waigani.

GOPNG., 2003. *Sustainable Development Policy and Sustainability Planning Framework for the Mining Sector in Papua New Guinea – Green Paper*, 1 February 2003, Department of Mining, Konedobu, Port Moresby, Papua New Guinea.

GOPNG., 2009. *Papua New Guinea Vision 2050*., Department of the Prime Minister & National Executive Council, and the National Strategic Plan Taskforce, Waigani.

GOPNG., 2014. *National Strategy for Sustainable Development for Papua New Guinea – StaRS,* 2nd Edition, Department of National Planning & Monitoring, Waigani.

GOPNG., 2014. *Papua New Guinea Policy on Protected Areas*, Conservation and Environment Protection Agency, Waigani.

GOPNG., 2018. *Papua New Guinea Medium Term Plan III 2018-2022 – Securing Our Future through Inclusive Sustainable Economic Growth*, Volume 1, Department of National Planning & Monitoring, Waigani.

Government of Australia., 1998. *National Ocean Policy of Australia*, Canberra.

Government of China., 1998. *National Ocean Policy of China*, Information Office of the State Council, Beijing.

Government of Indonesia., 2017. *Indonesian Ocean Policy*, Office of the President, Jakarta. [Presidential Decree No. 16 of 2017]

Government of Vanuatu., 2016. *Vanuatu’s National Ocean Policy – Our Ocean, Our Culture, Our People*, Port Vila.

Kathijotes, N., 2013. ‘Keynote: Blue economy - Environmental and Behavioural Aspects towards Sustainable Coastal Development’, *Procedia - Social and Behavioural Sciences, 101 (2013): 7-13*.

Kwa, E. L., 2004. *Biodiversity Policy and Law in Papua New Guinea*, Papua New Guinea Institute of Biodiversity and Department of Environment and Conservation, Waigani.

Kwa, E. L., Kamene, S. and Kouni, J. (eds)., 2011. *Access and Benefit Sharing: Policy and Legal Implications for Papua New Guinea*, UPNG Press and Bookshop, Port Moresby.

Lili, P. and Kaluwin, C., 2016. PNG National Ocean policy: Oceans Management and Governance Policy Development, School of Natural and Physical Sciences, University of Papua New Guinea, Port Moresby.

Mitchell, D, Director, EcoCustodians Inc, Alotau, Milne Bay Province: pers.comm: May 2019.

NARI., 2019. ‘Research Vital for Food Security’, *NARI Nius, Vol. 22, Issue 1: 1-2*.

Secretariat of the Pacific Community., 2005. *Pacific Islands Regional Ocean Policy and Framework for Strategic Action*, SPC, Suva.

Quarrie, J. (ed), 1992. *Earth Summit 1992*, The Regency Press, London. (pp. 139-155)

Raaymakers, S. 2011. *Recommendations for the implementation of the Offshore Mining Policy in PNG - including legislative reforms,* Report to the Department of Minerals Policy & Geohazards Management, EcoStrategic Consultants, Cairns.

Taylor, M., 2019. *The China Alternative: Changing Regional Order in the Pacific*, Keynote Address, 8 February 2019, University of the South Pacific, Port Vila, Vanuatu.

The National Diet of Japan., 2007., *National Ocean Policy of Japan*, The National Diet, Tokyo.

World Bank (a)., 2019. *Slower Growth, Better Prospects, Papua New Guinea Economic Update*, January 2019, World Bank, Washington DC.

World Bank (b)., 2019. *The World Bank’s Blue Economy Program and ProBlue: Supporting Integrated and Sustainable Economic Development in Healthy Oceans*, [www.worldbank.org](http://www.worldbank.org) (Accessed: 7 July 2019).

[WWW.worldometers.info](http://WWW.worldometers.info) (Accessed: 31 March 2019).

**10. ANNEXES**

Annex 1. PNG Environment and Conservation Policy – Statement of Principles

1. All our people have a basic right to live in freedom and equality in an environment that provides for our physical and spiritual well-being.
2. The natural resources of Papua New Guinea including the air, water, plants and wildlife and especially examples of the different kinds of plant and animal communities must be protected for present and future generations by careful planning and management.
3. During our development we must safeguard and wisely manage our wildlife and its habitat.
4. During our development we must consider economic, social and ecological matters together.
5. The ability of the environment to produce renewable resources muse be maintained, and where possible, restored or improved. We must use our minerals and other non-renewable resources wisely.
6. Planning must be applied to human settlements and urbanization.
7. Science and technology can help us avoid environmental problems.
8. Pollution of the land, air, water and seas in quantities which are likely to be dangerous to human health, to plants and to animals, and cause damage to the environment must be prevented.
9. Education in environment matters for our children and the general public on a continuing basis is essential.
10. The responsibility for maintaining environmental quality must be shared between the central, provincial and local governments and councils, as well as by clans, families and individuals.
11. We accept the responsibility of ensuring that activities in Papua New Guinea do not cause damage to the environment of other countries.
12. We will contribute our own values to the development of international principles and laws so that these will be in harmony with our chosen way of life.
13. We will co-operate fully with other nations and international organizations in common efforts to protect the natural environment and improve the human environment.
14. We will as much as possible, follow the “polluter-pays principle”.
15. We recognize that any development project, whether based on agriculture, forestry, mining, industry, transport, water, tourism or human settlement, must take into account the impact on the natural environment and human communities. Failure to this often results in future social and economic costs.

ANNEX 2. Principles of Marine Protected Areas (MPAs) in High Seas for the Pacific Region

Principle 1: Represent all Bioregions

1a. Represent at least 20-30% of marine bioregions in No-Take MPAs

* Protection of all habitats, fauna and flora, ecosystem function, integrity and resilience requires examples of every bioregion are included in no-take areas.

1b. Represent at least 20-30% of marine bioregion transition boundaries in NO-Take areas

* Boundaries and transition zones between bioregions in the open ocean tend to aggregate a high diversity and density of open ocean species

Principle 2: Represent all Habitats

* Represent at least 10-30% of each known habitat or feature in no-take MPAs, with special considerations where bioregions are known
* To ensure future sustainability of off-shore marine environments, examples of the full range of known and mapped biophysical habitats must be included in no-take areas.

Principle 3: Represent Whole Features / Habitats Wherever Possible

* Mappable features of the open ocean include known areas of high productivity, diversity or significant ecological processes, and need to be protected in their entirety

Principle 4: Must have at least Three Replicate No-Take MPAs within Bioregions and include at least One Example of Each Habitat or Feature.

4a. Have at least three replicates: within bioregions; of very large features; of known habitats and of ecological processes.

* Replication of protection minimizes the risk of losing all examples of a habitat, population or assemblage in the case of disturbance. Replication also enhances representation of biological heterogeneity within poorly known habitats.

4b. Include at least three areas along the path of migratory species or within ranges of highly mobile species.

* Where it is not possible to protect an entire migration or species range, placing several replicate no-take MPAs at critical points along the migration route or within the range can disproportionately

Principle 5: Include Special, Unique or Rare Features and/or Species.

* This may include, for example, unique geomorphic or hydrodynamic features, areas important for aggregation, nurseries, spawning, foraging, off-shore nesting sites, migratory staging points, mammal calving areas, areas with high biodiversity, endemism, productivity or with threatened, isolated or rare species or habitats.

Principle 6: Make MPAs Larger Rather than Smaller.

6a. Inshore (coast to edge of shallowest adjacent habitats): Make No-Take MPAs 400m – 2km in diameter.

* This guideline is for inshore areas and matches the range, distribution and dispersal patterns associated with many inshore habitats and species.

6b. Nearshore (outer edge of coastal habitat eg. outer edge of reef to 80m contour): Make no-take MPAs 2-10km in diameter.

* Further offshore, habitat features, species ranges and dispersal patterns tend to be larger.

6c. Offshore (beyond 80m contour): Make No-Take MPAs 50-200km in diameter.

* Offshore ecosystems host migratory and wide-ranging species, and habitats and special, unique features tend to be larger than in inshore or nearshore environments. However, even these species and habitats are now known to benefit from protection of part of their range, migration route or spatial occupation.

Principle 7: Make MPAs Simple Shape and Maximize the Area to Boundary Ration.

* Simple shapes, such as squares, maximize the area in the centre of a MPA, reduce the complexity of boundaries and reduces boundary length, thus facilitating compliance.

Principle 8: Space MPAs to Maximize Connectivity between them.

8a. Inshore (coast to edge of shallowest adjacent habitats): Distance between No-Take MPAs should be between 500m – 5km.

* This guideline is for inshore areas and matches the range, distribution and dispersal patterns associated with many inshore habitats and species.

8b. Nearshore (edge of slope to 80m contour): Distance between No-Take MPAs should be between 5 and 20km.

* Connectivity beyond the edge of shallow habitats tends to be naturally lower, and can occur over larger distances.

8c. Offshore (beyond 80m contour): Distance should be between 20 and 200km because of the wide-ranging or widely distributed nature of offshore populations, genetic connectivity is possible across very large areas.

Principle 9: Choose Permanent Protection over Temporary Protection

* Permanent protection enhances the likelihood of recovery of populations and habitats, even if they are very long-lived, slow-growing or heavily damaged.

Principle 10: Apply other MPA categories, which allow for Extractive Activities, one 20-30% of Bioregion/Habitats is adequately protected in No-Take MPAs.

Reducing threats to other categories of MPAs and to surrounding areas will enhance the effectiveness of no-take MPAs and the area as a whole.

ANNEX 3. Guidelines for MARINE SCIENTIFIC RESEARCH Programs in PNG Territorial Waters (2003)

Preamble

Papua New Guinea ratified the United Nations Convention on the Law of the Sea (UNCLOS) in January 1997 and has since been obligated to establish a MSR consent regime for PNG territorial waters and its EEZ (NEC Decision 124/96). Consequently, the PNG MSR Committee was formed for this purpose and is accorded its legal mandate via the PNG UNCLOS Implementation Committee. The MSR Committee is currently chaired by the Department of Mining, which also acts as the Secretariat via the Secretary General. The MSR Committee meets bimonthly to discuss applications for MSR in waters under PNG’s jurisdiction/governance.

The MSR Committee is made up of representatives of the following PNG institutions: Department of Foreign Affairs; Department of Attorney General; Department of Mining (the Geological Survey of PNG and the Division of Mines); Office of Environment and Conservation; National Fisheries Authority; Department of Transport & Civil Aviation (Maritime Division & PNG National Weather Service); National Surveillance Authority; PINBio (includes academic representation – biology & chemistry), UPNG School of Earth Sciences and National Research Institute.

The MSR Committee recognises the strong role to be played by MSR in PNG’s future development, and seeks to both encourage MSR, and to minimise potential conflicts of interest between MSR organisations, industrial organisations and consultants and PNG’s legitimate national concerns and laws. As the body in PNG responsible for making recommendations to the PNG Department of Foreign Affairs concerning the approval or refusal of MSR proposals, the MSR Committee has prepared the following guidelines for MSR organisations and researchers to assist them in the preparation of their proposals for work in waters under PNG jurisdiction.

**Guidelines and Requirements**

**1.0 Application to undertake Marine Scientific Research**

**1.1** All proposals must be received by the Secretary General of the MSR Committee 6 months before either: (a) the MSR expedition plans to leave its home port; or (b) any logistic deadlines before sailing and which must be met by the MSR Organisation for the expedition to set sail as planned. This is to enable adequate correspondence pertaining to the research before approval is given and to allow for external problems such as postal delays.

**1.2** The researcher/MSR Organisation is expected to be fully aware of current PNG legislation governing its activities and the activities of its staff in its expeditions to areas of PNG jurisdiction.

**1.3** It is noted that there is an international obligation for MSR Organisations to send their proposals through the diplomatic channels to the host nation. In the case of PNG, the researcher’s national Embassy/Consulate/High Commission in PNG would forward the proposal to the PNG Department of Foreign Affairs (DFA) who would then pass the proposal to the MSR Committee for its recommendation. The PNG DFA would then return the recommendation to the researcher nation’s diplomatic mission in Port Moresby who would then communicate with the MSR Organisation/researcher.

To guarantee that the MSR Committee may give timely advice to the PNG DFA, the researcher/MSR Organisation should send to the MSR Committee as advice, a copy of their proposal at the same time as the proposal is sent through the proper diplomatic channels. Whilst the MSR Committee may give its opinion of the proposal to the researcher/MSR Organisation directly, the formal approval will be that received through the diplomatic process.

The MSR Committee accepts no responsibility for the late arrival of applications and will treat late applications as applications for work 6 months from their date of receipt by the Secretary General of the MSR Committee.

**1.4.** On receipt of the copy of the proposal, the MSR Committee will advise the researcher/MSR Organisation of the necessary applications required for removal of samples and may agree to facilitate the sending of the necessary application forms for such permissions.

**Application Forms for such Permissions.**

**1.5** The application to undertake MSR shall include a full disclosure of all work to be carried out on samples collected, the objectives of the work, and any intentions, needs or potential requirements to patent or otherwise formally or generally establish *exclusivity* of usage of any material, discoveries or by- products derived therefrom. Copies of MOUs with PNG organisations in respect of such activities shall be included as part of the application.

**1.6** The application to carry out MSR shall be organised as:

**1.6.1** Executive Summary (500 words maximum)

**1.6.2** Scientific Justification; anticipated results

**1.6.3** Methods

**1.6.3.1** For sampling (include equipment to be used)

**1.6.3.2** For analysis (include generic equipment to be used)

**1.6.3.3** For physical data-retrieval, data-storage and data-sharing with PNG

**1.6.3.4** Transport and storage of samples and availability of samples to PNG workers

**1.6.3.5** Survey programme plus equipment

**1.6.4** Participating agencies

**1.6.4.1** Collaborating Organisations

**1.6.4.2** Scientists and students aboard and all of their affiliations including those with private enterprise

**1.6.4.3** Plan for collaboration with any marine mining/exploration licence holders occupying tenements being examined by the MSR Organisation.

**1.6.5** Timetable for publication of Report and list of recipients of Report

**1.6.6** List of prior publications of the research organisation relevant to the planned programme.

**1.6.7** Reference List for 1.6.2 above.

**1.6.8** Cruise track, sample and measurement location (chart to be included)

**1.6.9** Details of vessel, equipment, crew and technical support staff

**1.7** The MSR Committee recognises that research proposals have been reviewed for their scientific merit according to the peer review system in the country of origin. The Committee is able to provide access to experts in PNG during development of the proposal and encourages foreign researchers to contact their counterparts in PNG to assist development of their proposal.

**1.8** The MSR Committee reserves the right to prevent the simultaneous presence of two or more vessels in the same area and in the event of a conflict as to precedence of work in any one area maintains the right to assign the dates of operations for the MSR Organisations in conflict.

**1.9** The MSR Committee reserves the right to place restrictions on any proposed programme as conditions for approval.

**2.0 Affiliation with Commercial Operators**

PNG is developing a consent regime for offshore mining and in 1997 issued offshore mineral exploration licences to a company interested in mining in an area of considerable interest to marine scientific researchers. This internationally ground- breaking practice has led to concerns about access to data and to the use of data by both industry and researchers. It also means that care has to be taken to ensure that the holders of exploration licences do not lose or cannot claim in a court of law to be losing competitive advantage through MSR in their licence areas. It is recognised that researchers may well hold consultancies and that there may be industrial support for funding MSR, and although it is understood that world-best ethical practices are commonly adhered to by such researchers the PNG MSR Subcommittee maintains the precautionary requirements listed under 2.1 to 2.6 (below).

The MSR Subcommittee does not act as broker in assisting industry gain data from MSR Organisations and regards research data as confidential to the MSR Organisation who obtained the data and to the affiliated PNG institute for a period of no longer than two years in the case of post-doctoral level research. Should industry require data from the MSR Organisation or affiliated PNG institute it must be requested directly from the MSR Organisation by the industrial operator and during the two-year confidentiality period can only be released to industrial operators by the written permission of the MSR Organization. After two years the data will be regarded as in the public domain except for the case of PhD theses where the data may be held confidential for a period of between three and five years subject to negotiation between the researcher and the affiliated PNG institute.

Data collected from a licence area solely by and at the sole cost to the industrial operator licensed to collect those data remain the confidential property of that industrial operator for the time specified in the PNG legislation under which the licence was given.

**2.1** MSR expeditions shall declare all institutional and individual affiliations with any commercial organisations supporting the expeditions, including the names of cruise members such as students sponsored by industry or supervised by researchers with connections to, affiliations with or funding from industry.

**2.2** Other than the ship’s normal crew, MSR expeditions shall not include staff who are members, affiliates, representatives of, or those whom may be deemed as proxies for, commercial organisations or interests without the express permission of the PNG MSR Committee.

**2.3** MSR Organisations and researchers are informed that should they be directors, staff, affiliates to, consultants to or otherwise be seen as a proxy for any commercial interest (eg mining companies, biotechnology companies) their activities must be examined under the appropriate PNG legislation covering such industries/commercial operations before they are permitted to take part in the cruise.

**It is emphasised that ignorance of PNG legislation is no legal plea**

**2.4** MSR expeditions are informed that should their staff be affiliated to a commercial organisation as an unpaid adviser or through industry-sponsored or industry-supervised research or should they be perceived as a proxies for or commercial interests, this may be seen as a conflict of interest by the MSR

Committee as:

* it could be construed that the commercial operator or the sponsor/supervisor/proxy is carrying out unlicensed prospecting;
* the research vessel may be operating in areas covered by a commercial licence granted to another party, in the case of which the shipboard presence of an adviser to, or perceived a proxy for a potentially competing commercial organisation, could ultimately imply legal action by the aggrieved party being the tenement holder;
* the adviser/affiliate to or perceived proxy of the commercial organisation may find his/her name used in some undesired, inappropriate or illegal capacity by the commercial organisation for publicity purposes either during the course of or after termination of the period for which the researcher was affiliated to the MSR organisation.

**2.5** The MSR Committee reserves the right to exclude from research in the PNG marine jurisdiction any person or MSR Organisation whom it perceives may have a conflict of interest with the PNG legislation current at the time of application and/or during the expedition. In any dispute the precautionary principle will be applied until the matter is resolved to the satisfaction of the MSR Committee.

**2.6** The MSR Committee maintains the right to exclude temporarily or permanently from research in the PNG marine jurisdiction any person or MSR Organisation whom the MSR Committee may deem to have failed to have complied with requests for information from the MSR Committee or its counterpart research institute(s) in PNG or who may have failed to comply with the conditions set by the MSR Committee.

**3.0 Affiliation and Collaboration with PNG Research Institutes**

**3.1 B**efore finalising their expeditions MSR Organisations are urged to develop memoranda of understanding with their affiliated PNG institution(s). This requires a timely flow of information, and in the case of work potentially involving or involving use of genetic material a Memorandum of Understanding with the PINBio must be in place before the research vessel leaves it home port.

**3.2** The MSR Committee is concerned to protect the discoverer’s rights of prior access to continue MSR work on their discovery, and recommends collaboration rather than competition between the MSR Organisation: the committee will view favourably those MSR organisations demonstrating open collaboration and exchange of information with other MSR organisations. The MSR Committee would be pleased were MSR organisations able to assist in the generation of seminars/conferences on their work whilst visiting PNG or at some other date.

**3.3** The MSR Organisation shall make available a minimum of two berths on each cruise for members of the affiliated PNG institutions who will be expected to work as collaborating scientists under direction of the expedition director. Where the research vessel is small, an exception may be made by the PNG MSR Committee and one PNG scientist may be deemed sufficient in such a case. It is incumbent on the MSR Organisation to advise the affiliated organisation of the time and points of embarkation and disembarkation at least 6 weeks before sailing. This is a standing condition for work in PNG waters.

**3.4** As PNG government institutions are being compelled to adopt cost-recovery accountancy procedures, MSR expeditions will be expected to pay for the travel and accommodation of PNG government shipboard scientists and inspectors to points of embarkation or to the port of their vessel’s arrival for inspection purposes. Research budgets should be arranged so as to cater for such costs which may be of the order of USD700 to USD1500 per person for internal travel in PNG, or greater if the scientists/inspectors should join the vessel in a foreign port.

**4.0 Patent Rights/Exclusivity of use of Material and/or Products**

**4.1** Should the MSR Organisation or the MSR Committee see the need to patent any material, discovery or product for any reason, the patent rights and any gains therefrom shall be shared between the MSR Organisation and the affiliated PNG organisation(s) on a basis to be determined by negotiation prior to patents being sought. The MSR Committee will take note of any such arrangements in approving future MSR. It is recommended that MOUs and other requirements be in place with the appropriate PNG organisations before the research vessel leaves the home port.

**4.2** Where known at the time of submission of the proposal, the names and scientists and students aboard and all of their affiliations including those with private enterprise; a full disclosure is to be made as soon as the final party is known and no later than 30 days before departure of the vessel from port.

**5.0 Removal of Material and Reporting**

**5.1** Timely prior permission must be sought from the appropriate PNG organisations for permission to remove any samples out of the PNG jurisdiction. This may be as long as 6 months in advance for biota/genetic material. It is recognised that a fully detailed list of such samples may be not be possible until its collection; however, a list of anticipated samples is possible.

**5.2** A detailed list of all samples, and in the case of mineralised rock samples their composition, approximate percentage of constituents, amounts of and type of metals, gem-stones and hydrocarbons must be declared, and must be forwarded to the affiliated PNG organisation at the first opportunity after their removal from the seabed or sea. In the case of biological samples a full list of biota taken, including species names where known, must be forwarded to the affiliated PNG organisation at the first opportunity after their removal from the sea or seabed. Research vessels are expected to have shipboard fax machines or e-mail available, at the expense of the MSR Organisation, for such communications.

**5.3** All MSR organisations must provide full reports in English or with an English translation for:

• the PNG National Museum (2 copies)

• the PNG State Library (2 copies)

• the affiliated PNG organisations (2 copies)

• SOPAC

All copies must be sent to the PNG MSR Committee who will arrange their distribution. It should be noted that for all biological expeditions PINBio is a permanent affiliate, and for all geological and bathymetric expeditions the permanent affiliate is the Geological Survey of PNG (the definition of geological is in its original, broad sense and covers geophysics and geochemistry etc.)

**5.4** All reports provided must include colour photographs and video recordings where such were taken; black and white photocopies of colour photographs are deemed inadequate. All mapping/survey data, including geophysical data, must be supplied on CD-ROM to the affiliated PNG organisation in a digital format compatible with that used by the affiliated organisation. It is the responsibility of the MSR organisation to contact its PNG affiliates as to the format of the digital data; any reformatting of the data shall be at the MSR organisation’s expense.

**5.5** Copies of any video-taped material shall be supplied with the reports as part of the report and in a format compatible with that used in PNG; any reformatting shall be at the expense of the visiting MSR organisation.

**5.6** The Final Reports shall be delivered to the MSR Committee for distribution and within a period of no longer than 2 years of the return of the expedition to its home nation/base; failure in reportage may lead to refusal of subsequent research proposals.

**5.7** All cruise scientists will provide to the affiliated PNG organisation two copies of each of their publications and internal reports arising at any time from the work of the expedition. English translations shall be provided if the report is in another language. Failure in reportage may lead to the scientist being refused permission to accompany future MSR expeditions.

**5.8** All samples remain the property of PNG. The MSR Organisation/researcher may retain all samples as a long-term loan from PNG provided that they are curated for the future benefit of MSR in PNG waters and that PNG has full access to the samples as and when required by and at the expense of the Affiliated PNG Organisation and/or the MSR Committee.

**6.0 Responsibilities of MSR Committee and Affiliated PNG Institutes**

**6.1** The prime responsibilities of the MSR Committee have been set out earlier. The MSR Committee will endeavour to reply to all requests for information pertaining to application for work, sample removal and contacts within PNG. The MSR Committee is able to offer an opinion on legal issues through its links to the Department of Attorney General.

**6.2** The staff provided by the affiliated PNG institutes for work during the cruise shall work under the direction of the MSR organisation’s cruise director and are expected to contribute to the shipboard programme as part of the MSR team. It is incumbent on the MSR organisation to ensure that the PNG staff share in publication arising out of the work. The MSR organisation is required to report in writing to the MSR Committee any failings in the affiliated PNG staff which have proved deleterious to the MSR expedition. Such correspondence will be passed to the affiliated PNG institution and the PNG staff affiliate shall have the right of reply in writing to the MSR organisation, to the PNG MSR Committee and to his/her institute.

**6.3** The affiliated PNG institution shall create the proper facility for the storage of samples; the MSR organisation is responsible for the proper transport of samples to the affiliated institution in PNG.

**6.4** Should the affiliated PNG institution not have proper storage facilities for samples, the MSR organisation may retain all samples as a long-term loan from PNG provided that PNG has full access to the samples as and when required by the affiliated PNG organisation and/or the MSR Committee.

**6.5** The MSR Committee may, from time to time and according to PNG’s best interest, amend these guidelines. The MSR Committee is obliged to make known in a timely manner any such amendments.

**7.0 Prior Agreements/Discussions**

**7.1** The “Interim Protocol”, arranged by some parties interested in deep-sea mining at the 1998 SOPAC meeting in Suva, has no standing in PNG Law and the PNG MSR Committee is bound neither by the arrangements proposed at this meeting nor by prior or subsequent statements or interpersonal agreements at conferences, or through any prior or subsequent verbal, written or electronic communication by any person or body other than the PNG MSR Committee, the Department of Foreign Affairs, the PNG UNCLOS Implementation Committee and the Department of Prime Minister (National Executive Council).

**8.0 Failure to comply with these Guidelines**

**8.1** Failure to comply with these guidelines and the decisions of the MSR Committee may result in:

* + refusal of permission for the planned and/or future research;
	+ the arrest of the vessel at sea;
	+ impoundment of samples at the MSR organisation’s expense;
	+ refusal of permission for individual staff of the non-compliant MSR organisation to take part in other research programmes in PNG waters or on land in PNG.

**Prepared by the PAPUA NEW GUINEA Marine Scientific Research (MSR) Committee**

1. [↑](#endnote-ref-1)