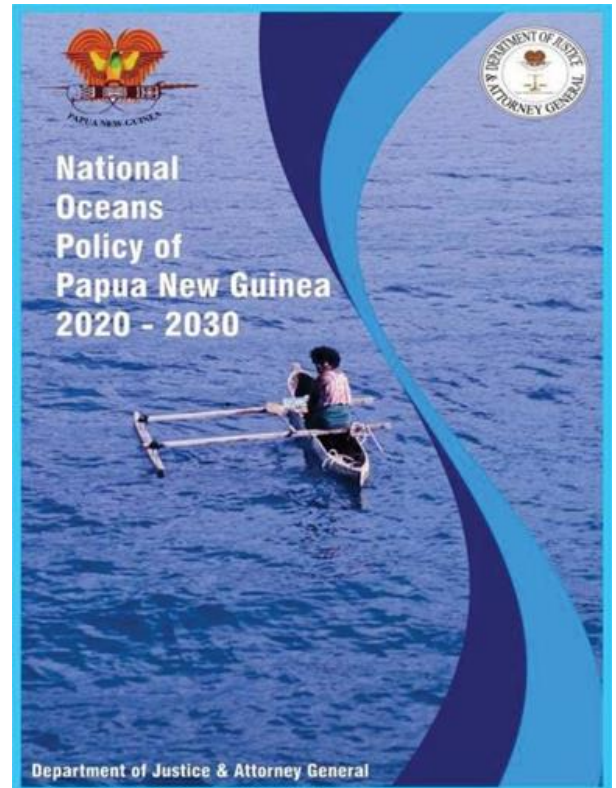
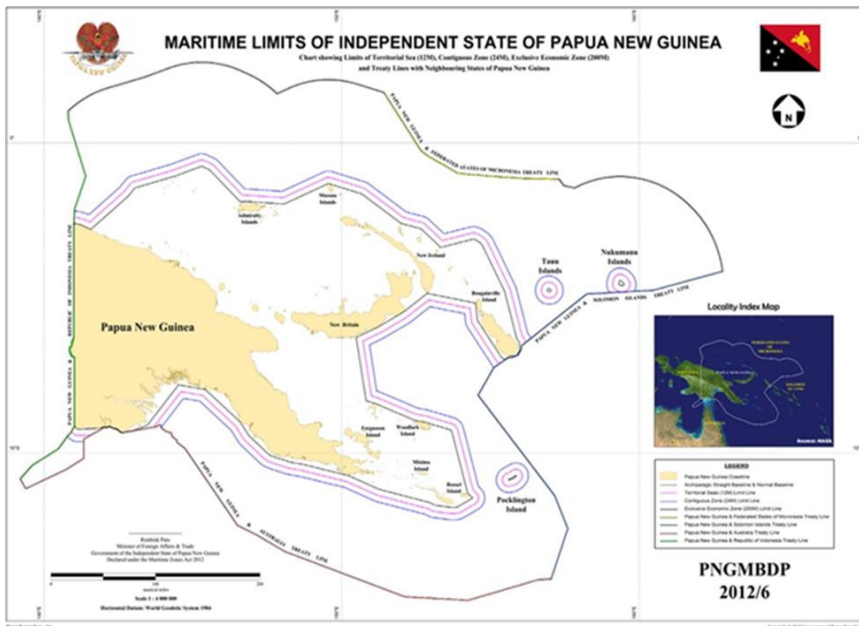




PAPUA NEW GUINEA

NATIONAL OCEANS POLICY IMPLEMENTATION PLAN

2024 – 2030



Department of Justice and Attorney General
Office of Oceans Affairs
PO Box 591
WAIGANI
National Capital District

October, 2024

Contents

FOREWORD BY THE MINISTER FOR JUSTICE AND ATTORNEY GENERAL	iii
ACRONYMS	vii
PART 1. INTRODUCTION	10
PART 2. STATUS ANALYSIS	10
2.1 Governance and Coordination of Oceans Affairs	10
2.2. Context of the NOP Implementation	11
2.2.1 Biogeography and Climate Change	11
2.2.2 Current and Future National Oceans Programs	12
2.2.3 Alignment to MTDP IV	13
2.2.4 PNG Maritime Boundary Delimitation and Extended Continental Shelf Claim	14
2.2.5 Marine Scientific Research	15
2.2.6 The Marine Scientific Research Committee	16
PART 3. NATIONAL OCEAN POLICY IMPLEMENTATION PLAN	21
3.1 Vision	21
3.2 Goal	21
3.3 Objectives	22
3.4 Principles and Key Concepts	22
3.4.1 Integrated Oceans Management	22
3.4.2 Integrated Coastal and Island Management	22
3.4.3 Customary Tenure Systems and Resource Management	23
3.4.4 Protecting Customary Use of Resources	23
3.4.5 Sustainable Use	23
3.4.6 Ecosystem-Based Management	23
3.4.7 Environmental Impact Assessment	23
3.4.8 Information Management System	24
3.4.9 Precautionary Approach	24
3.4.10 Marine Spatial Planning	24
3.4.11 Marine Protected Areas	24
3.4.12 Multiple-Use Management	25
3.4.13 Adaptive Management	25
3.4.14 Joint Management	25
3.4.15 Blue Economy	25
3.4.16 Maritime Domain Awareness	25
3.4.17 Ocean Governance and Maritime Governance	26
3.5 Outcomes	27

3.6 Key Management Policy: Integrated Oceans Management	27
3.7 NOP Implementation Plan: Strategic Actions and Activities	29
3.7.1 Strategy 1. Governance and Management Strengthened and Established.	29
3.7.2 Strategy 2. Knowledge & Technology Strengthened and Established.	32
3.7.3 Strategy 3. Environment Protection and Conservation Strengthened.....	35
3.7.4 Strategy 4. Sustainable Economic Development Established.....	37
3.7.5 International Relations, Security, Safety and Recreational Use Strengthened.	40
PART 4. INVESTMENT AND FINANCING	42
4.1 Government Commitment	42
4.2 PIP Logical Framework and Cost Estimates	42
PART 5. MONITORING, EVALUATION AND REPORTING	50
5.1 Government Agencies	50
5.2 DJAG-OOA / NOO	50
PART 6. COORDINATION AND MANAGEMENT	50
6.2 Coastal and Ocean Observing Systems.	51
6.3 DJAG-OOA and National Oceans Office	52
6.4 Ministerial Oceans Committee	52
6.5 National Oceans Committee	52
6.6 Provincial Oceans Committee	52
6.7 Core Technical Committee and Marine Scientific Research Committee	52
6.8 Working Committee to Develop Applied Research Regimes.	53
6.9 National Advisory Committees	53
ACKNOWLEDGEMENTS	53

FOREWORD BY THE MINISTER FOR JUSTICE AND ATTORNEY GENERAL



In 2020 the Government approved and launched our National Oceans Policy to provide relevant directions and guidance to conserve, sustainably use and protect our and ocean and mineral resources. The National Oceans Policy provides the governance and the legal framework for activities in the ocean and maritime spaces.

The Department of Justice and Attorney General, through the Office of Ocean Affairs, coordinates the implementation of the National Ocean Policy, working closely with relevant stakeholders and government authorities.

It is with great pleasure that I announce and inform our people, stakeholders and partners that our efforts in the full implementation of our Policy from 2024 to 2030 is presented in this document, the National Oceans Policy Implementation Plan which was approved by NEC on the 18th December 2024.

The Implementation Plan is a framework that encompasses different aspects of our multi-dimensional local, provincial, national and international interests and challenges. It is essential that all our citizens actively partake and provide feedback on benefits and also issues to be addressed.

Given that this is our maiden comprehensive implementation plan framework, I will be guided by our department in taking carriage of our Integrated Oceans Management (IOM) through the workings of the National Oceans Committee. I look forward to receiving timely recommendations on appropriate adjustments in the Policy, and more notably, in legal reforms required of the National Executive Council and the National Parliament.

I must highlight that our country is an island surrounded by an oceans space of almost four times the size of our landmass, and hence it is fitting to acknowledge our international relations with our immediate neighboring countries, namely, Australia, Indonesia, Federated States of Micronesia and Solomon Islands. Relevant bilateral and regional oceans programs are significant contributions and are acknowledged in our Policy and strategic implementation plan.

The significance of our Policy Implementation Plan is that, it enables greater cooperation and integration of our national oceans governance through the Policy and the envisaged implementation plan. The Policy enables various Government agencies with legal mandates on use of oceans to operate transparently and be accountable in sharing information and data with their respective legal responsibilities.

The implementation of the Policy Implementation Plan envisages a more prioritized, structured approach to national oceans planning and linked to more accurate and transparent budgeting, implementation and monitoring. This is to strengthen the capabilities of our national, provincial and district planning systems to improve resources including funding into the sectors via the coordination mechanism set up through the Department of Justice and Attorney General's Office of Oceans Affairs.

This will enhance work already undertaken in implementing the National Oceans Policy, including various committees established to oversee the work on BBNJ, Extended Continental Shelf and Marine Protected areas.

I express appreciation and gratitude to our officials from inter-governmental agencies in the National Oceans Committee in the development of our National Oceans Policy Implementation Plan, under the Chairmanship of Dr Eric Kwa, PhD, Secretary, Department of Justice and Attorney General.

I also extend my appreciation to the South Pacific Community and our regional and international partners for their support.

On behalf of the Marape-Rosso Government, I commend this National Oceans Policy Implementation Plan framework from 2024 to 2030 to all our local communities, civil society organizations, private sector, stakeholders, development partners, and different donors.

A handwritten signature in black ink, appearing to read 'P. Niningi', written over a horizontal dashed line.

Hon. Pila Niningi, LLB, MP
Minister for Justice & Attorney General

REMARKS BY THE SECRETARY OF JUSTICE AND ATTORNEY GENERAL



It is a remarkable milestone for Papua New Guinea, and for me to acknowledge and thank all our local communities, Government stakeholders at all levels, partners and various donors in the making of our first full comprehensive National Oceans Policy Implementation Plan framework presented in this document.

I am delighted to present on behalf of our National Oceans Committee and all the stakeholders that after three years since our first National Ocean Policy was launched in 2020, we now have our first National Ocean Policy Implementation Plan which starts this year, 2024 to 2030.

Our efforts have been greatly supported by different stakeholders, partners and donors, and for the development of this Implementation Plan. I acknowledge and thank the Pacific Community (SPC) for continued contributions in PNG's oceans works. The main work on developing the Implementation Plan began with technical assistance provided by Dr Justin Rose (PhD, Adjunct Professor of Law, USP Vanuatu Campus) undertaking the substantive review of the Papua New Guinea Ocean Law. This Report formed the basis of stakeholder engagements and consultations. The SPC provided further technical assistance for John Genolagani (School of Natural and Physical Sciences, University of Papua New Guinea) to assist the team in the compilation of this Implementation Plan framework.

Under the leadership of Hon. Pila Kole Niningi, LLB, MP, the Minister for Justice and Attorney General, the stakeholders and partners under the oversight of the National Oceans Committee through the support of the Department of the Justice and Attorney General and the Department of Foreign Affairs, we have now completed the National Oceans Policy Implementation Plan. The Department of Justice and Attorney General is committed fully in implementing the National Ocean Policy and the National Ocean Policy Implementation Plan for the benefit of our people.

On behalf of the Department of Justice and Attorney General and the Department of Foreign Affairs. I acknowledge and thank all those who have supported and contributed directly and indirectly to the formulation of our National Ocean Policy Implementation Plan framework 2024 to 2030.

By way of guidance and appreciating the significance of the Implementation Plan, it is worthwhile for all stakeholders to link the contextual and relevant background information provided in the foreword and my statement in the 2020 National Oceans Policy document. They portray the essential messages. One of my calls for action is reflected below again for us to see results by or even before 2030.

I noted in my Statement that;

The greatest challenge is on implementation of an overall integrated oceans management model. Overcoming the challenge is critical for the future in which the plight of local coastal and island communities must be borne in mind from the outset. The Department of Justice and Attorney General is committed to fully implementing the NOP for the interest of our people. I encourage all development partners, stakeholders and especially the coastal and island communities to be active participants in reaping the desired maximum benefits from this policy initiative.

The challenge of implementation is projected to be more immense and extensive, however, is not insurmountable. As a collection of ocean communities and as required by our National Oceans Policy's Integrated Oceans Management, we can envisage successful outcomes for

the long-term as underpinned by our National Constitution and mutually supported through our efforts on the international level.

Once again, my sincere thank you to one and all.

Praise and thanks be to our God Almighty for guiding and leading the minds in delivering this milestone National Oceans Policy Implementation Plan.



.....
DR ERIC L. KWA, LLB (Hon), LLM, PhD

Secretary

Department of Justice and Attorney General

ACRONYMS

AROB	Autonomous Region of Bougainville
BBNJ	Biodiversity Beyond National Jurisdiction (UNCLOS)
BCPNG	Business Council of Papua New Guinea
CACC	Central Agencies Coordination Committee
CCDA	PNG Climate Change Development Authority
CEPA	PNG Conservation and Environment Protection Authority
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CBD-1973)
CLRC	PNG Constitution and Law Reform Commission
CSO	Civil Society Organization in PNG
CTI	Coral Triangle Initiative
CTI-CFF	Coral Triangle Initiative on Corals Reefs, Fisheries and Food Security
DCI	Department of Commerce and Industry
DF	PNG Defence Force
DFA	Department of Foreign Affairs
DHERST	Department of Higher Education, Research, Science and Technology
DIP	Direct Intervention Project of a SPA in MTDP IV
DJAG	Department of Justice and Attorney General
DJAG-OOA	Office of Oceans Affairs
DJAG-OSS	Office of State Solicitor
DLPP	Department of Lands and Physical Planning
DMPGM	Department of Mineral Policy and Geohazards Management
DNPM	Department of National Planning and Monitoring
DP	Development Partners
DPE	Department of Petroleum and Energy
DPLGA	Department of Provincial and Local Governments Affairs
DPMNEC	Department of the Prime Minister and the National Executive Council
DOD	Department of Defence
DOP	Department of Police (RPNGC)
DOT	Department of Transport
DOT	Department of Treasury
DOWI	Department of Works and Implementation
DPM	Department of Personnel Management
EEZ	Exclusive Economic Zone
FAD	Fish Aggregation Device
FAO	United Nations Food and Agriculture Organization
FFA	Pacific Islands Fisheries Forum Agency
FSM	Federated States of Micronesia
GDP	Gross domestic product
ICA	PNG Immigration and Citizenship Authority
INGO	International Non-Governmental Organization
IPA	PNG Investment Promotion Authority
IPA-IPOPNG	Intellectual Property Office of Papua New Guinea
IPRs	Intellectual Property Rights
IRC	PNG Internal Revenue Commission

IOM	Integrated Oceans Management
MARPOL	International Convention for the Prevention of Pollution from Ships (1973/1978)
MEA	Multilateral Environmental Agreement
MICAD	Marine integrated conservation economic development
MOC	PNG Ministerial Oceans Committee
MPA	Marine Protected Area
MRA	PNG Mineral Resources Authority
MSG	Melanesian Spearhead Group
MSP	Marine Spatial Planning
MSRC	Marine Scientific Research Committee
MSY	Maximum Sustainable Yield
MTDP IV	Medium Term Development Plan IV: 2023-2027
MZA	Maritime Zones Act 2015
NAQIA	PNG National Agriculture Quarantine and Inspection Authority
NARI	PNG National Agriculture Research Institute
NEC	National Executive Council
NCC	PNG National Cultural Commission
NCC-CTI	PNG National Coordination Committee of the CTI-CFF Regional Program
NFA	PNG National Fisheries Authority
NGO	Non-Governmental Organization
NICTA	PNG National Information and Communication Technology Authority
NIO	PNG National Intelligence Organization
NMAG	PNG National Museum and Art Gallery
NMSA	PNG National Maritime Safety Authority
NMSPOC	National Maritime Single Point of Contact
NOC	PNG National Oceans Committee
NOO	National Oceans Office
NOP	PNG National Oceans Policy
NOP-IP	PNG National Oceans Policy Implementation Plan
NSO	PNG National Statistical Office
NWS	PNG National Weather Services
OFLC	Office of the First Legislative Council
PAE	Party allowable effort
PBC	PNG Provincial Boundary Commission
PC (SPC)	Pacific Community (Secretariat of the Pacific Community)
PIP	Public Investment Program
PLLSMA	Provincial Local Level Service Monitoring Authority
PNA	Parties to the Nauru Agreement, 1982
PNG	Papua New Guinea
PS	Private Sector
PSMA	Port State Measures Agreement, 2009
RPNGC	Royal Papua New Guinea Constabulary
RO	Regional Organization
SEZA	PNG Special Economic Zone Authority
SPA	Strategic Priority Area in MTDP IV
SPREP	Secretariat of the Pacific Regional Environment Programme

STC	PNG Science and Technology Council
TAC	Total allowable catch
TPA	PNG Tourism Promotion Authority
TST	Torres Strait Treaty
UNCLOS	United Nations Convention on the Law of the Sea
UNRE	PNG University of Natural Resources and Environment
UNFSA	United Nations Fish Stocks Agreement
UNIOM	United Nations International Organization of Migration
UNWTO	United Nations World Tourism Organization
UOT	PNG University of Technology (Unitech)
UPNG	University of Papua New Guinea
USP	University of the South Pacific
WCPFC	Western and Central Pacific Fisheries Commission
WIPO	World Intellectual Property Organisation
WPNG Ltd	Water PNG Ltd
WTO	World Trade Organization

PART 1. INTRODUCTION

This document provides the maiden comprehensive Implementation Plan framework of the Papua New Guinea National Oceans Policy (NOP) which was adopted by the Government in 2020. The Department of Justice and Attorney General through its Office of Oceans Affairs (DJAG-OOA) provides the inter-sectoral coordination, facilitation and management on PNG's oceans affairs since its establishment. These initial undertakings have culminated in the development of this entailed NOP Implementation Plan (NOP-IP).

The development of the NOP-IP process included collection of data and working notes from individuals, PNG stakeholders' engagement consultations and workshops, with relevant support from the Regional Organizations, and noting in particular the continued support by the Pacific Community (SPC) which included technical assistance.

The NOP-IP is organized and presented in the following main Chapters:

- Part 2: Status Analysis – this Part provides a current status on interests and highlights issues for addressing in the NOP-IP;
- Part 3: NOP Implementation Plan – this Part considers the findings from Part 2, and presents a comprehensive framework in outlining the Vision, Goal, Objectives, Principles, Outcomes, IOM implementation by Five (5) fundamental principles denoted as Strategies with their respective Strategic Actions and Activity-based Logical Framework.
- Part 4: Investment and Financing – this Part reflects the summaries of respective Strategic Actions with entailed Activity-based estimated investment (costs) and financing opportunities) for the implementation timeframe.
- Part 5: Monitoring and Evaluation, and Reporting – this Part underscores the significance of monitoring and evaluation, and reporting for relevant adaptive management regimes as guided by the NOP; and
- Part 6: Coordination and Management – this Part provides the core governance and management entities established by the NOP to take carriage of coordination, facilitation and managing IOM.

PART 2. STATUS ANALYSIS

2.1 Governance and Coordination of Oceans Affairs.

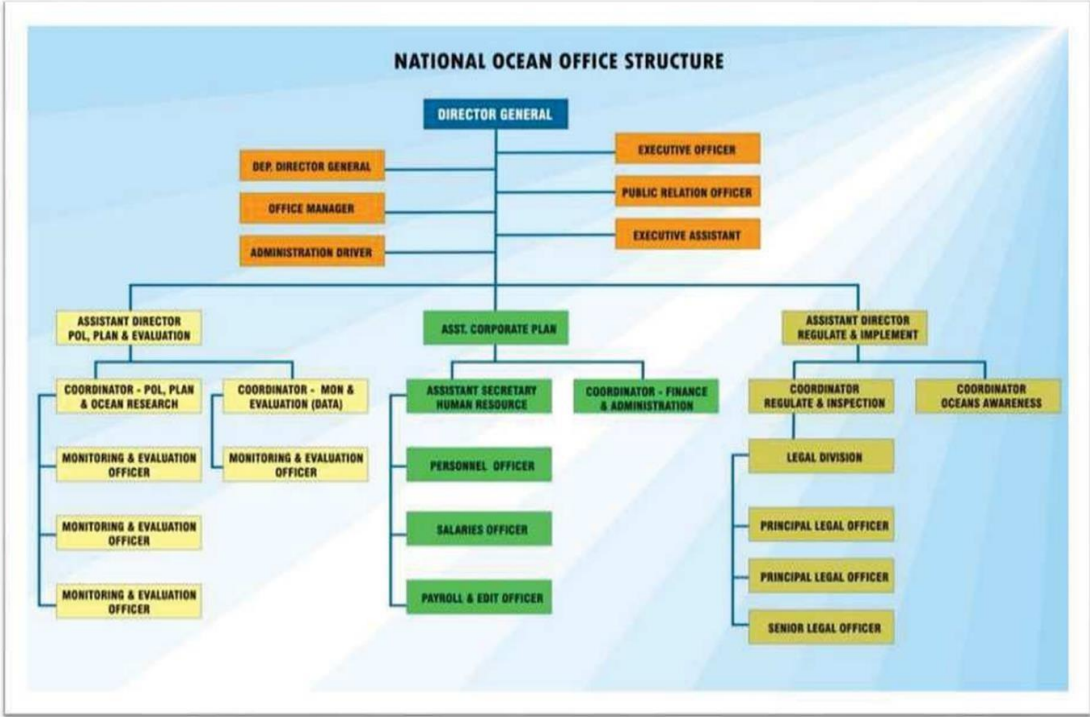
The Office of Ocean Affairs (OOA) was established by National Executive Council (NEC) Decision No.: 03/2015 in the Department of Justice and Attorney General (DJAG) to consult and coordinate PNG's implementation of the United Nations Convention on the Law of the Sea (UNCLOS-1982). A primary aim of DJAG-OOA is to lead the development of the governance institutions to fully implement the Maritime Zones Act 2015 and the PNG National Oceans Policy 2020-2030 (NOP) through this Implementation Plan framework (NOP-IP).

The NOP planned for the DJAG-OOA becoming a stand-alone institution as the National Oceans Office (NOO) portrayed in Figure 1. The overall policy functions of the NOO focus on the guiding principle for effective management of PNG's marine areas and resources into the long-term by virtue

of Integrated Oceans Management (IOM). The implementation of the IOM is envisaged to achieving two major goals:

- (a) Institutionalizing the NOO; and
- (b) Operationalizing IOM by amending the Maritime Zones Act 2015 (MZA) to ensure that established processes and institutions take account of the role of the NOO and are implemented in accordance with the whole-of-government commitment to the IOM.

Figure 1. National Oceans Office Structure.



2.2. Context of the NOP Implementation

2.2.1 Biogeography and Climate Change

Papua New Guinea (PNG) covers the eastern portion of the Island of New Guinea (New Guinea) and shares political borders with Australia, Indonesia, Federated States of Micronesia (FSM) and Solomon Islands. Within the contexts of oceanic natural systems of significance, it is noted that PNG is on the confluence of the Indian and Pacific Oceans and encompass the four ‘PNG seas’, namely, the Bismarck Archipelagic Sea, Solomon Sea, Coral Sea and the Arafura Sea.

Furthermore, PNG being in the Western Pacific Region the long-term changes in the atmosphere due to enhanced human-induced greenhouse gas (GHG) emissions impose various phenomena in manifestations of different impacts. These include, variable weather and climate, the ever-dooming long-term climate change impacts; demand for sustainable local community livelihoods and biodiversity conservation; medicines and treatments for health-related pandemics and education; requirements on national, regional and international levels on infrastructure and services on fisheries and maritime shipping; challenges to sustainable economic development; issues on land and sea owners’ benefits; and concerns on external international security, safety, and promotion of tourism and recreational interests.

This context is the shifting of the Pacific Warm Pool under *El Nino* and *La Nina* conditions in the Indian and the ‘Western’ Pacific Oceans pose various implications in the atmosphere and outer space, geosphere, hydrosphere and cryosphere. Given PNG’s very close proximity to the Pacific Warm Pool the impacts of climate change to the country are intense and severe in all aspects as influenced both by the Indian and Pacific Oceans.

In addressing major climate change and related impacts, the oceans are recognized as the biggest driver in which the satellite and technologies are important and significant to detect and forecast relevant impacts. A realization of this through the MTD IV investment in the ICT sector is crucial. This means that data and information from the oceans are going to be crucial in monitoring and making projections in the near and long-term future.

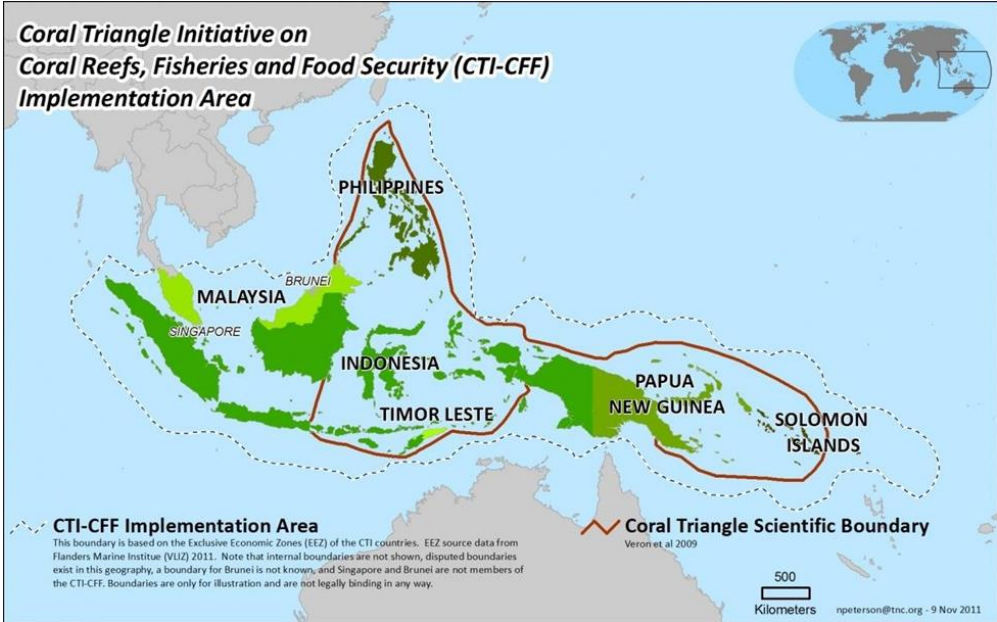
It must be recognized that PNG is not immune to the varied negative impacts of climate change and related natural systems and that these require relevant national level strategic guidance and directional framework in the implementation of sectoral and specific policies, programs and projects. These demand a coherent comprehensive strategic plan to capture the aspirations of the wise management of the oceans in a robust facilitation and coordination fashion.

2.2.2 Current and Future National Oceans Programs

In view of the above context, the existing national oceans programs have been identified, and taken into account. The programs are:

- The Bilateral Torres Strait Treaty between Australia and PNG since 1982;
- The longstanding support through the ‘South Pacific’ Regional arrangements under the Pacific Community (SPC)’s Regional Oceans Policy template (2005) in assisting Member Countries’ to develop their respective national oceans policies, including PNG (2020); and
- The 2007 Coral Triangle Initiative on Corals Reefs, Fisheries and Food Security (CTI-CFF) in the Six Countries’ Regional program. The founding members of the CTI-CFF are, Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor Leste. The Implementation Area of CTI is shown in Figure 2.

Figure 2. CTI-CFF Implementation Area.



It is envisaged that relevant additional programs will be of interest and that the respective NOP-IP monitoring, evaluation and reporting processes are amicable to cater for such developments derived from the NOP's Five National Strategies presented in Part 3.

2.2.3 Alignment to MTDP IV

It is highlighted that the required NOP-IP plan is aligned within the time frame of the MTDP IV – a period of four years from 2024-2027. However, in light of the envisaged United Nations (UN) Summit in 2030 on the status of the Sustainable Development Goals (SDGs) achievements this NOP-IP framework extends beyond 2027 to 2030 to take into account preparations in the development of the required national report and related highlights on PNG's oceans affairs.

Noting that the MTDP IV is the pinnacle of the national-level implementation of public policies, programs and projects; it should include the major natural systems that impact PNG, that is, the atmosphere-outer space, and oceans command priority attention also – not only land per se. The context is that the use and management of oceans command serious global attention at present and that there is an ever-growing development and establishment of relevant policies and legal regimes on legal jurisdictions by Parties to UNCLOS and related Multilateral Environmental Agreements (MEAs). PNG is a Party to UNCLOS and related MEAs and must demonstrate its commitments on local, subnational, national, regional and international levels.

There is vested interest on natural and related resources in the ocean waters and the seabed. The commonly ascribed ocean resources which must be considered over time in the NOP-IP with support under the current and subsequent MTDPs are:

1. Biological Resources;
2. Transportation, Trade and Military Use;
3. Offshore Oil and Gas;
4. Methane Hydrates;
5. Minerals and Freshwater;
6. Recreation, Aesthetics, and Endangered Species;
7. Energy; and
8. Waste Disposal.

These ocean resources advocate integrated oceans management (IOM) at national, regional and international networking levels to progress the concept and context of the Blue Economy in order to contribute meaningfully to achieving the MTDP IV Objectives.

The Blue Economy envelops activities that directly or indirectly take place in the seas, oceans and coasts using oceanic resources and eventually contributing to sustainable, inclusive economic growth (equitable opportunities), employment, well-being, while preserving the health of the ocean. It includes activities such as exploration and development of marine resources, appropriate use of ocean and coastal space, use of ocean products, provision of goods and services to support ocean activities and protection of the ocean environment.

In PNG's context the concept of Blue Economy is desired within the implementation of the MTDP IV Strategic Priority Areas (SPAs) to grow the national economy to K200 billion by 2030, a feature which must emphasize the functions and roles of the NOP and its Implementation Plan framework within its appropriate SPAs in future versions.

The contexts also consider implications from the MTDP IV investment portfolio and its financing sources from various partners and stakeholders. This NOP-IP investment costs are not included in the MTDP IV per se, and therefore a planned strategy is to seek the DNPM, CACC and NEC approval for resourcing under the Public Investment Program (PIP) as outlined in the NOP-IP Part 3. This will provide an opportunity for Donors including Development Partners and the Private Sector to actively participate.

2.2.4 PNG Maritime Boundary Delimitation and Extended Continental Shelf Claim

Papua New Guinea's Maritime Boundaries Delimitation Project commenced in 2006 following a NEC Decision No.124/96 in response to PNG's ratification of the 1982 United Nations Convention on the Law of the Sea (UNCLOS) on 14th of January 1997. The initiation of the Project is to meet PNG's obligation under the UNCLOS.

The same NEC Decision directed the Departments of Justice & Attorney General and Foreign Affairs to coordinate the implementation of PNG's obligations under the UNCLOS in consultation with key stakeholder departments through a Project Steering Committee.

The Extended Continental Shelf Claim is of great significance for PNG in terms of national security, deep sea mining and, marine and fishing resources. The extension of the continental shelf by another 150 kilometers from the current 200-mile exclusive economic zone (EEZ) is considered strategically important because it extends our fishing grounds and the high seas for our commercial fishing operations and deep-sea mineral exploration and exploitation.

The *Maritime Zones Act, 2015*, gave rise to revised archipelagic baselines maritime boundaries to fully comply with UNCLOS requirements. The maritime boundaries include; Baselines, Territorial Seas (12 nautical miles), Contiguous Zone (24 nautical miles), Exclusive Economic Zone (200 nautical miles). The *Maritime Zones Act, 2015*, incorporates UNCLOS into national law and asserts PNG's rights and obligations in relation to those zones. It also provides for proper regulation of marine scientific research, marine environment and underwater cultural heritage.

(a) Extended Continental Shelf

Article 76 of UNCLOS provides for a coastal state to claim extended continental shelf (ECS) beyond its EEZ. An important prerequisite to an ECS claim is that the claimant must have – (1) a legislation that is fully compliant with UNCLOS, and, (2) a well-defined baseline in place for Papua New Guinea. The PNG *Maritime Zones Act, 2015*, and its declared baselines provides the basis for PNG's three ESC claims:

- Ontong Java Plateau - Joint submission with FSM and Solomon Islands (2009)
- Mussau Ridge – Preliminary Information (2009)
- Eurapik Rise – Preliminary Information (2009)

(b) Joint Submission to the Commission on the Limits of the Continental Shelf Concerning Ontong Java Plateau

The Ontong Java Plateau (OJP) dominated by an enormous submarine plateau, surmounted by islands of FSM, PNG and Solomon Islands justifying natural prolongation of their respective landmasses. Considering that the three States are each entitled to the continental shelf in the OJP region/zone, the state parties agreed through an MOU signed in 2009 "to cooperate on matters

relating to the OJP submission to the United Nations Commission on the Limits of the Continental Shelf (UNCLCS) for an Extended Continental Shelf between the three countries”.

On the 5th of May 2009, a subsequent Joint Submission was made to Commission, based on supporting scientific and technical data compiled with the support of external partners and technical experts. The UN established a sub-commission to commence considerations of the submission in August of 2014. Following a series of extensive deliberations, the sub-commission approved with recommendations for the OJP Submission. The summary thereof was submitted in writing to the three coastal states on 24th March 2017.

The outstanding matters arising from the recommendations of UN Commission on Limits of the Continental Shelf is that the three submitting states - FSM, PNG and Solomon Islands are to - review the recommendations and take appropriate actions to address those technical recommendations.

PNG is a member of the International Maritime Organization (IMO). It is therefore considered important to consider the decisions of the IMO under the Marine Environment Protection to reduce sulfur content in the ship's fuel to mitigate greenhouse effect and promote green shipping. The IMO Sulphur Cap, also known as "IMO 2020", is a rule that limits the Sulphur content in fuel oil used on board ships. The new limit is 0.50% m/m (mass by mass), a significant reduction from the previous limit of 3.5%. This reduction is mandatory for all ships operating outside certain designated Emission Control Areas, where the limit is already 0.10%¹²³⁴⁵.

PNG also has a Particularly Sea Area (PSSA) under the IMO. It is important to consider these in the implementation to control pollution the marine protected area of Jomard Passage in Milne Bay Province.

2.2.5 Marine Scientific Research

Recent advancements in science and technology have facilitated human exploration of the deep sea, revealing the complexities of ocean biodiversity. This progress presents significant opportunities for expanding our understanding and harnessing potential benefits. However, it concurrently introduces new governance challenges, particularly regarding the environmental impacts of sampling activities and the equitable utilization of marine genetic resources.

The United Nations Convention on the Law of the Sea (UNCLOS) gives all States and competent international organizations the right to conduct Marine Scientific Research (MSR), but they also have to respect the rights and duties of other States under UNCLOS. States must support and enable MSR according to the Law of the Sea. In general, States must do MSR;

- a) exclusively for peaceful purposes,
- b) with appropriate scientific methods and means compatible with UNCLOS,
- c) without unjustifiable interference with other legitimate uses of the sea compatible with UNCLOS, and
- d) in compliance with all relevant regulations adopted in conformity with UNCLOS including those adopted for the protection and preservation of the marine environment.

Coastal States' rights and duties as they relate to MSR include exclusive rights to regulate, authorize and conduct MSR in the territorial sea and the right to regulate, authorize and conduct MSR in the exercise of its jurisdiction in relation to the EEZ and continental shelf in accordance with the UNCLOS.

2.2.6 The Marine Scientific Research Committee

The Maritime Zones Act 2015 (MZA) establishes the Marine Scientific Research Committee and under section 47(7) it's tasked to develop Marine Scientific Research guidelines. Schedule 6 of the MZA lists the departments and agencies that make up the Marine Scientific Research Committee. These are;

1. Department of Justice & Attorney General
2. Department of Foreign Affairs
3. Conservation & Environment Protection Authority
4. National Fisheries Authority
5. National Maritime & Safety Authority
6. University of Papua New Guinea
7. Department of Mineral Policy & Geohazards Management
8. National Research Institute
9. Mineral Resources Authority
10. PNG National Weather Services
11. PNG Customs
12. Department of Prime Minister & National Executive Council
13. National Mapping Bureau
14. Department of Provincial & Local Government Affairs
15. PNG Maritime Surveillance, Department of Defense
16. PNG Science and Technology Council
17. Climate Change & Development Authority
18. Investment Promotion Authority

The MSR Committee is tasked with the responsibility of managing, evaluating, and considering marine scientific research applications. Its primary role includes assessing and making decisions on marine research applications and forwarding those decisions to the Department of Foreign Affairs (DFA). The DFA subsequently communicates these decisions to the research applicants via diplomatic channels.

(a) The Marine Scientific Research Guidelines 2021

The PNG Marine Scientific Research (MSR) Guidelines 2021 provides basic information and the processes and procedures to competent international research entities seeking to conduct marine scientific research in Papua New Guinea's waters. Additionally, it outlines measures for the access to PNG's marine genetic resources, including their products and derivatives, whether for scientific research, potential commercial uses, or other related purposes, with the goal of promoting fair benefit-sharing from the use of these marine resources.

(b) The Revised Marine Scientific Research Guidelines 2024

The main goal of the Revised Marine Scientific Research Guidelines 2024 is to make the MSR application process more streamlined and easier for competent research organizations to apply for research in PNG waters. This update addresses previous issues like application steps, MSR application fees, permits on deep-sea mining and protection of marine genetic resources.

The revised guidelines also set stricter rules to prevent exploitation and ensure sustainability. Researchers must submit detailed plans explaining their research goals, methods, and potential impacts on the environment. This helps the MSRC evaluate the scientific and environmental value of each project.

By addressing these issues in the old guidelines, the 2024 revisions aim to support sustainable and responsible marine research. The goal is to advance scientific knowledge while preserving PNG's marine biodiversity, bringing long-term benefits to the nation and the global scientific community.

2.2.7 Data, Information and Knowledge

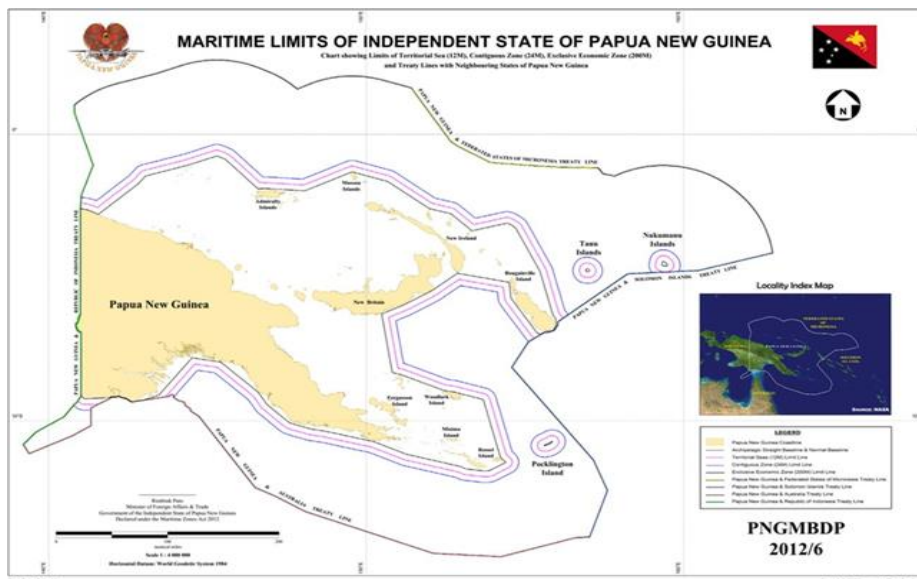
In the development of the NOP, the major issue recognized was very limited and/or lack of relevant data, information and knowledge on the nature of oceans under PNG's jurisdiction and/or beyond. This issue formed the basis of the NOP Strategy 2 on Knowledge and Technology (refer Part 3). In recent years, different data sets, new information and knowledge have emerged from PNG stakeholders in collaboration with international partners in the laying out of this NOP-IP. Scientific and traditional knowledge data and information collections, their analysis and interpretation, appropriate uses in planning and decision-making, and, compliance and enforcement of decisions, require consistent and continued intensive and extensive research and studies into the long-term. The prevailing core issues relating to data deficiency, development and establishment of databases and modern storage facilities and in the NOP and now addressed by the NOP-IP are:

- The need for a national repository or depository to store all specimens, data and information in a modern National Marine Laboratory; and
- The need for a modern oceanography research vessel.

The context is that the wise use of our ocean's resources needs relevant data and information to plan accordingly in addressing socio-economic development and environmental protection interests. These prevalent contextual needs are:

- Amplified in PNG's Exclusive Economic Zone (EEZ) in Figure 3;
- The geomorphic or seabed and associated features shown in Figure 4 with related data in Tables 1, 2 and 3;
- Oceanic fisheries production in Figure 5;
- Mining tenements and maritime shipping with implications on the required coastal, islands and marine-based infrastructure and services in Figure 6;
- Priority marine conservation regions with implications on potential local-level marine managed areas in Figure 7; and
- Implications on the distribution and sizes of marine protected areas shown in Figure 8, in which PNG has the 30 percent target of established Marine Protected Areas (MPAs) by 2030.

Figure 3. Map of the Exclusive Economic Zone.



It is essential that field surveys need to be reviewed with updates over the long-term to improve the knowledge of PNG oceans in the 4-Dimensional vision of the oceans space – a distinct difference from land management. That is, data is needed from the:

- Coastal lands including the inter-tidal zones to capture the coastal surface waters extending to the Exclusive Economic Zone (EEZ);
- Different water (column) bodies at different depths from the coastline to the EEZ; and
- Relevant surveys from the coastline to seaward on the seabed of the continent shelf to the EEZ; and
- Potential claims for extending the continental shelf beyond the EEZ.

Figure 4. Indicative Map Showing Classification Structure for Deep Water Features.

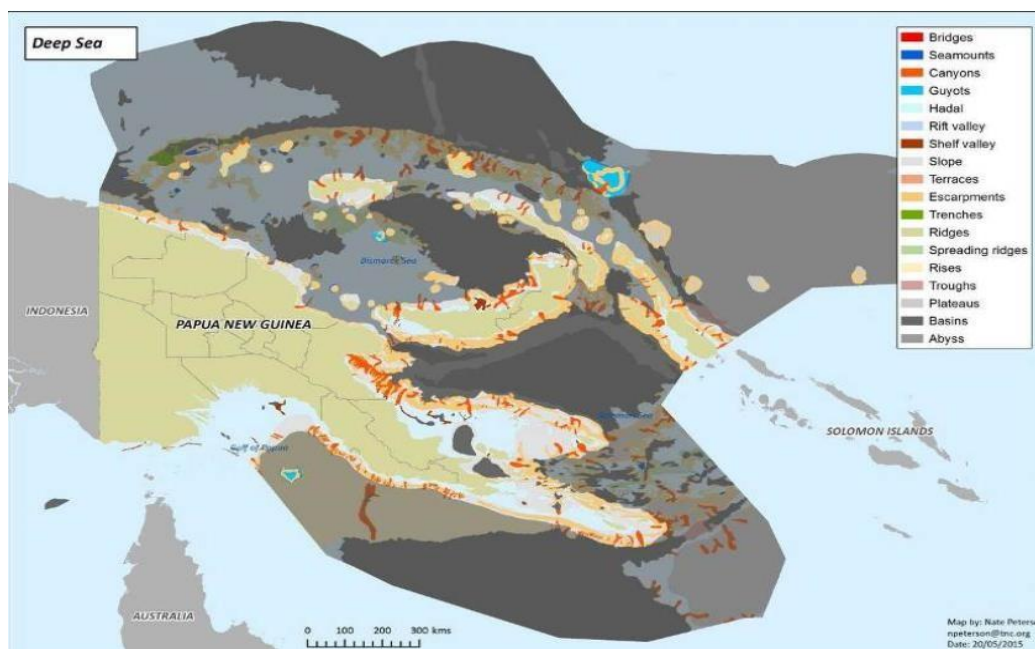


Table 1. Types of Geomorphological Seafloor Habitats and Area.

Feature	Total Area (km ²)	Feature	Total Area (km ²)
Abyss	14,647,784	Rift Valley	4,697
Basins	1,376,669	Rises	192,299
Bridges	441	Seamounts	20,040
Canyons	70,232	Shelf Valley	5,575
Escarpments	346,965	Slope	1,844,422
Guyots	13,742	Spreading Ridges	47,080
Hadal	42,998	Terraces	4,888
Plateaus	1,203,402	Trenches	74,952
Ridges	162,994	Troughs	95,025

Table 2. Basic Coastal and Marine Data.

	Area	Unit & Notes
Exclusive Economic Zone	3,120,000	km ²
Length of Coastline	20,530	km
Coastal and Island Habitat – proportion under protection	46,000	km ²
Coastal and Island Population and % of total PNG population – coastal villages (851,200 people)	2.2 million	24% 1,200 coastal villages
Coral Reefs Proportion under Protection	14,535	km ² 4%
Mangrove total area Protected Area 2015	5,734	Km ² 13.73%
Seagrass area	4,504,132	ha

Table 3. Provincial Coastal Marine Resource Data.

Province	Coastline (km ²)	Reef (km ²)	Slope (km ²)	Coastal Lagoon (km ²)	Reef Lagoon (km ²)	Estuaries (km ²)	Mangroves (km ²)
NPOA Provinces							
West Sepik (Sandaun)	343			23.60		4	6
East Sepik	700	11.97		91.64		3	43
Madang	867	52.04		0.47		8	12
Morobe	1,165	107.18		5.13		24	33
Milne Bay	4,499	2,986.18	5,409.06	4.34	7,290.75	13	291
NCD	108	41.72					3
Central	1,157	586.17	28.70		446.36	17	557
East New Britain	1,013	101.95		0.36		8	22
West New Britain	2,018	344.68	3.67		16.92	12	139
New Ireland	2,740	829.41	157.32	2.70	28.27	1	157
Manus	901	923.22	184.38		595.69		58
NPOA Sub-Total	15,511	5,984.52	5,780.13	128.23	8,377.98	90	1,321
Other Provinces							
Northern (Oro)	681	110.36		0.66	2.34	14	165
Bougainville (AROB)	1,173	396.51	33.13		1.08		46
Gulf	1,208	1,020.27				15	2,652
Western	1,958	86.35				5	530
Other Provinces Sub-Total	5,020	1,602.49	33.13	0.66	3.42	33	3,393
Total 15 'Provinces'	20,531	7,588.01	5,816.2	128.89	8,381.40	123	4,714
NPOA Shares (%)	76	79	99	99	100	73	28

Figure 5. Indirect Measure of Fisheries by Cost Production.

Based on Distance to 13 Ports (higher cost near ports) and Landings data from 2008-2013).

Figure 6. Mining Tenements and Maritime Shipping.

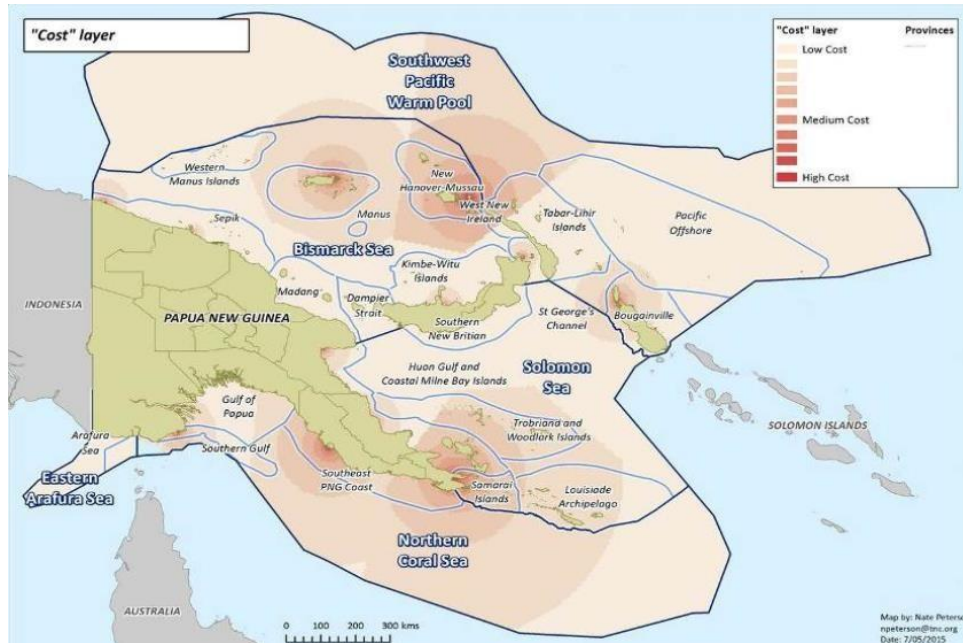


Figure 7. Marine Ecoregions and Bioregions.

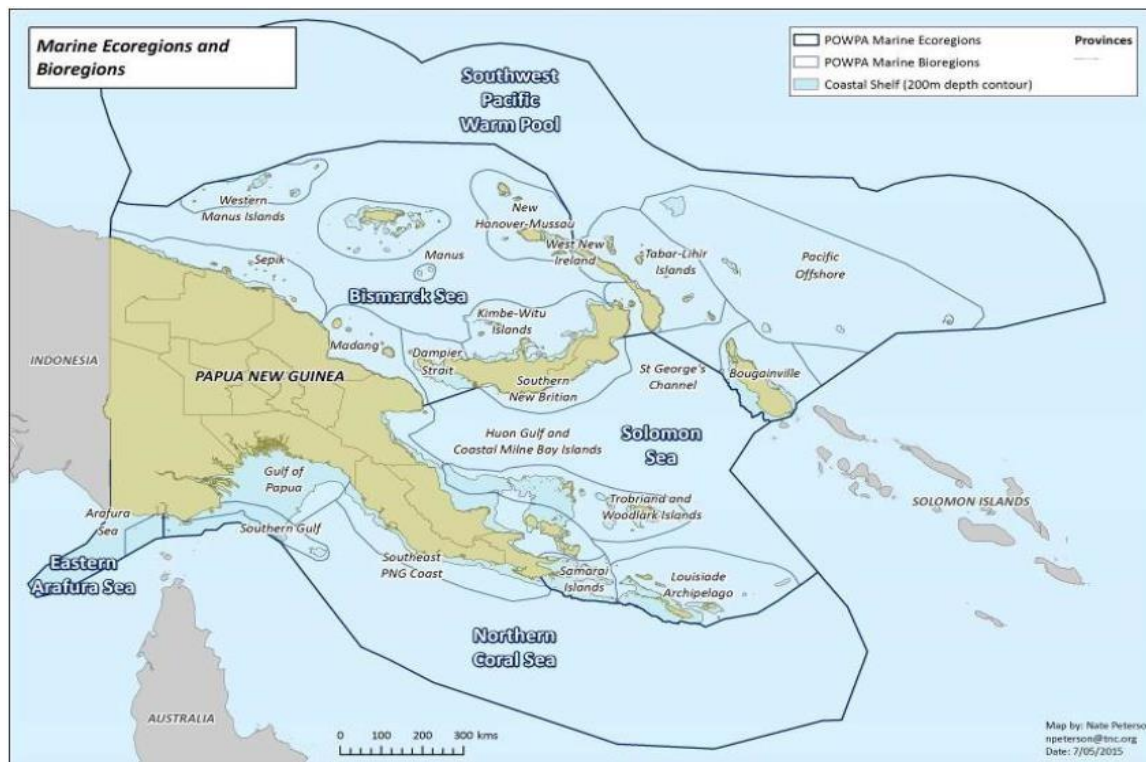


Figure 8. Protected Areas/Managed Areas.



It must be re-emphasized that the oceanic systems pertaining to PNG's geographical location and wider global economic aspirations place PNG in a geopolitical context of immense interests and challenges of which successive PNG Governments have fostered limited attention and much is still desired even after the adoption of the current Government's MTDP IV. There are inferences made on the PNG National Oceans Policy (NOP) (GOPNG, 2020) and its entailed legal framework under the *Maritime Zones Act 2015*. Recognition of the wider and serious challenges worldwide on the international rule of law as commitments under the United Nations Convention on the Law of the Sea (UNCLOS). PNG is a Party to the UNCLOS of which the MTDP IV is almost silent on.

In noting that this is the first document on implementation of the NOP further reviews are required to develop and align the successive MTDPs.

The NOP-IP document has consolidated the various outcomes and reflects consensus from various stakeholders' engagement consultation forums in charting the way forward. Its framework is presented in the following Part 3.

PART 3. NATIONAL OCEAN POLICY IMPLEMENTATION PLAN

3.1 Vision

A healthy ocean that achieves responsible sustainable development outcomes and aspirations of Papua New Guinea, whilst addressing and mitigating impacts of climate change, natural disasters, anthropogenic waste and land-based sources of pollution.

3.2 Goal

To sustainably develop and manage PNG's marine resources through an integrated ocean management system within its national jurisdiction as well as in areas beyond the country's national jurisdiction, and at the same time, facilitate cooperation and collaboration in areas beyond PNG's national jurisdiction.

3.3 Objectives

The supporting objectives of the NOP are to:

- (a) Strengthen the implementation of UNCLOS and the MZA through mutual cooperation and collaboration with international, regional and domestic partners and stakeholders.
- (b) Support the implementation of the Fourth Goal of the National Constitution relating to the wise use and management of PNG's environment and natural resources.
- (c) Strengthen cooperation and collaboration between different stakeholders in the implementation of the NOP.
- (d) Support the implementation of overarching national policies namely, the Papua New Guinea Vision 2050 and the National Strategy for Responsible Sustainable Development for Papua New Guinea (STARs).
- (e) Provide strategic directions upon which sub policies dealing with the ocean space can be standardized to enable a coherent integrated management system.
- (f) Facilitate capacity building, the transfer of marine technology, and ocean literacy, and promote tools and approaches that transform ocean knowledge into actions on ocean sustainability.

3.4 Principles and Key Concepts

3.4.1 Integrated Oceans Management

An integrated ocean management (IOM) policy is a national strategic policy document that provides for a 'planned system-wide approach to ocean management'. It involves coordination and collaboration by sectors using the ocean. It covers all sectors and all levels of government whose scope of activity relates to the use of ocean resources and provides a process where specific actions can be taken by user groups.

An IOM provides a process by which actions are taken for the use, development and protection of coastal resources and areas to achieve national goals established in cooperation with user groups, regional and local authorities and traditional ocean communities. Integrated management refers to the management of sectoral components as parts of a functional whole with the explicit recognition that it is the users of resources, not the stocks of natural resources that are the focus of management.

The IOM applies across all levels of government. It promotes a multi-pronged approach as to how desired goals will be met. The Government is required to identify problems, assess the feasibility of alternative courses of action and select approaches to overcome them.

3.4.2 Integrated Coastal and Island Management

The integrated coastal management (ICM) or integrated coastal and island management (ICIM) concept is focused on coastal and whole islands and assumes the basic principles of the IOM concept. Given the dynamic nature of environmental conditions in coastal areas and whole islands' ownership, as they are the prime attraction for human settlement and related development activities, the issues are complex and warrant attention.

The attention required 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 consider the nature of the river basins and catchments as a continuum to the oceans.

3.4.3 Customary Tenure Systems and Resource Management

The NOP reaffirms the recognition of indigenous and local community 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 acknowledges the indigenous and local communities as an integral and intrinsic component in community-based resource management.

3.4.4 Protecting Customary Use of Resources

In noting the above, it is acknowledged that modern development interventions may vary from the traditional norms and will require appropriate protection and resources, such as scientific information alongside traditional knowledge to be offered to indigenous and local communities on the wise use of their ocean resources.

3.4.5 Sustainable Use

Sustainable use refers to the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

3.4.6 Ecosystem-Based Management

Understanding the dynamics of natural coastal and marine ecosystems is crucial to introducing appropriate policy initiatives for the management of viable population's 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. This is critical in an ecosystem-based management as it includes planning and design of marine protected areas (MPAs) and the application of marine spatial planning (MSP) within an IOM framework.

3.4.7 Environmental Impact Assessment

It is imperative that certain activities should not be undertaken or authorized without prior consideration, at an early stage, of their environmental effects. Where the extent, nature or location of a proposed activity is such that it is likely to significantly affect the environment, a comprehensive environmental impact assessment (EIA) should be undertaken in accordance with the following principles.

An EIA should include, at a minimum:

- (a) A description of the proposed activity.
- (b) A description of the potentially affected environment, including specific information necessary for identifying and assessing the environmental effects of the proposed activity.
- (c) A description of practical alternatives, as appropriate.

- (d) An assessment of the likely or potential environmental impacts of the proposed activity and alternatives, including the direct, indirect, cumulative, short-term and long-term effects.
- (e) An identification and description of measures available to mitigate adverse environmental impacts of the proposed activity and alternatives, and an assessment of those measures.
- (f) An indication of gaps in knowledge and uncertainties which may be encountered in compiling the required information.
- (g) An indication of whether the environment of any other State or areas beyond national jurisdiction is likely to be affected by the proposed activity or alternatives.

3.4.8 Information Management System

Establish and develop an information management system portal to store and validate agreed data and information to be used to implement the MZA and the Policy.

3.4.9 Precautionary Approach

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 precautionary approach principle is a core tenet of integrated oceans management.

3.4.10 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 over time periods – the zoning system. The zoning system establishes criteria and limitations for use 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.

3.4.11 Marine Protected Areas

Marine Protected Areas (MPAs) are areas of seas, oceans, estuaries or large lakes that are protected. These marine areas can come in many forms ranging from wildlife refuges to research facilities. They restrict human activity for conservation purpose and many such marine resources are protected by the local communities, non-government organizations (NGOs), the state or international authorities. In some situations, MPAs also provide revenue for countries, potentially equal to the income that they would have if they were to grant companies permissions to fish. The primary purpose of an MPA is to protect marine biodiversity. The MPA apply the same principle of 'no-take' areas in coastal and marine areas under both traditional conservation practices according to specific societal customs, and introduction of conventional marine protected areas. The undertakings under marine spatial planning (MSP) processes and zoning systems are required to

consider appropriately the value of MPA in fisheries management, and levels of restrictions and interests on extractive and partial extractive activities.

PNG as a developing state with a wealth of natural resources is committed to ensuring that the status of the ocean environment remains a primary focus. Under its Protected Area Policy, the Government recognizes the importance of natural ecosystems, biodiversity, conservation, people, culture and sustainability.

3.4.12 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.

3.4.13 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 above.

3.4.14 Joint Management

Joint management over an area is when countries pool any rights they may have over a given area, and to a greater or lesser degree, undertake some form of joint management for the purpose of exploring, developing, and extracting offshore living and non-living resources. This can include multilateral agreements on maritime joint development zones, which allow access to resources within an area by more than two states. This inter-state cooperation may be applied, for example, to extended continental shelf areas to which participating states are entitled in international law following a joint submission as provided under UNCLOS.

3.4.15 Blue Economy

The application of 'blue economy' would be a big step in the right direction for PNG. 'Innovation' is the key word on which to work in the ocean environment. The world's marine ecosystems provide essential food and livelihoods to millions of people. A switch to Blue Economy would unlock the potential of the marine-based economy while reducing ocean degradation and alleviating poverty. 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. A major challenge for users of the sea is ensuring that the ocean assets equitably balance the economic activities provided by marine resources with food security and livelihood issues, public use and amenity and conserving and protecting the health and function of our ecosystems. A key component here is the capacity in applying science-based means of managing the use of ocean resources and a national competency to support a sustainable ocean economy and managing ocean related risks.

3.4.16 Maritime Domain Awareness

Several sections that justify the need for more comprehensive Maritime Domain Awareness and maritime security integration:

1. Within the MZA 2015, the PNG National Surveillance Centre is referred to as a member of the Marine Scientific Committee of Papua New Guinea. This indicates that the DoD is not only an integral part of PNG's national maritime governance architecture, but that it is central to geospatial mapping, monitoring, and research activities.
2. The NOP 2020 - 2030 emphasizes the management of environmental and economic ocean policies throughout the document. However, maritime security should be equally prominent and clearly explained.
 - a. "The IOM 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 planning, developing, and implementation of policies. (NOP 2020 – 2030, P 12)
 - b. The 2014, Framework for Pacific Regionalism (the Regionalism Framework) is the principal regional policy instrument for strengthening and deepening regional cooperation, regional integration and the regional provision of public goods and services, under four pillars: (1). Sustainable development; (2). economic growth; (3) governance and (4) security. (NOP 2020 – 2030 P 22)
 - c. With the enactment of the MZA, there are now clear and legally defined boundaries as to where specific agency roles and responsibilities begin and end. In this regard, improved and efficient coordination and cooperation amongst agencies, involved in security operations, is important to ensure there is required monitoring, control and surveillance of PNG's vast ocean space. This also means that limited financial resources are allocated accordingly. (NOP 2020 – 2030 P35)

3.4.17 Ocean Governance and Maritime Governance

The PNG National Ocean Policy is designed to provide a "framework to improve ocean governance and management." (P. 13). Accordingly, the framework should be interpreted broadly to include improvement of maritime governance enforcement management and capacity. This requires strategic direction for planning and resource allocation for PNGDFME and RPNGC in supporting maritime and ocean governance, specifically in supporting joint law and regulatory enforcement actions in addition to support for Science and Research. The NOP refers to Ocean Governance, but it should also consider Maritime Governance, as Maritime Governance is implied throughout the NOP but not clearly stated.

- a. Ocean governance is the conduct of the policy, actions and affairs regarding the world's oceans. Within governance, it incorporates the influence of non-state actors, i.e. stakeholders, NGOs and so forth, therefore the state is not the only acting power in policy making. (Boesch, D.F. (1999) The role of science in ocean governance. Ecological Economics, 31, pp. 189–198.)

- b. Maritime Governance refers to the capacity to enforce the framework of laws, regulations, policies, and institutions generated both within the legal jurisdictions of states and the international community that seek to establish “good order at sea. (Bradford, John, Strabing, Bec, (2024) “Maritime Governance Policy and Priorities in Southeast Asia” Blue Security and Maritime Affairs Series Issue 5 April 2024)

A plan that creates a NMSPOC will coalesce PNG’s disparate maritime governance resources, while also offering a coordinating venue to enhance international collaboration on security cooperation.

3.5 Outcomes

The tenure of the NOP envisaged the following outcomes:

- Office of Oceans Affairs and effective leadership established;
- Annual PNG Oceans Plans developed;
- Marine Spatial Plan/Strategy for PNG’s waters in place;
- Data collection, storage and information sharing protocols and relevant infrastructure supported;
- Marine Scientific Research and Applied Research Guidelines established;
- National oceans strategy developed and promoted;
- Visibility and awareness of the importance of oceans increased;
- Vulnerability needs assessment for PNG coastal waters;
- Human resources and oceans developed;
- Global, Regional and Sub-Regional mechanisms strengthened;
- Provincial coastal waters mapped and declared;
- The extended continental shelf area of Ontong Java Plateau is jointly managed; and
- Environment and climate change impacts assessment on Oceans.

3.6 Key Management Policy: Integrated Oceans Management

In the strategic planning and management policy, it must be reiterated that Integrated Ocean Management (IOM) provides the underlying foundation in managing PNG oceans affairs. It is a holistic, ecosystem-based and knowledge-based approach that aims to ensure the sustainability and resilience of marine ecosystems. IOM integrates and balances different ocean uses to optimize the overall ocean economy, as well as maintaining and enhancing the sector-based governance required for effective management of ocean industries. The goal of IOM is to preserve the long-term health and resilience of marine ecosystems while improving livelihoods and creating jobs that support a sustainable ocean economy by managing the uses of ocean resources in an integrated way.

The implementation of IOM is envisaged by the NOP’s Five Strategies. These are:

1. Governance and Management: *shared responsibility of the governance and management of the oceans, through transparency, inclusiveness and accountability;*
2. Knowledge & Technology: *Improving our understanding of our ocean through science, research, knowledge and innovation;*
3. Environment Protection and Conservation: *protection and maintaining the health of our oceans;*

4. Sustainable Economic Development: *sustainable development and management of the use of the ocean and its resources*; and
5. International Relations, Security, Safety and Recreational Use: *promoting and enhancing the peaceful use of the oceans*.

The Five Strategies provide their respective Strategic Actions which provide guidance on generic and specific activities to be pursued as outlined in the relevant headings. The headings are based on the required Public Investment Program (PIP) national planning framework in the following Part 3.7.

The PIP is supported, coordinated and managed by the Department of National Planning and Monitoring (DNPM). The PIP framework denotes the NOP-IP's Five Strategic Actions to their respective Activity matrices identified as Tables S1, S2, S3, S4 and S5. The matrices include the lead and supporting stakeholders, strategies, key performance indicators (KPIs), indicators, annualized costs, and opportunities for financiers to invest in the relevant PIP Project(s).

3.7 NOP Implementation Plan: Strategic Actions and Activities

3.7.1 Strategy 1. Governance and Management Strengthened and Established.

Shared responsibility of the governance and management of the oceans, through transparency, inclusiveness and accountability.

An effective governance and management system will have to be efficient, transparent and accountable. Laws, policies, and programs must be well coordinated and easily understood by regulated parties and the public. A comprehensive framework should be in place that defines the appropriate roles for different levels of government, its agencies, the private sector, and citizens, promoting effective partnerships for managing ocean and coastal resources with high level of leadership.

Strategic Actions:

- Identify the Stakeholders in Ocean Governance with emphasis on an inclusive right- based and generational approach as the underlying or foundation of the NOP.
- Identify the roles and responsibilities of Stakeholders in Ocean Governance.
- Identify the mechanism for Coordination, Communication and Cooperation between stakeholders.
- Identify international and regional partnerships for oceans governance and management.

DNPM PIP Program No.: _____ Integrated Oceans Management

PIP Project No.: _____ Governance and Management.

Table S1. Governance and Management.

#	Activity	Implementing Agencies	Strategy	KPI/KRA	Indicator	Funding Source PIP / DP/ Private Sector
1	Supported establishment of governance and management framework with strong emphasis on ensuring the capacity is strengthened.	DJAG, NOC	Establish systems and recruit competent people	Increase productivity	IMS installed for better coordination and cooperation 80% of the staff recruited and trained	PIP/DP/ Private Sector/DJAG
2	DJAG-OOA human resources capacity including the executive management strengthened and established.	DJAG-OOA, NOC	Recruitment of competent Officers and establishment of management by defined Terms of References (ToRs).	DJAG-OOA and Effective Leadership Established Effective Operation of DJAG-OOA	80% contract signed with full staff on board	PIP/DP/ Private Sector/DJAG
3	Facilitation and review of institutional arrangements on development and establishment of the National Oceans Office (NOO) as the Secretariat to the National	DJAG-OOA, NOC	Establish the Secretariat with full staff dedicated to drafting	NOO and NOC developed and established.	NOO as a stand-alone office	PIP/DP/ Private Sector/DJAG

	Oceans Committee (NOC).					
4	Development and establishment of Operational Policies and administration.	DJAG-OOA, NOC	Working with inter-agencies to draft, review and establish the polices	Operational policies and administration established.	80% of the polices in operation	PIP/DP/ Private Sector/DJAG
5	Development and establishment of the Ministerial Oceans Committee (MOC) members by gazettal to approve the NOS and related national policies and commitments.	DJAG-OOA, NOC DJAG-OSS, OFLC	Establish the MOC	MOC gazettal.	Amended the MZA to cater for the MOC	PIP/DP/ Private Sector/DJAG
6	Legal reforms for the Ocean space: that includes proposed amendments to the MZA 2015, MSR regulation, obligations under the MZA and consequential amendments.	DJAG, NMSA, DLPP,DFA, CEPA,SS,CCDA, DF,DOT, NFA,NAQIA,NICTA, DATACO, OFLC and NOC	Collaborate with agencies	Discuss, draft, review and finalize laws/ amendments	1. Amendments to the Maritime Zones Act 2015. 2. Consequential amendments 3. Formulation of regulation 4. Formulation of Policies	PIP/DP/ Private Sector/DJAG
7	Issues on local ownership and management of ocean areas, marine resources and traditional knowledge. (recognizing customary rights and obligation)	DJAG-OOA, DJAG-OSS, NMSA, NFA, DPLGA, DLPP, IPA, IPA-IPOPNG, PNGSTC, OFLC	Establishing local policies, committees and by laws	Policy and law developed by NOO, guided by NOC.	50% of the local laws and polices drafted and implemented	PIP/DP/ Private Sector/DJAG
8	Continued future work involving Provincial Governments and Local Level Governments and customary marine rights holders via PLLSMA.	DJAG-OOA, DJAG – OOS, DPLGA, DNPM	1. DPLGA through PLLSMA fully engaged on relevant NOP Implementation Plan components. 2. Visibility and awareness of the importance of the oceans increased.	DPLGA through the PLLSMA fully engaged on NOP Implementation Plan.	15 Maritime Provincial Awareness Stakeholders Engagement, and 4 Regional Meetings (Southern, NGI, Momase, Highlands) via PLLSMA.	PIP/DP/ Private Sector/DJAG
9	Review and update the National Marine Scientific Research Guidelines and for gazettal under the <i>Maritime Zones Act 2015</i> (as amended).	DJAG-OOA, MSRC, NOC, PNGSTC, DJAG-OSS, OFLC	Revised MSR guidelines	Marine Scientific Research and Applied Research Guidelines established.	Approval of the guidelines by NOC and NEC	PIP/DP/ Private Sector/DJAG
10	Assess and monitor Capacity building for CSO and make recommendations	DJAG-OOA, DPLGA, PLLSMA, INGOs, NGOs	Capacity built, strengthened and establishment of relevant PNG Civil Society Organizations (CSOs) in support of local IOM initiatives.	Successful Eight (8) initiatives by 2030.	50% of the CSO will be capable of implanting the 8 initiatives	PIP/DP/ Private Sector/DJAG
11	Develop and implement National Ocean Implementation Plan	DJAG, DNPM	Input by relevant stakeholders	Launching of the implementation policy	50% implementation of the plan	PIP/DP/ Private Sector/DJAG

12	Increase visibility and awareness of the importance of oceans increased	DJAG-OOA	Stakeholder mapping and strategy	Awareness carried out in regions, provinces and districts.	50% of the awareness completed in the provinces	PIP/DP/ Private Sector/DJAG
13	Provincial and coastal waters mapped and declare	DJAG-OOA, CEPA, DPLGA, NMSA, DLPP	Guideline developed for mapping with input from stakeholders and maritime provinces and districts.	Engage experts on each project per province and district	70% of the provincial and coastal waters mapped and declared	PIP/DP/ Private Sector/DJAG
14	Negotiation of the continental shelf claim	DJAG, NMSA, PNG - DEFENCE, DFA, NFA, MRA, DMPGH	Establish a committee with ToR	Capture in the NOC ToR to provide oversight	80% of negotiations should be completed by 2027	PIP/DP/ Private Sector/DJAG
15	Mapping extended continental shelf	DJAG, DFA, DLPP, NMSA, NFA, SS, MRA, DMPGH	Establish a committee with ToR	Capture in the NOC ToR to provide oversight	80% of negotiations should be completed by 2027	PIP/DP/ Private Sector/DJAG
16	Legally claim Ontong Java plateau	DJAG, NMSA, DPLGA, DFA, MRA, DMPGH	Establish a committee with ToR	Capture in the NOC ToR to provide oversight	Submission made to the UN by 2027	PIP/DP/ Private Sector/DJAG
17	Legally claim Musau Ridge	DJAG, NMSA, DFA, NFA, SS, DLPP, DMPGH	Establish a committee with ToR	Capture in the NOC ToR to provide oversight	Submission made to the UN by 2027	PIP/DP/ Private Sector/DJAG
18	Legally claim Europik Rise	DJAG, DFA, NMSA, DLPP, NFA, MRA, DMPGH	Establish a committee with ToR	Capture in the NOC ToR to provide oversight	Submission made to the UN by 2027	PIP/DP/ Private Sector/DJAG
19	Integrate island and coastal management plans	DJAG-OOA, CEPA, NFA, NMSA, DFA, DNPM,	Integrate in to sectoral plans by respective agencies that will incorporate IOM principles (precautionary approach)	Set up eco systems and process as tools to understand relationship with Humans and the marine life	An interagency cooperation policy or MoU established	PIP/DP/ Private Sector/DJAG
20	Ecosystem –base management	DJAG-OOA, CEPA, CCDA, NOC	Set up observation and monitoring systems	Set up eco systems and process as tools to understand relationship with Humans and the marine life	50% monitoring systems established in Maritime province	PIP/DP/ Private Sector/DJAG
21	Precautionary approach	DJAG-OOA, NOC	3 levels set by CEPA- precautionary approach must be incorporated into all 3 levels. Identify as per elements of precautionary approach.	Elements of precautionary approach per activity per sector. List of elements to align with activities.	Extractive sectors must incorporate into polices and guidelines	PIP/DP/ Private Sector/DJAG
22	Coastal management policy	LLG, PG, CEPA, CCDA, DLPP, DJAG-OAA, MRA, DPE	Do a coastal management, gap analysis on activities in the coast and ocean space from internal waters to the oceans	From foreshore to coastal waters, activities that will involve or trigger precautionary approach.	Policy in place by 2027	PIP/DP/ Private Sector/DJAG

23	Develop a cooperation policy	CEPA, DPE, MRA, Customs, IRC, NFA, NFA, NOO	Standardize the operation procedure for constant and consistent flow of data and information	To establish a cooperation policy that will cater for standard operation procedures	Establish SOPs by 2027	PIP/DP/ Private Sector/DJAG
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3.7.2 Strategy 2. Knowledge & Technology Strengthened and Established.

Improving our understanding of our oceans through science, research, knowledge and innovation.

This strategy 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:

- Identify and prioritize information needs and the co-operative mechanisms for acquiring, accessing and disseminating information.
- Establishing a National Depository for Information and Data Access and identifying the cooperative mechanisms and processes, research, sharing of data and innovation.
- 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.
- 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.
- Have regard for traditional knowledge and its potential to contribute to better understanding the oceans and to the effective management of resources.
- Promote further formal education and training of local people in marine science and marine affairs disciplines.

DNPM PIP Program No.: _____ Integrated Oceans Management

PIP Project No.: _____ Knowledge and Technology.

Table S2. Knowledge and Technology.

#	Activity	Implementing Agency	Strategy	KPI	Indicator	Funding Source PIP / DP/ Private Sector
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1	Facilitation, coordination, management and support to the development of a relevant national program(s) on marine spatial planning (MSP) or strategy.	DJAG-OOA, PNGSTC, NMSA, NFA, NCC, CEPA, UPNG, CCDA, DLPP, NOC	Marine Spatial Plan/Strategy for PNG's waters established.	Drafting MSP strategic plan (road map) -outsource	Implementation of the developed MSP Strategy.	PIP/DP/ Private Sector/DJAG
2	Collection of scientific and traditional knowledge data and related information.	DJAG-OOA, PNGSTC, DHERST (Universities). UPNG, NWS	Data collection, storage and information sharing protocols and relevant infrastructure supported and established.	Systems, tools and infrastructure in place to collect, maintain and secure data	50% of infrastructure and systems established	PIP/DP/ Private Sector/DJAG
3	Capacity strengthening and development of relevant infrastructure National Depository	DJAG-OOA, PNGSTC, DNPM UPNG, NWS	Establish a National Depository	Train competent staff to manage the PNGND	100% completion of the PNGND	PIP/DP/ Private Sector/DJAG
4	Conduct a comprehensive review of all vulnerability assessments on PNG Coastal waters and small islands and atoll regions.	DJAG-OOA, NWS, NMSA, DMPGM, National Disaster Center, DPLGA	Vulnerability needs assessment for PNG coastal waters established.	Assessments has to be packaged and outsourced	50% of assessment reports received, findings and results collected, reported and saved.	PIP/DP/ Private Sector/DJAG
5	Marine Spatial Planning	DJAG-OOA, CEPA, CTI, NOC	Establish an overarching MSP plan to be implemented by Oceans	Undertake MSP from inland to foreshore to offshore and apply remedial measures	50% of the Maritime provinces covered by MSP	PIP/DP/ Private Sector/DJAG
6	Multiple-Use Management	DJAG-OOA, NOC	Establish data management systems that should be accessible by all impacted sectors	Set up IMS	Establish a fusion center	PIP/DP/ Private Sector/DJAG
7	Adaptative Management	DJAG-OOA, CEPA, NOC	Capture in the EIA standards and linkage to precautionary principle	SOPs and process checklist established	80% of stakeholders and users of the ocean apply this principle	PIP/DP/ Private Sector/DJAG
8	Joint Management	DJAG-OOA, CEPA NFA, DFA, NOC	New treaties to be established to protect mangroves and corals	Provide a check list on treaties and negotiations to ensure joint management is captured	Committee under NOC established as the overarching body administering the treaties	PIP/DP/ Private Sector/DJAG

9	Identify and prioritize information needs and the co-operative mechanism for acquiring, accessing and disseminating information	STC DJAG-OOA,	Create a fusion/centralized center	An Increase scientific knowledge, develop research capacity and transfer marine technology	IMS created	PIP/DP/ Private Sector/DJAG
10	Applied research guidelines and MSR guidelines established	DJAG, UPNG, PNG-STC, NRI,MSRC	Consult relevant stakeholders.	Draft guidelines	Approved and launched	PIP/DP/ Private Sector/DJAG
11	Visibility and awareness of the importance of oceans increased	DJAG-OOA, CEPA, NFA, NMSA, UPNG, CCDA, NGOs, DPLGA	Stakeholder engagement strategy in place	Awareness materials developed	80% of awareness and stakeholder engagement completed by 2026	PIP/DP/ Private Sector/DJAG
12	Vulnerability needs assessment for PNG coastal waters	DJAG-OOA, CEPA, CCDA, UPNG, LLG, DPLGA, NGOs, NOC	Centralized data base system	Collate data from CEPA, OCCDA and NGOS and Aid agencies that work with CEPA	50% of data gathered and compiled in the centralized IMS	PIP/DP/ Private Sector/DJAG
13	Environment and climate change impact assessments on ocean	DJAG_OOA, CCDA, CEPA	A sperate guideline this will feed into vulnerability needs assessment and MSP planning	Establishing a process for monitoring and reporting	Capture this under the NOC ToR	PIP/DP/ Private Sector/DJAG
14	A specific EIA for the ocean developed with clear process and stakeholder consultation guidelines	DJAG-OOA, CCDA, CEPA, NOC	Maritime EIA policy and guidelines developed with standards that include incorporating the precautionary approach and polluter pay principle	Establish Trans boundaries management under treaty arrangements as required in the MZA. Capture this under the NOC ToR.	A committee established to assist CEPA in the Marine EIA	PIP/DP/ Private Sector/DJAG
15	Establishing a National Depository for Information (NDI) and Data access.	DJAG-OOA, PNG STC, NRI, CEPA, PMNEC, DFA, NOC	Information Hub, National Control Center, National maritime research vessels monitoring center	Establishment of the National Coordination center with full time staff and sustainable resources	Opening of the National Coordination center	PIP/DP/ Private Sector/DJAG
16	Authenticate and verify data before dissemination to partners	DJAG-OOA, CCDA, UPNG, CEPA	NOC puts the stamp of authority for scientific research data including maps and communicate though DFAT.	Capture in the NOC ToR	Implementation of effective Area-based management systems	PIP/DP/ Private Sector/DJAG

17	Support and strengthen national and regional capacity	DJAG-OOA, DPLGA, PG, LLG, NGOs	Build capacity and capability for Ocean office	Identify donors and partners and work together	80% of capability and capacity established	PIP/DP/ Private Sector/DJAG
18	Customary Tenure System and Resources management	DJAG-OOA MSRC, LLG, PG, DPLGA	Legal reforms to set out process and procedures	Have regard for the traditional knowledge and its potential to contribute to better understand the oceans and the effective management of resources	Established a process for tradition knowledge and resources benefit (Ngoya principle)	PIP/DP/ Private Sector/DJAG

3.7.3 Strategy 3. Environment Protection and Conservation Strengthened.

Protection and maintaining the health of our oceans.

This strategy 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:

- Adopt an integrated trans-boundary approach, through harmonized institutional arrangements, including existing international and regional agreements, for managing marine ecosystems for long-term sustainable benefit.
- Incorporate sound environmental and social practices into economic development activities. To protect and conserve biological diversity of the ocean's ecosystem at local, national and regional levels.
- Reduce the impact of all sources of pollution on our ocean's environment.

DNPM PIP Program No.: _____ Integrated Oceans Management

PIP Project No.: _____ Environment, Conservation and Climate Change.

Table S3. Environment, Conservation and Climate Change.

#	Activity	Lead Agencies	Strategy	KPI	indicator	Funding Source PIP / DP/ Private Sector
1	Partner and collaborate with CEPA, review and undertake gap analysis of the Regional CTI-CFF Scientific Boundary and its Implementation Area	DJAG-OOA, NCC-CEPA, NOC	Establish a clear business process	Gap analysis undertaken.	Partner and collaborate with CEPA to implement findings of review of the Regional CTI-CFF Scientific Boundary.	PIP/DP/ Private Sector/DJAG

	in PNG waters.					
2	International Conventions, treaties and bilateral agreements-	DJAG-OOA/OSS, DFA, CEPA, CCDA, NOC	Review and track international agreements and conventions	Capacity strengthened and developed in implementation of relevant MEAs.	Complete the 5 treaties	PIP/DP/ Private Sector/DJAG
3	Marine Protected Areas (MPA) - Conserve at least 1% of coastal and marine areas, consistent with national and international law and based on the best available scientific information (SDG 14.5)	CEPA, DJAG-OOA, NOC	Adopt an integrated trans-boundary approach, through harmonized institutional arrangement, including existing international and regional agreements, for managing marine ecosystems for long-term sustainable benefit.	Capture in the NOC ToR	80% of the MPA established, tracked and monitored	PIP/DP/ Private Sector/DJAG
4	Prevent and significantly reduce marine pollution of all kinds, in particular from land base activities including marine debris and nutrients pollution	DJAG-OOA, CCDA, CEPA, NOC	Calculating the density of algae coverage and plastic debris on water using international and national observation system	Establish observation systems to link to other agencies like CEPA and OCCDA and NMSA . Set a national standard as per the UN guidelines.	Regular reporting through the global integrated marine assessment mechanism – report on the SDG 14	PIP/DP/ Private Sector/DJAG
5	Track and monitor State obligations	DJAG, CLRC, DFA	Implement and monitor any relevant obligation of the State under international law and agreement	Capture in the NOC ToR for CEPA in the monitoring and reporting mechanism and DFAIT on the international agreements (IMO, UNFCCC, SPREP, ISA,)	Establish a process to collect and monitor this information.	PIP/DP/ Private Sector/DJAG
6	Law and Agreement inventory	DJAG-OOA, CCDA, CEPA, DFA, UPNG, NOC	Inventory on laws and agreement for carbon emissions and climate change	Capture in the NOC ToR	Establish a process for tracking and monitoring	PIP/DP/ Private Sector/DJAG
7	Blue Economy	DJAG-OOA, NFA, DPLGA, NCDC, DPE, CCDA	Develop A blue economy plan/report / white paper on waste management, fisheries, renewable energy and tourism	Capture in the NOC ToR	Policy on Blue Economy established	PIP/DP/ Private Sector/DJAG
8	Consider existing UNFCCC process to address various aspects of the ocean - climate nexus.	CEPA, CCDA, WEATHER SERVICE, DJAG-OOA, UNFCCC, NOC	Promoting and mobilizing appropriate mitigation and adaptation actions at the ocean - climate nexus under the UNFCCC	Capture in the NOC ToR	Established process to mobilizing ocean related actions, such as adaptation of marine ecosystems and mitigations in the maritime sector within the global climate	PIP/DP/ Private Sector/DJAG

					Actions agendas	
9	Applying the precautionary and the polluter pays all principle	DJAG-OOA, PNG-DF, NMSA, NFA, NCDC, POLICE	All mining and related extractive activities must employ and deploy scientific -based evidence for geological surveys and mineral exploration	Capture this in the NOC TOR	Processes established enforced, regulated and reported	PIP/DP/ Private Sector/DJAG

3.7.4 Strategy 4. Sustainable Economic Development Established.

Sustainable development and management of the use of the oceans and resources.

This strategy articulates that coastal and island communities in PNG are heavily reliant on the wide range of resources and services that the oceans provide for social, cultural and economic security - can be expanded to include conditions that economic activities are required to sustain the economy and contribute to the country's GDP but must be conducted in a sustainable way.

Strategic Actions:

- Identify priorities and implement resource development and management actions and regimes in accordance with the precautionary approach.
- Enable equitable sharing of resource access and benefits at local, national and regional levels.
- Engage, as appropriate, local communities and other stakeholders in resource management decision making. And encourage free, prior and informed consent of traditional landowners and marine resource owners for decisions which impact their land and resources, including any that involve the sea or ocean resources, according to international principles and best practices.
- Build capacity of PNG communities for sustainable resource development and management.
- Establish mechanism to protect traditional knowledge, rights and cultures.
- Establish and protect intellectual property rights through legislation.

DNPM PIP Program No.: _____ Integrated Oceans Management

PIP Project No.: _____ Sustainable Economic Development.

Table S4. Sustainable Economic Development.

#	Activity	Implementing Agencies	Strategy	KPI	indicator	Funding Source PIP / DP/ Private Sector
1	Marine Integrated Conservation and Economic Development (MICAD)	DJAG-OOA/NOO, NCC, NFA, DNPM, BCPNG, IPA, DCI, TPA, Donors, NGOs, Landowners (resource custodians), DPLGA, Universities and Research Institutions, PNGFA, CEPA, SEZA	Review existing MICAD-type activities and develop a comprehensive MICAD Initiative in the 3 Region. Example: Takuu, Nuguria and Ongtong Java Atolls Region. Example: Vitiaz Strait: Wasu Coast and Siassi Islands. Example: Conjoined Papuan Gulf and Papuan Barrier Reef.	Review and develop a study on appropriate contributions in support of the comprehensive MICAD Initiatives by the land-locked Highlands Region	Implement the findings and results from Review and develop a study on appropriate contributions in support of the comprehensive MICAD Initiatives	PIP/DP/ Private Sector/DJAG
2	Increase the economic benefits from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism	DJAG, NFA, CEPA, NGOs, LLG, DFA, UPNG, NOC	Sustainable fishers as percentage of GDP in PNG- sustainable quota allocation set by the regional and international organizations.	Capture this in the NOC ToR - Fish stock levels – TACs , PAE , conservation measures set by mandated international organizations -	Establish a process to track and monitor	PIP/DP/ Private Sector/DJAG
3	Proportion of fish stocks within biologically sustainable levels	DJAG, NFA, CEPA, NGOs, LLG, DFA, UPNG, NOC	Regulate harvesting and end over-fishing, illegal, unreported and unregulated fishing and destructive fishing practices and implementing science-based management plans in order at least to levels that can produce maximum sustainable yield as determined by their biological characteristics	Capture in the NOC ToR	Establish a process to regulate, enforce monitor and report through the MSY.	PIP/DP/ Private Sector/DJAG
4	Provide access for small scale artisanal fishers to marine resources and markets	DJAG-OOA, NFA, NGOs, LLG, DPLGA, NOC	Build capacity of PNG communities for sustainable resources development and management	Capture in the NOC ToR - Existence of instruments that specifically target or address the small-scale fisheries sector	Develop and implement guidelines specific initiatives to implement the small -scale fisheries	PIP/DP/ Private Sector/DJAG
5	Small scale fishermen contribute to decision making	DJAG-OOA, NFA, NGOs, LLG, DPLGA,	Establish mechanisms enabling small-scale fish workers to contribute to decision making process	Capture this in the NOC ToR to be reflected in the coastal management policy.	Establish a process for enforcing, regulating, monitoring, and reporting	PIP/DP/ Private Sector/DJAG

6	Catalogue, and document to protect traditional knowledge	NNC, NFA, UPNG, PNG STC, DJAG- OOA, Institutions	Establish mechanisms to protect traditional knowledge rights and cultures	Capture in NOC ToR WIPO – framework for protection of indigenous traditional knowledge	Establish a process for enforcing, regulating, monitoring, and reporting	PIP/DP/ Private Sector/DJAG
7	Establish and protect intellectual property rights through legislation	PNG STC, CEPA, UPNG, DJAG-OOA, NFA, NCC, IPA, NOC	Establish ABS law and policies Protecting Customary Uses of resources	Address overlaying issues with customs practices, underlying law, sectoral laws	Establish process for tracking and monitoring	PIP/DP/ Private Sector/DJAG

3.7.5 International Relations, Security, Safety and Recreational Use Strengthened.

Promoting and enhancing the peaceful use of the oceans.

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

Strategic Actions:

- 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 country.
- Seek remedial action in the event of an incident resulting from non-peaceful use of the oceans.
- Ensure that the ocean is not used for criminal activities nor for other activities that break local, national or international law.
- Encourage cooperation.
- Ensure that all recreational uses of the ocean and marine resources associated with coastal, marine and cruise tourism are relevant to the regional and international standards to promote sustainable and peaceful use of oceans.

DNPM PIP Program No.: _____ Integrated Oceans Management

PIP Project No.: _____ International Relations, Security, Safety and Recreational Use.

Table S5. International Relations, Security, Safety and Recreational Use.

	Activity	Implementing Agencies	Strategy	KPI	indicator	Funding Source PIP / DP/ Private Sector
1	Strengthened international and regional cooperation in relevant areas of mutual socio- economic development and environment protection.	DJAG-OOA, DFA, DNPM, DPM&NEC, NOC	Identify the regional and international players- stakeholder engagement strategy	Effectively build and maintain relationships	Establish communication and cooperation process	PIP/DP/ Private Sector/DJAG
2	Development and establishment of specific Operational Policy document on mapping maritime (coastal-marine) Provincial and related boundaries.	DJAG-OOA/OSS, DFA, DNPM, CLRC, DPLGA, PBC, NOC, Donors, NOC	Strategic plan for internal and coastal waters delimitation	Internal and Coastal Waters mapped and declared.	80% of the water delimited	PIP/DP/ Private Sector/DJAG
3	Review and adopt the UNCLOS Seabed Authority arrangement for the Ontong Java Plateau by the PNG, FSM and Solomon Islands	DJAG-OOA/OSS, DFA, DPMNEC, UNCLOS, AROB Government, NMSA,	The extended continental shelf area of Ontong Java Plateau is jointly managed.	Engagement with relevant state players and internal stakeholders.	Joint management submission to the NEC	PIP/DP/ Private Sector/DJAG

	Joint Management.	MOC, Donors, Ros, SI and FSM				
4	Developed, established and promotion of maritime and related tourism under the Tourism Development Policy.	TPA,NOC	Establish a clear business process	Capture this in the NOC ToR	A policy developed to protect marine life for tourism	PIP/DP/ Private Sector/DJAG
5	Protection and management of national cultural and natural heritage including artifacts and related sites	NMAG, NCC, DLPP	Establish a clear business process	Capture this in the NOC ToR	50% of sites identified and protected	PIP/DP/ Private Sector/DJAG
6	Protection and management of national underwater heritage.	NMAG, NCC, DLPP, DF	Ensure that all activities carried out in our ocean meet all relevant international and regional standards, and do not cause environmental damage, social and economic hardship in the country	Capture this in the NOC ToR	Established an IOM process	PIP/DP/ Private Sector/DJAG
7	Transboundary movements of people.	ICA, UNIOM, NOC	Seek remedial action in the event of an incident resulting from non-peaceful use of the oceans	Capture this in the NOC TOR	Established enforcement, regulation, monitoring and reporting mechanism	PIP/DP/ Private Sector/DJAG
8	Strengthening of subnational climate change institutions.	CCDA Provincial Committees	Capture in the IOM policy	Established clear business probes and check list	80% of local contacts identified and established	PIP/DP/ Private Sector/DJAG
9	Capacity building and strengthening of digital information communication and technologies including management of AI and cybersecurity.	NICTA, NOC	Encourage cooperation- Identify international and regional partnerships for ocean governance and management	Capture this in the NOC ToR Ocean Office to enforce, regulate, monitor and report	80% of Capacity and Capacity built to combat cyber-attacks.	PIP/DP/ Private Sector/DJAG
10	Maritime Domain Awareness	DF, DJAG-OOA	Conduct more awareness and training on MDA	Agencies working together	100% participation by agencies at the NOC and MSRC	PIP/DP/ Private Sector/DJAG

PART 4. INVESTMENT AND FINANCING

4.1 Government Commitment

The successful NOP Implementation Plan (NOP-IP) relies on the timely availability and efficient application of human, financial, material and information resources. The financial resources required must be detailed in the Annual Plan (Strategy) against specific work areas.

It is the responsibility of DJAG-OOA and eventually the NOO with support from DFA and DNPM, to ensure that in this initial stage, the DJAG-OOA is adequately resourced to carry out the administration, monitoring and updating of the NOP through the NOP-IP in a timely manner. The Government is committed to the establishment of the NOO and funding of its operations to enable the NOO to properly oversight a wide range of ocean governance matters and priorities including development of sustainable financing mechanisms.

The DJAG, through its OOA as the current custodian of the NOP and its implementation and management of the NOC, seeks capital investment program funding for this medium to the long-term to urgently commence the implementation of this strategic framework.

The needs for immediate interventions in the integration processes require appropriate sustainability strategies and sustainable financing for long-term purposes. The NOP-IP reiterates an overall policy intention for 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. These are reflected in the action strategies and activities of the Five Strategies.

The Government envisages that during this initial planning and implementation, it will commence diligent sourcing of resources and financing, and investment strategies with international, regional and national financial partners, and include an extension of the domestic taxation regimes to include PNG brand blue (ocean) taxes and blue trust funds.

International sources of funding include multilateral banks, bilateral development cooperation agencies, foundations, international NGO's, carbon offset programs, national and global levies, global environment facility, and philanthropic contributions. National level mechanisms include blue taxes, levies, surcharges and tax incentives, tax deduction schemes, private foundation grants, national environmental funds and debt swaps.

The institutional and governance frameworks must be developed in consultation with the NOC. Institutional arrangements must take into consideration existing and future arrangements and integrate emerging mechanisms under the policy through this NOP-IP framework with relevant reforms on legal regimes and development of various related pieces of legislation. These include amendments to the MZA and the envisaged development of PNG's first *Oceans Act*.

4.2 PIP Logical Framework and Cost Estimates

Given that that our NOP-IP is not captured in the MTDP IV, the DNPM has informed for a PIP submission to be advanced this year. It should be noted that the required framework for the PIP Logical Framework (Log Frame). The NOP-IP will be captured in a DNPM coded PIP Program and implemented on Project-based approaches to each Activity-based cluster.

The estimated investment or cost for the NOP Implementation Plan Framework from 2024 to 2030 is summed in Table 4 below. The total estimated investment in NOP-IP from 2024 – 2030 is rounded to PGK 126,249,000. The respective total estimates for the Five Strategies are shown in Table 4 below.

Table 4. Estimated Summary Costs.

	Strategy	Estimates Costs (PGK in millions)
1	Governance and Management	9,250,000
2	Knowledge and Technology	13,850,000
3	Environment, Conservation and Climate Change	10,000,000
4	Sustainable Economic Development	11,750,000
5	International Relations, Security, Safety and Recreational Use	10,500,000
6	DJAG-OOA / NOO Secretariat	36,210,000
	Total	126,249,000

The overall framework estimated cost is presented in Table 10. It is organized basically according to the Five Strategies and followed by the DJAG-OOA support costs. The noted highlights in Table 10 on investment (costs) is based on the pertinent assumptions including:

1. The major PNG investment is by the National Government through DNPM and DJAG-OOA/NOO.
2. The respective shares of investment contributions include the Provinces, Local-Level Governments (LLGs); that is their direct contributions to IOM are reflected which must be shown in their relevant appropriations to demonstrate their commitments.
3. The NOP-IP offers new investment opportunities and financing thereof are critical in all the Strategies.
4. Strategy 2 identifies the major national oceans capital assets (Table S2: Knowledge and Technology). These are the construction of the National Marine Laboratory (specimen, data and information repository or depository and establishment of relevant oceans database(s)), and, building and/or an acquisition of the National Oceanography Research Vessel.
5. Strategy 3 is covered by the Regional CTI-CFF funding arrangements through the Asian Development Bank (ADB). The estimated costs provided in this NOP-IP is to support relevant elements of IOM and not the full entailed PNG National Marine Program (NMP). The full cost estimates in the NOP-IP will be included as and when available from the PNG CTI-CFF National Coordination Committee (CTI-NCC) and CEPA.

The PIP Project-based/ Activity-based clusters with their estimated costs are outlined for each respective Strategy in:

- Table 5. Strategy 1: Governance and Management;

- Table 6. Strategy 2: Knowledge and Technology;
- Table 7. Strategy 3: Environment, Conservation and Climate Change.
- Table 8. Strategy 4: Sustainable Economic Development; and
- Table 9. Strategy 5: International Relations, Security, Safety and Recreational Use.

The planned annual estimated cost appropriations for each Strategy and funding sources are shown in Table 10.

Table 5- Strategy 1: Governance and Management: Main Project Activity Estimated Costs.

Project No.	Activity	Cost (PGK in millions)
1	Supported establishment of governance and management framework with strong emphasis on ensuring the capacity is strengthened in whole of Government	1,000,000
2	Strengthened capacity of DJAG-OOA / NOO including in-house and external relevant <u>training</u> on the required public sector <u>planning and development</u> of Annual PNG Oceans Plans.	1,000,000
3	Established oceans governance framework include subnational considerations and implications.	1,500,000
4	Amendments to Maritime Zones Act 2015 (MZA) through Peer review and approval for adoption of the PNG Ocean Law Review Draft Report (Rose, 2023).	500,000
5	Policy and Legislation gap analysis focusing on water use and PNG oceans database.	500,000
6	DJAG-OOA / NOO capacity building on development of operational policies.	250,000
7	In Oceans Cross-Cutting Issues to include DPLGA, NCC, NMAG and NSO.	250,000
8	Development and establishment of a dispute resolution mechanism in PNG oceans affairs.	500,000
9	Maintenance budget of all existing and new capital assets.	2,000,000
10	Government to host PNG's international oceans conference.	500,000
11	Capacity building, strengthening and establishment of PNG CSOs.	1,000,000
12	Project monitoring, evaluation and reporting.	250,000
	Total	9,250,000

Table 6-Strategy 2: Knowledge and Management: Main Project Activity Estimated Costs.

Project No.	Activity	Cost (PGK in millions)
1	DJAG-OOA / NOO and DNPM alignment to MTDP IV SPA 09.	100,000
2	Development and establishment of Marine Spatial Planning (MSP) system or strategy.	1,500,000
3	National Marine Laboratory development process ensured and implemented; and National Oceanography Research Vessel acquisition development processes ensured and implemented.	10,000,000
4	National coastal waters, islands and oceanic atolls vulnerability comprehensive assessments conducted.	1,000,000
5	Capacity building, strengthening and establishment of PNG CSOs.	1,000,000
6	Project monitoring, evaluation and reporting.	250,000
	Total	13,850,000

Table 7- Strategy 3: Table S3: Environment, Conservation and Climate Change: Main Project Activity Estimated Costs.

Project No.	Activity	Cost (PGK in millions)
1	Alignment to MTDP IV SPA 010.	100,000

2	Partnership arrangements with national agencies on implementation of PNG Marine Program.	9,000,000
3	Partner and collaborate with CEPA on implementation of relevant MEAs.	100,000
4	Alignment to PN National Tourism Policy 2024.	100,000
5	Capacity built, strengthened and establishment of relevant PNG Civil Society Organizations (CSOs) in support of local IOM initiatives.	600,000
6	Partner with CEPA and CCDA, develop and implement monitoring and evaluation procedures consistent with national policies governing environment protection and conservation.	100,000
	Total	10,000,000

Table 8-Strategy 4.: Sustainable Economic Development: Main Project Activity Cost Estimates.

Project No.	Activity	Cost (PGK in millions)
1	Alignment to MTP IV SPA 01 and DIPs.	250,000
2	Formal and informal curricular development in education and higher learning.	1,000,000
3	Development of the ABS policy on genetic resources; inherent biotechnology and IPRs.	500,000
4	Development of new marine-based industries in support of PNG's Blue Economy.	2,500,000
5	NGI, Momase, Southern and Highlands Regional MICAD demonstration initiatives.	5,000,000
6	Support in approval of amendments to the International Trade (Fauna and Flora) Act 1979.	500,000
7	Alignment to PNG National Tourism Policy 2024.	250,000
8	Capacity built, strengthened and establishment of relevant PNG Civil Society Organizations (CSOs) in support of local IOM initiatives.	1,500,000
9	Development and establishment of monitoring and evaluation procedures consistent with national policies, and adaptive management actions taken.	250,000
	Total	11,750,000

Table 9-Strategy 5: International Relations, Security, Safety and recreational Use: Main Project Activity Cost Estimates.

Project No.	Activity	Cost (PGK in millions)
1	Alignment to MTDP IV SPA 12.	250,000
2	Capacity strengthening and building of human resources pertaining to international relations.	1,000,000
3	Mapping of Provincial maritime boundaries.	5,000,000
4	Review and implementation of the Ontong Java Plateau (OJP) international arrangements.	1,500,000
5	Oceans usage, and compliance and enforcement of international relations, security and safety.	1,000,000
6	Liability and redress from non-peaceful use of oceans.	500,000
7	Capacity built, strengthened and establishment of relevant PNG Civil Society Organizations (CSOs) in support of local IOM initiatives.	1,000,000
8	Development and establishment of monitoring and evaluation procedures consistent with national policies, and adaptive management actions taken.	250,000
	Total	10,500,000

Table 10. PIP Annual Estimated Costs for the PNG NOP Implementation Plan: 2024-2030.

NATIONAL STRATEGY	National Implementation Program	2024	2025	2026	2027	2028	2029	2030	Total	Share
		(PGK)	(PGK)	(PGK)	(PGK)	(PGK)	(PGK)	(PGK)	(PGK)	%
Strategy 1. Governance and Management.	MTDP IV									
DJAG - DNPM		19,500	30,000	40,000	50,000	300,000	300,000	300,000	1,039,500	11.2
Provinces - Regional		5,000	10,000	10,000	10,000	10,000	10,000	15,000	70,000	0.8
LLGs		2,500	3,000	3,000	4,000	4,000	4,000	5,000	25,500	0.3
Private Sector		15,000	20,000	20,000	20,000	20,000	20,000	20,000	135,000	1.5
Development Partners		480,000	500,000	500,000	500,000	1,000,000	1,000,000	1,000,000	4,980,000	53.8
Donors (include. INGOs/NGOs)		250,000	250,000	500,000	500,000	500,000	500,000	500,000	3,000,000	32.4
Total		772,000	813,000	1,073,000	1,084,000	1,834,000	1,834,000	1,840,000	9,250,000	100.0
Strategy 2. Knowledge and Technology.	MTDP IV SPA 9									
DJAG-OOA, PNGSTC, DHERST, IPA, IPAIPONG		100,000	100,000	100,000	100,000	100,000	1,000,000	1,200,000	2,700,000	19.5
Provinces - Regional		10,000	10,000	10,000	20,000	20,000	20,000	25,000	115,000	0.8
LLGs		5,000	5,000	5,000	5,000	5,000	5,000	5,000	35,000	0.3
Private Sector		250,000	500,000	500,000	500,000	500,000	600,000	600,000	3,450,000	24.9
Development Partners		500,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	6,500,000	46.9
Donors (include. INGOs/NGOs)		100,000	150,000	150,000	150,000	150,000	150,000	200,000	1,050,000	7.6

Total		965,000	1,765,000	1,765,000	1,775,000	1,775,000	2,775,000	3,030,000	13,850,000	100.0
Strategy 3. Environment, Conservation & Climate Change	MTDP IV									
DJAG-OOA/NOO, CEPA/CTI-NCC	MTDP IV SPA 10	200,000	200,000	200,000	300,000	300,000	300,000	600,000	2,100,000	21.0
Provinces - Regional		25,000	25,000	50,000	50,000	50,000	100,000	100,000	400,000	4.0
LLGs		50,000	50,000	100,000	100,000	200,000	200,000	300,000	1,000,000	10.0
Private Sector		50,000	250,000	250,000	500,000	500,000	1,000,000	1,000,000	3,550,000	35.5
Development Partners		50,000	100,000	100,000	100,000	100,000	500,000	500,000	1,450,000	14.5
Donors (include. INGOs/NGOs)		100,000	100,000	100,000	100,000	100,000	500,000	500,000	1,500,000	15.0
Total		475,000	725,000	800,000	1,150,000	1,250,000	2,600,000	3,000,000	10,000,000	100.0
Strategy 4. Sustainable Economic Development.	MTDP IV SPA 01									
DNPM & DJAG-OOA- NOO		50,000	50,000	75,000	75,000	100,000	100,000	200,000	650,000	5.5
Provinces - Regional		45,000	50,000	50,000	50,000	50,000	50,000	50,000	345,000	2.9
LLGs		15,000	15,000	15,000	15,000	15,000	15,000	15,000	105,000	0.9
Private Sector		100,000	200,000	250,000	500,000	500,000	1,000,000	1,000,000	3,550,000	30.2
Development Partners		100,000	200,000	500,000	500,000	1,000,000	1,000,000	1,000,000	4,300,000	36.6
Donors (include. INGOs/NGOs)		100,000	200,000	500,000	500,000	500,000	500,000	500,000	2,800,000	23.8
Total		410,000	715,000	1,390,000	1,640,000	2,165,000	2,665,000	2,765,000	11,750,000	100.0

Strategy 5. International Relations, Security, Safety and Recreational Use.	MTDP IV SPA 12									
DFA & DJAG-OOA-NOO		15,000	15,000	15,000	100,000	100,000	100,000	200,000	545,000	5.2
Provinces - Regional		5,000	5,000	6,000	7,000	8,000	8,000	5,000	44,000	0.4
LLGs		2,000	2,000	2,000	2,000	2,000	2,000	3,000	15,000	0.1
Private Sector		15,000	15,000	25,000	25,000	50,000	50,000	75,000	255,000	2.4
Development Partners		20,000	500,000	500,000	1,000,000	1,500,000	3,000,000	3,000,000	9,520,000	90.7
Donors (include. INGOs/NGOs)		15,000	15,000	15,000	15,000	16,000	25,000	20,000	121,000	1.2
Total		72,000	552,000	563,000	1,149,000	1,676,000	3,185,000	3,303,000	10,500,000	100.0
PNG National Oceans Office - Secretariat										
PNG National Oceans Office - Secretariat: DJAG-OOA/NOO		5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	35,000,000	99.4
Ministerial Oceans Committee (MOC)		5,000	5,000	5,000	5,000	5,000	5,000	5,000	35,000	0.1
National Oceans Committee (NOC)		10,000	10,000	10,000	10,000	10,000	10,000	10,000	70,000	0.2
Marine Scientific Research Committee (MSRC)		10,000	10,000	10,000	10,000	10,000	10,000	10,000	70,000	0.2
Core Technical Committee (CTC)		5,000	5,000	5,000	5,000	5,000	5,000	5,000	35,000	0.1
Total		5,030,000	5,030,000	5,030,000	5,030,000	5,030,000	5,030,000	5,030,000	35,210,000	100.0

Total PNG NOP Implementation Plan	MTDP IV	2,024	2,025	2,026	2,027	2,028	2,029	2,030	Total	%
Agencies & Committees		5,414,500	5,425,000	5,460,000	5,655,000	5,930,000	6,830,000	7,530,000	42,244,500	33.5
Provinces		90,000	5,380,000	5,430,000	5,625,000	5,900,000	6,800,000	7,500,000	36,725,000	29.1
LLGs		74,500	100,000	126,000	126,000	138,000	226,000	328,000	1,118,500	0.9
Private Sector		430,000	985,000	1,045,000	1,545,000	1,570,000	2,670,000	2,695,000	10,940,000	8.7
Development Partners		1,150,000	2,300,000	2,600,000	3,100,000	4,600,000	6,500,000	6,500,000	26,750,000	21.2
Donors (include. INGOs/NGOs)		565,000	715,000	1,265,000	1,265,000	1,266,000	1,675,000	1,720,000	8,471,000	6.7
Total		7,724,000	14,907,025	15,926,000	17,316,000	19,404,000	24,783,029	26,273,000	126,249,000	100.0

PART 5. MONITORING, EVALUATION AND REPORTING

An emphasis is made in this Part (5) to note that monitoring, evaluation and reporting to ensue adaptive management actions are critical procedures in the overall management of the respective Strategies (1-5) in the NOP-IP Framework. It is worthwhile to highlight the pertinent requirements by all the stakeholders involved, and the specified entities identified in the NOP and noting in particular the updated context of Lead Agencies, stakeholders, partners and PNG Civil Society Organizations (CSOs) in the NOP-IP are restated below for ease of reference(s).

5.1 Government Agencies

- (a) Use the targets and indicators from relevant policy instruments in the annual business plan and budget submission as a basis for Internal Government Monitoring and Management.
- (b) Indicate which of the actions within their annual business plan, budget submission and performance reports contribute to the NOP implementation Plan Framework.
- (c) Provide Annual Business Plan, budget and performance reports to the DJAG-OOA NOO for compilation into the PNG Annual Progress Report (Progress Report).

5.2 DJAG-OOA / NOO

1. Shall provide a consolidated Annual Progress Report for the Ministerial Oceans Committee which includes:
 - (a) Results achieved including (as appropriate) the impact of implementing the NOP Implementation Plan Framework in relation to the achievement of the Policy's Goal and the relevant MTDP IV indicators;
 - (b) Lessons learned and challenges;
 - (c) Actions taken to improve performance and address issues or risks arising from the implementation of the Action Plan; and
 - (d) Forecast the DJAG-OOA / NOO program for the next twelve months.
2. Submit the required Regional and International Reports to relevant Development Partners.

PART 6. COORDINATION AND MANAGEMENT

6.1 National Maritime Single Point of Contact

A proven solution is the establishment of a National Maritime Single Point of Contact (NMSPOC), or national coordination centre, whereby multiple agencies collaborate under a National Security Council oversight construct with both policymaking and operational mandates. The establishment of a national data fusion centre/maritime single point of contact enables the following:

1. Integrate national maritime security, safety, environmental, and economic data for a common oceans picture (Vessels and human activity, weather, climate, environmental, etc).

2. Coordinate Capacity Building among agencies. This relates to maritime policy and planning, analysis, science, research and technology trends.
3. Coordinate command and control during instances of national emergency.
4. Single point of contact international collaboration and engagement (SOPs for Ship rider)

The DJAG OOA/NOO can establish a NMSPOC that serves as a geospatial and maritime central coordination centre that looks at data to include weather for disaster response and climate change monitoring. This supports the NOP “A healthy ocean that achieves responsible sustainable development outcomes and aspirations of Papua New Guinea, whilst addressing and mitigating impacts of climate change, natural disasters, anthropogenic waste and land-based sources of pollution.” (P 19)

Utilize geospatial technology and resources available to PNGDF and NMSA to assist in mapping and 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 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.

The NMSPOC can serve as the maritime analytic “hub” for PNG to help coordinate Marine Scientific Research in order to provide “input for policy makers in pursuing development options and benefit society in terms of weather forecasting, climate changes and prevention of natural disasters.” and “...to develop and apply ocean science and marine technology in PNG in order to support evidence-based decisions and actions in the sustainable use of the ocean and its resources.

6.2 Coastal and Ocean Observing Systems.

With increased understanding of our oceans and coasts, comes an increased ability to keep the country safe, economy secure, and the environment healthy and productive. Coastal and ocean observations provide critical information for protecting human lives and property from marine hazards, enhancing our security, predicting global climate change, improving ocean health, and providing for the protection, sustainable use, and enjoyment of ocean resources. While the technology currently exists to integrate data gathered from a variety of sensors deployed on buoys, ships, and satellites, the implementation of a sustained, coastal and ocean observation system is overdue in PNG and should begin immediately by relevant agencies. The system would gather information on physical, geological, chemical, and biological parameters for the oceans and coasts, conditions that affect and are affected by humans and their activities. In creating an NMSPOC, it is perceived that observation systems will be established to ascertain and store relevant data for policy and decision makers.

6.3 DJAG-OOA and National Oceans Office

The various stakeholder activities and competing interests must be monitored and coordinated by the DJAG-OOA through the workings and decisions of the established Committees. An effective governance structure, with sustained leadership and broad inter-agency coordination is required to effectively manage the complex and pressing problems facing our oceans with coordination from the national level, down to the provincial and local levels.

The established Committees facilitate this tiered level of decision making with their respective Terms of references (TOR). These include setting out the functions of the DJAG-OOA/NOO and its Committees. The main governance Committees are namely, the Ministerial Oceans Committee (political oversight), National Oceans Committee (Steering Committee), and the Technical Working Group (cross cutting issues and competing interests).

6.4 Ministerial Oceans Committee

This Committee makes overall decisions on policy development. The Minister for Justice and Attorney General is the Chair of the MOC, in accordance with the oversight mandate provided under the MZA. The Co-chair is the Minister for Foreign Affairs.

6.5 National Ocean Committee

The National Ocean Committee (NOC) is at the Secretary and Deputy Secretary level. Membership is from a broader forum, from the consultation, implementation and enforcement levels. DJAG is the Chair and DFA the Co-chair of the NOC. The NOC provides an advisory role to the MOC and can establish sub-committees to work on specific technical issues as and when required.

The membership of the NOC consists of the Core Technical Committee and additional organizations who assist in the implementation and enforcement activities in the ocean space, as well as, legislative and policy implementation, monitoring and reforms in PNG.

6.6 Provincial Ocean Committee

The Provincial Ocean Committee will be set up at all the 15 maritime provinces, the membership, functions and the role will be similar to that of the NOC but more at the localized provincial level.

6.7 Core Technical Committee and Marine Scientific Research Committee.

The Core Technical Committee's (CTC) structure and establishment has been assumed by the Marine Scientific Research Committee (MSRC). The membership is at the First Assistant Secretary or a Director level. The MSRC is set up under the MZA 2015. Membership is drawn from agencies with various mandates to deal with the ocean space. These agencies deal

specifically with technical cross-cutting issues, enforcement powers, and compliance matters. Most of the cooperative mechanisms and processes are developed by the CTC with appropriate recommendations to NOC for endorsement. Cross-cutting issues may be referred to the NOC for appropriate recommendations to the MOC.

6.8 Working Committee to Develop Applied Research Regimes.

Research is important for informed decision making for environmental protection and economic development. The linkages between activities, their impact on the environment and mitigating the effects on the inshore and offshore environment and into the deep-sea demand appropriate regulations and management standards based on scientific advice. A regime for approvals for marine scientific research (MSR) and applied research applications has been developed through the framework of the 2021 Marine scientific Research Guidelines to address these two areas. Two separate committees may be established: one for pure research and the other for applied research. Identification of different stakeholder policies on research within their mandates needs to be carried out and aligned with the MZA and this NOP through this NOP-IP.

6.9 National Advisory Committees

Apart from the National Oceans Committee (NOC) and its sub-committees, the DJAG-OOA at present, and the National Oceans Office (NOO) will coordinate with existing National Coordinating Committees to support the implementation of the NOP and its goals and objectives.

ACKNOWLEDGEMENTS

The development and adoption of this integrated PNG national NOP Implementation Plan (NOP-IP) was generated through expert contributions from multi-vision stakeholders and individuals from within PNG and engaging with our international and regional collaborators since 2020 when the NOP was approved and launched by the Government; we express our great appreciation, satisfaction and thank you.

In leading the main process of reaching this milestone, the development of PNG's first national comprehensive NOP-IP framework, we acknowledge and offer our big 'thank you' to the Pacific Community (SPC) in providing valuable support via DJAG with:

- Critical technical assistance for experts and related stakeholder engagements in 2023 and 2024; and
- Funding two Workshops held respectively in November 2023 and March 2024.

Special mention is made of the DNPM in providing updated Government policy and planning reforms and alignment in the development of the NOP and now the NOP-IP. Pertinent support includes offering guidance, directions and support to DJAG-OOA, NOC, and the MSRC; we offer our humble gratitude.

Finally, but not the least of all, we highlight the direct and indirect inputs by the Marine Scientific Research Committee (MSRC), National Oceans Committee (NOC), and technical and administration support provided by DJAG through its Office of the Secretary, and the Office of Oceans Affairs (DJAG-OOA).