

Draft for Discussion

Issues for consideration in the development of a Marine Protected Area Policy for Papua New Guinea

1 Introduction

Papua New Guinea is a Member of the Coral Triangle Initiative on Coral reefs, Fisheries and Food Security (CTI-CFF), and in order to support the marine biodiversity goals of the CTI Regional and National Plans of Action, one action they have prioritised, is the need to strengthen marine governance. As a result, technical assistance and support for the development of a national Marine Protected Area (MPA) policy has been offered to the Department of Environment and Conservation by the Australian Government as part of their CTI support activities. This includes training to guide the policy development process, identification and involvement of national marine environment specialists to provide advice and ongoing mentoring and support during the policy development process. This discussion paper contributes to this process by identifying key issues that will need to be addressed and resolved and highlights potential solutions for consideration by the policy development team.

The paper draws on the results of two days of consultations in Port Moresby with representatives of government departments, government agencies, community based and non-government organisations. Key issues which were identified by stakeholders consulted that have been developed below include:

- Rationale and context;
- Clarity of objective;
- Policy scope;
- Science and planning;
- MPA categories and legislation; and
- Related marine management legislation/policy.

Also included is a suggested format for the MPA policy which describes the headings and topics for a draft policy (Appendix 1).

2 Policy Issues

2.1 Rationale and policy context

Marine Protected Areas have long been recognised as an important tool for the conservation of marine biodiversity and the protection of marine ecosystems and habitats. They are also an essential tool for the sustainable management of coastal and marine resources as they protect critical habitats which support fisheries, protect genetic resources, threatened or endangered species and contribute to the preservation of natural and cultural heritage. Further, the value of MPA's in supporting efforts to minimise the impacts of climate change

has been recognised, due to new emphasis being given to the protection of coastal reef and mangroves systems as a buffer against storm surges and sea level rise. Scientifically planned networks of MPA's also have the potential to provide resilience against the loss of productive coral reefs due to warming ocean temperatures and other impacts.

MPA's provide a legal basis for the effective and sustainable management of these critical habitats and their resources. Importantly, MPA status can vary and be applied according to agreed conservation and development goals. They can be created to meet a variety of objectives including the protection of biodiversity, sustainable resource use and for non extractive economic purposes such as tourism. They can help to meet international treaty obligations, support fisheries management, maritime zoning, navigation regimes, coastal zone and land use planning.

It is important to recognise that MPAs are only one of a range of management initiatives and tools available, and in use, for the management of PNG's marine and coastal environments. Fisheries legislation and regulations, Law of the Sea obligations in relation to marine pollution, and regulations relating to maritime safety, are some of the other marine management tools which have the potential to both conflict with, or support the objectives of MPA's. Identifying the role of MPA's in this broader management context and the mechanism(s) which will optimise their use will be an important element of the MPA policy.

In PNG's social, political and economic context, improving the conservation and management of MPA's for the protection and sustainable management of the nation's marine resources and environment for future generations is fundamental to supporting Constitutional principles, and the goals and objectives of important national development plans including Vision 2050, the PNG Development Strategy Plan 2010 – 2030 and the Medium Term Development Plan 2010-2015. These all call for the responsible and sustainable management of PNG's environment and natural resources, to ensure they benefit the people, and protect its unique culture and customs.

Internationally, PNG is a signatory to a number of conventions and treaties which contain obligations for the protection of the country's extraordinary marine and terrestrial biodiversity and ecosystems. Those most clearly associated with marine biodiversity conservation are the Convention on Biological Diversity, the Ramsar Convention on Wetlands of International Importance and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention on Migratory Species (CMS).¹

The Convention on Biological Diversity calls on member nations to develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity. Its associated Programme of Work on Protected Areas (PoWPA) has as its first goal, the establishment and strengthening of national and regional systems of protected areas to be integrated into a global network as a contribution to globally agreed goals. The Convention is implemented through the PNG National Biodiversity Strategic Action Plan (NBSAP) and the absence of a MPA policy is recognised as a major impediment to the implementation of the NBSAP, hindering PNG's efforts to meet its obligations under the CBD and the Ramsar Convention.

More recently, strong impetus has been given to the protection of marine and coastal environments and resources through PNG's founding role within the Coral Triangle Initiative.

¹ Although not a formal signatory to the CMS, Papua New Guinea is a signatory to two of its Memorandums of Understanding: the MOU for the Conservation of Cetaceans and Their Habitats in the Pacific Islands Region and the MOU on the Conservation and Management of Dugongs and Their Habitats Throughout their Range.

The CTI recognises the global, regional and national importance of the marine biodiversity and environments of Indonesia, Malaysia, PNG, the Philippines, the Solomon Islands, and Timor Leste. Together, these represent a global epicentre of marine diversity and support the health and livelihoods of approximately 240 million people by providing food, income and protection from severe weather events. The ambitious Regional Plan of Action (RPOA) for the CTI calls on member countries to develop representative networks of MPA's in support of the CTI goals of biodiversity conservation, sustainable development, poverty reduction (through food security, income and sustainable livelihoods for coastal communities) and equitable benefit sharing. In this context the need for a comprehensive MPA policy for PNG is paramount.

Clearly there are strong grounds for a national MPA policy in order to meet national planning aspirations and to meet international, political and legal obligations to protect PNG's outstanding marine biodiversity. It will be necessary during the policy development process to further examine and identify the range of national legislation which affects or could be affected by the MPA policy and the role of the policy in helping meet PNG's international obligations related to biodiversity conservation.

2.2 Clarity of the Policy Objective

Clarifying the core objective of the policy is of critical importance and will have a direct bearing on its scope and implementation arrangements. In the PNG context two broad choices present themselves:

1. Purely biodiversity conservation focused MPA Policy objective

The first is to define the policy narrowly and have it focus solely on the protection of marine biodiversity. This approach would be largely defined by the requirements of the Convention on Biological Diversity, represented by the goals of the NBSAP. In particular Goal 4 of the NBSAP which seeks to strengthen existing protected areas and ensure that protected areas for terrestrial species and marine species are increased to 10% by 2010 and 2012 respectively. At a higher level of planning, PNG's Vision 2050 identifies a number of strategic goals which relate to the conservation of PNG's marine biodiversity, ecosystems and habitats under its Environment, Sustainability and Climate Change "pillar". These goals are:

- 1.17.9.5 - Conserve biodiversity at the current five to seven percent of the world's biodiversity;
- 1.17.9.6 - Establish a total of 20 national reserves, wilderness areas and national parks; and
- 1.17.9.7 - Establish at least one million hectares of marine protected areas.

This focus on protecting the marine biodiversity and marine ecosystems of PNG could have as a core objective of the MPA policy, the establishment of a national network of MPAs, which is representative of the full range of marine habitats and ecosystems including rare, nationally and internationally important examples and ensures its long term conservation.

2. Conservation, Sustainable Use and Management MPA Policy objective

An alternate option is to broaden the objective to provide for the conservation of marine biodiversity which includes its sustainable use and management. This

approach acknowledges that healthy marine ecosystems, habitats and species make a vital contribution to sustainable livelihoods and food security by supporting fisheries and providing income for coastal communities. It also acknowledges the reality that in PNG (and throughout the Pacific) customary tenure rights extend over coastal and marine areas and resources and that biodiversity conservation in these areas will be reliant on community based approaches to marine resource conservation. Indeed, the rationale behind the rising popularity of community conservation measures such as Locally Managed Marine Areas (LMMAs) is most often their contribution to sustainable livelihoods, that they empower local communities to sustainably manage their resources and have the potential to enable the protection of cultural values and important sites. Biodiversity conservation per se, is not the primary motivator but can be achieved within this framework, provided sustainable utilisation of key resources is not prohibited. More recently, the adoption of Ecosystem Based Approaches to fisheries management, and the goal related to this in the CTI RPOA, strengthens the case for MPAs taking into account both biodiversity conservation and sustainable use of fisheries.

Initial indications from the consultations suggest this is the preferred option.

This focus on Conservation, Sustainable Use and Management, could also have as a core objective of the MPA policy, the establishment of a national network of MPAs.

Clarity of the objective of the policy, including if the goal is the establishment of a national network of MPAs, must be the focus of internal DEC discussions, based on DEC's legal mandate, jurisdiction and the legislation that supports this policy.

A decision on the objective must be made by DEC prior to further consultations with a broad group of stakeholders to garner their agreement. The objective will be the cornerstone on which the policy will be developed, and will determine the full range of issues covered by it, and the policy responses.

2.2 MPA Definition

A MPA policy provides the opportunity to establish a clear, nationally agreed definition of a MPA in terms which are appropriate for PNG. Currently no such definition exists but it would be helpful in articulating the objectives of the Policy. In most cases MPA definitions are broad and include the following principles:

- a defined area of the marine environment;
- the area is dedicated to achieving recovery or maintenance of biodiversity at habitat or ecosystem levels through adequate protection and management;
- the area can provide for sustainable, balanced use; and
- An end goal of a healthy functioning system(s).

Formulating this definition could be an early task for the Policy development team and is sure to open up debate on a number of the issues identified in this paper, as well as identifying others.

Definitions will also be needed for other terms used in the MPA policy (protected areas, LMMA, etc). All definitions will need to use existing PNG legal definitions as a starting point.

Internal DEC discussions must result in the formulation of a draft definition by DEC prior to further consultations with a broad group of stakeholders to garner their agreement.

2.3 Policy Scope – What should the Policy Cover?

Defining the geographical scope of the policy is important, as this determines its jurisdiction, and relationship to other marine management tools. In the PNG context, it is also important because the scope will define its relationship with coastal communities and the potential for collaborative management partnerships between the communities and management authorities, which would support policy implementation in coastal and near shore areas.

Currently the National Seas Act gives effect to the proclamation of PNG's maritime boundaries, namely the archipelagic baselines, the territorial sea, and the 200 mile offshore boundary. A draft Maritime Zoning Bill has been developed which identifies three principal marine management zones for PNG. These are the inshore zone (high water mark to 3 nautical miles), the coastal zone (3 – 12 nautical miles) and the Exclusive Economic Zone (12 – 200 nautical miles).

The consensus of the initial consultations favoured a MPA policy which was applicable over the full extent of PNG's maritime waters from the mean high water mark to the outer reaches of the Exclusive Economic Zone. This is consistent with the application of other national MPA policy (e.g. New Zealand and Canada) and provides options for the fully representative protection of PNG's marine biodiversity and ecosystems. Further, the broad geographical scope of the policy will support its integration with or into, a broader Oceans Policy should this eventuate in the future.

A decision will also need to be made by DEC as to in what areas MPA's can be established (near shore, inshore, coastal, EEZ) based on DEC's jurisdictional responsibility and authority prior to further consultations with a broad group of stakeholders to garner their agreement.

Other scoping issues for consideration by the policy team are:

2.3.1 Stratification

An important related issue is whether the MPA policy will apply to non surface areas of the ocean and allow for vertically stratified MPA's protecting areas at different depths. This decision has implications for the relationship of the policy to seabed mining and bottom trawling fishing methods. A vertically stratified MPA could afford protection to the seabed while allowing use to continue on the surface and higher in the water column.

2.3.2 Ecosystems v Species

The question can be asked - at what level should the biodiversity protection afforded by the MPA policy apply? For example, should it apply only to the ecosystem and habitat levels and not to individual species like marine mammals, turtles etc? Although the focus on biodiversity suggests that the ecosystem and habitat level approach is more appropriate, there may be circumstances which would see MPA application to individual species, as appropriate. These would include when protection of a particular species would have the effect of protecting biodiversity at the habitat and ecosystem level, or when threatened species are reliant on particular habitats for breeding, nursery or feeding grounds.

2.3.3 Cultural and Heritage Protection

The application of the policy to the protection of marine historic objects or cultural heritage will also need to be addressed, as will its role (if any) in protecting areas supporting non-extractive uses such as diving, tourism or recreational uses. The focus on biodiversity protection discussed above would suggest that the policy will not be concerned with this form of protection but the issue needs further discussion.

The decision on the area where MPA's can be established will need to include decisions by DEC on the above three issues prior to further consultations with a broad group of stakeholders to garner their agreement.

4 Planning and Science

The MPA Policy creates a framework which supports the planning and establishment of MPA's. To achieve its objective, the MPA policy will need to promote the use of a range of MPA concepts and planning tools. These will include science based assessments of marine habitats and ecosystems, development of national priorities, a national inventory, an evaluation and monitoring process, and should a network of MPA's be the objective, the design of resilient networks. This will require an investment in good science and planning to ensure the policy supports efficient and effective implementation. This is particularly the case if the objective is to develop a nationally consistent basis for planning and establishing new MPA's, based on standardised habitat and ecosystem classification, the establishment of a national MPA inventory and a national gaps assessment, which will prioritise MPA selections and focus establishment efforts and investment.

2.4.1 Network Design (if this is an objective of the policy)

If the development of national network of representative MPA's is an objective of the policy, the national network design will provide the blueprint for the establishment of future MPAs and help prioritise investments and implementation efforts. The design would be guided by the basic principles of comprehensiveness (including connectivity), adequacy and representativeness² which will ensure that the network is representative of the full range of marine environments, habitats and ecosystems at scales which are adequate, provide for long term viability in the face of natural and human induced environmental stresses, and the maintenance of ecosystem processes. The network design should also include guidelines on MPA designation.

2.4.2 Classification Marine Biodiversity

The MPA policy affords a unique opportunity to standardise both the classification of marine habitats and ecosystems and the MPA terminology and categories. Classification of marine systems using standardised terminology will be important to ensure consistency, and should

² These are known as the CAR principles described as follows:

- **Comprehensiveness:** The NRSMPA will include the full range of ecosystems recognised at an appropriate scale within and across each bioregion.
- **Adequacy:** The NRSMPA will have the required level of reservation to ensure the ecological viability and integrity of populations, species and communities.
- **Representativeness:** Those marine areas that are selected for inclusion in MPAs should reasonably reflect the biotic diversity of the marine ecosystems from which they derive.

(Source: ANZECC TFMPA 1999, pp 15-16)

the aim of the policy be to create a network of MPA's, that the eventual national network is representative of all marine biodiversity.

In this regard the Policy should advocate a consistent and scientifically based approach to classification and application to MPA designation, and potentially network planning process. Past scientific assessments and marine planning work in PNG should be assessed as these may offer an existing database on which to develop a national classification, e.g. the MPA network planning projects in Kimbe Bay and Milne Bay and the earlier Conservation Needs Assessment. For consistency, attention should also be given to using or incorporating appropriate international classification systems.

2.4.3 MPA Inventory

A database of existing MPA's supported by GIS delineation of areas should be built as one of the first of the policy implementation priorities as this will set the baseline against which the effectiveness of the policy is measured. This should also include a prioritised plan for designation.

Data and data gaps to enable the creation of this inventory will need to be compiled and filled by gathering data from other Agencies, such as the NFA Maritime Delineation Boundary project, by writing to the NFA Project Steering Committee, the National Mapping Bureau (NMB) within the Department of Lands and Physical Planning (DLPP), the Mineral Resources Authority, NGOs and others. The best available information, including scientific, socio-economic, traditional and local knowledge, should be used, rather than delaying the processes to wait for more data.

2.4.4 Evaluation Programme

An evaluation programme will be required and will focus on the implementation of the policy and assess progress towards the overall policy objective. It will provide feedback to decision makers on the need for adaptation of the implementation plan and information for reporting purposes. In this latter regard, it will be important to ensure that the policy requires regular reporting of new research data and progress with MPA site implementation by MPA site management organisations, to the implementing agency and database manager.

2.4.5 Monitoring Programme

Linked to the evaluation programme, the monitoring programme will assess the overall performance of the MPA Policy, the effectiveness of individual MPA's in terms of achieving their site specific goals and, should the aim of the policy to create a network of MPA's, the network against criteria such as representativeness, viability etc.. Adaptive management techniques should be used to refine the MPAs as new information arises. Again, new research data and management information, reported by site management organisations to the implementing agency will assist in this process.

2.4.6 Implementation of Science based components

To assist the implementing agency with the science based components of the Policy, consideration should be given to establishing a Marine Science Advisory Council of national and international scientists, or make use of existing bodies such as the PNG Marine Program Technical Working group. The group could provide expert advice and guidance, including assistance with resolving issues associated with classification and network design principles.

2.5 MPA Categories and Legislation

There is a range of biodiversity related, conservation area legislation in place in PNG but until recently none has been developed specifically for the designation of MPAs for biodiversity conservation purposes. The recent exception is the Fisheries Act 2004 (section 43) which now provides for the designation of Marine Protected Areas for fisheries management purposes.

This poses an obvious and difficult issue for the development of a national MPA policy with biodiversity conservation as its objective. Without legally defined and supported MPAs which cover a suite of biodiversity conservation situations, including multiple and sustainable use of areas, implementation will be difficult. Thus a key issue to be addressed in the policy development process is: are currently available protected area /resource management options adequate to achieve the policy objective or should the Policy seek the refinement of these existing options and/or the development of new and more appropriate categories for MPA's, and if so, under what legislation?

It may be that there are other existing options for establishing MPAs which are sufficient to meet the needs of the policy. In a comprehensive and thorough report for the Milne Bay Conservation Programme on conservation and related species protection legislation in PNG and its relevance to coastal marine protection in areas under customary ownership (inshore and coastal waters), Van Helden³ suggests with some improvements, there are.

Currently protection of marine areas in PNG has been achieved under the Fauna (*Protection and Control*) Act (1976) using the Wildlife Management Areas designation (Madang Province). MPAs in the form of Locally Managed Marine Areas (LMMA's) have been established under special purpose local level government legislation in Kimbe Bay, West New Britain and are being used to implement the Kimbe Bay Network of Marine Protected Areas. These district level environment acts have been passed under the provisions of the *Organic Law on Provincial and Local Level Government (1997)* and the *Provincial Governments Administration Act (1997)* and *Local Level Governments Administration Acts (1997)*. Other areas have been set aside under provisions for local closure of areas for fish and habitat recovery under the Fisheries Management Act 1998.

Of the other potential legislation available to support MPA's and policy implementation, the *Conservation Areas Act (1978)* has the potential for application at the larger seascape scale. This is important if DEC is considering the establishment of large scale MPAs or networks of MPA's designed for resilience to climate change, conservation of representative biodiversity and for sustainable marine resource management. For a variety of reasons this Act has been moribund until it was recently used to establish the terrestrial Yus Conservation Area. This precedent could pave the way for its subsequent application to marine environments where it could provide overarching management status to large seascape scale areas such as Kimbe Bay and support the implementation of a range of management initiatives which would work together to achieve broad marine conservation and management goals.

The *Fisheries Management Act (2004)* and Fisheries Management Regulations regulate the establishment and operations of the National Fisheries Authority, the management of pelagic fisheries and the development of local and species-specific fisheries management plans. They also include provision to apply an Ecosystem Based Fisheries Management Approach to the implementation of plans and policy, and importantly from the MPA policy perspective,

³ Flip van Helden, 2001. A Policy and Planning Needs Assessment for the Milne Bay Marine Conservation Project, UNOPS Contract for Services, Ref.: C00-1076.

provision for the Minister to declare MPA's (Section 43) and take action in relation to protected or endangered species (Section 44). The ability of the Fisheries Management Act to support the customary management of inshore fisheries through area closures and associated fishing controls (section 32) offers useful options for MPA policy implementation and has been used for marine conservation purposes in Kimbe Bay.

Whether these are sufficient for the purposes of Policy implementation will depend on its objective and the management requirements of the implementation plan. During the policy development phase, it will be necessary to analyse the existing marine protection options against the objective and implementation needs of the Policy. This may highlight the need for a new category(ies) of MPA to support Policy implementation across the full spectrum of marine environments consistent with PNG international marine protection obligations. If this is the case then review of the global standard for protected area management categories as defined by the IUCN which classify protected areas according to their management objectives might be helpful. In the case of PNG where the customary ownership of coastal resources requires a predominantly user friendly management regime, the most appropriate IUCN categories are IV, V and VI. (see Appendix 2 for definitions)

2.5.1 Locally Managed Marine Areas (LMMA's)

In inshore areas policy implementation will be reliant on community based approaches to marine resource conservation to achieve management and conservation goals. Here the most successful approach to conservation has been through the establishment of Locally Managed Marine Area's (LMMA's). In PNG the designation of LMMA has no formal national legislative status. This is despite the increasing use of the term and the popularity of such areas with coastal communities. It was suggested in the initial consultation that policy provides a timely opportunity for government to declare its support for LMMA's as a defined MPA category. The issue for the policy development team is whether and how the policy should provide formal government recognition for LMMA's which would strengthen its status and the community management mandate.

One alternative to attempting to codify LMMA's under formal legislation could be to provide policy recognition that in reality, LMMA's may take a variety of forms, but are broadly any formally established community controlled marine area set aside by community consensus and managed under rules agreed to by the community. Thus while the national definition of a LMMA's would be consistent and recognised as a nationally supported MPA category, the policy could accommodate the present diversity of legislative options under which they can be established: as Wildlife Management Areas (WMAs) under Local Government legislation or under the Fisheries Act.

Further discussion on this issue is required amongst the many stakeholders, particularly coastal communities, Local Level and Provincial Level Governments, NGO's, DEC and National Fisheries Authority.

2.6 Related marine management legislation/policy

There is a range of additional legislation and policies which will have a bearing on the implementation of MPA policy. This includes legislation and policies administered by the:

- National Maritime Safety Authority which regulates maritime safety, merchant shipping and gives effect to the various conventions of the International Maritime Organisation dealing with marine pollution;

- PNG Ports Corporation Limited dealing with maritime transport and port security, including shipping access routes to ports;
- Mineral Resources Authority, including that regulating sea bed mining;
- Department of Petroleum and Energy, including that regulating off shore oil and gas exploration and mining; and
- PNG Defence Force, including that relating to the enforcement of the National Surveillance Act in maritime areas and the National Fisheries Act.
- Office of Climate Change and Development

The MPA policy will identify the full range of nationally appropriate marine management tools, including those associated with the above legislation, and these can support the implementation of the Policy across the full spectrum of marine environments.

2.7 Governance and Implementation Considerations

The MPA Policy will need to acknowledge the role of these marine sector management agencies and related legislation to develop a mechanism to provide for a collaborative and mutually supportive multi-agency approach to marine management in areas of over-lapping jurisdictions. This mechanism will be at the heart of the policy implementation process and if well designed, will also form the basis for resolving jurisdictional issues under a broader Oceans Policy if, and when this is developed.

Of particular importance in this regard is the need to develop a working understanding with National and Provincial Fisheries Authorities on the application of the provisions of the fisheries legislation in areas which are identified as priorities for MPA's and vice versa. Determining how these agencies and DEC work together is crucial to the future of the policy. On the one hand, DEC has the clear national and international mandate to protect the marine biodiversity of PNG. On the other; fisheries agencies have the mandate for sustainable use, protection, management and rehabilitation of both inshore and offshore fisheries.

In waters under the control of the National Government beyond the 3 and 12 nautical mile zones, the declaration of MPA's solely for the purposes of biodiversity conservation through ecosystem or habitat protection by DEC should be possible, perhaps using the Conservation Areas Act. These areas may not have a fisheries protection component to them (although they may be declared to protect seabed ecosystems for example.) In such cases it may also be possible, through multi-agency co-operation, to link these to fisheries benefits such as tuna closures, other controls on either fisheries or other uses of an area, or vice versa. Again, a multi-agency planning and implementation approach is desirable allowing for the utilisation of the most effective tools to achieve the conservation goals of the MPA in a way which yields maximum benefits to PNG.

Given the discussion above, and the overlapping interests of both DEC and NFA in marine management and conservation, it could be appropriate to consider a policy implementation model in which these agencies accept dual responsibility for implementation. This would provide a strong administrative mandate for the Policy, would provide the core for a multi-agency approach and overcome, or at least provide the mechanism for resolving conflicts arising between biodiversity conservation and fisheries management. It would also, should

this be desired, lay the foundation for the development of an Oceans Policy in which these agencies would play a major role.

Roles and responsibilities will need to be clarified for the policy.

3. Summary of Issues to be Resolved

Resolving the issues identified in this paper and highlighted below are fundamental to the process of developing a national MPA Policy which is appropriate and workable. The Policy does not need to be overly prescriptive, but does need to lay the foundation for long term planning and implementation MPA's. To do so, it should clearly spell out its core objective, and identify the fundamental planning and implementation principles to be used to achieve this outcome.

As a first iteration of national MPA Policy it is important that it is both appropriate and workable and will stand a realistic chance of laying the foundation for the conservation of PNG's unique and globally important marine biodiversity. This paper will hopefully stimulate discussion and debate amongst stakeholders and the policy development team on these core issues.

Threshold issues that need to be decided on by DEC prior to any further consultations, as they are based on DEC's legal mandate, jurisdiction and the legislation that supports this policy:

1. Defining the Policy Objective - The core objective of the policy needs to be agreed at the earliest opportunity and in particular whether its focus is biodiversity conservation or sustainable resource management, and if the policy aim is the establishment of a MPA network?
2. Defining a MPA -
 - To assist with the articulating the policy and its objective a MPA definition appropriate to PNG should be discussed and decided upon.
 - Definitions will also be need to be decided for other terms used in the MPA policy (protected areas, LMMA, etc).
3. Policy Scope - The decisions made on the policy scope will be instrumental in framing the Policy. These include:
 - The geographical range of the Policy - does it extend across all waters under PNG jurisdiction or just apply to coastal and archipelagic waters?
 - Should it apply to the various strata of the marine environment and what are the implications?
 - At what level will the policy focus its protection – ecosystem, habitat or species, or all of these?
 - Is it appropriate for the Policy to apply to non–biodiversity features such as cultural, historic and recreational areas?

Further areas in which decisions need to be made, but these could be made after further consultation is undertaken:

4. Network Design and Planning - a decision will be required confirming that the foundation for implementation of the policy is the establishment of a MPA network based on agreed design and planning principles.

If this is the case, these will need to be identified and developed, so as to ensure the national network is fully representative of PNG's marine environments. This process will require strong input from the science community and will need to address elements such as:

- a marine classification system for PNG and guidelines for MPA designation;
- an MPA inventory and a prioritised plan for designation;
- a Policy Evaluation Programme;
- MPA Network monitoring programme; and
- How can national and international scientists to provide expert advice and guidance – does this require the formulation of a Science Advisory Council, or can an existing body such as the PNG Marine Program Technical Working group serve this purpose?

5. MPA Categories and legislation –

- One issue is whether existing provisions in conservation, fisheries and local level government legislation for the establishment of conservation areas are sufficient to effect the implementation of the Policy and the establishment of a national MPA network, or whether these options have to be improved or new MPA categories added?
- Related to this issue is the role of LMMA's in Policy implementation, their need for government recognition and formal endorsement as a MPA category, and if so under what legislation?
- The critical issue is recognising the role of other legislation and agencies in the management of PNG's marine environment and deciding on how best to integrate these with the Policy to achieve biodiversity outcomes?

One possible option is to create a mechanism to promote a multi-agency approach to implementation. Another is to assign dual responsibility to DEC and Fisheries for overall implementation. Roles and responsibilities will need to be clarified for the policy.

Suggested Format for PNG Marine Protected Area Policy

1. Executive Summary

Will highlight the key components of the MPA policy which may comprise the policy objective, consistency of approach to marine biodiversity classification, national network planning and priority setting, and mechanisms for co-ordinating policy implementation.

2. Definitions of terms used in the Policy

3. Introduction

This would highlight the rationale behind the policy including PNG's national and global commitments to biodiversity conservation and sustainable marine resource management. It could also outline the state of marine management in PNG, including recognition of the full range of marine management tools, and the need for coordination to be facilitated within the policy. Particular mention should be made of the relationship with Fisheries and the role of locally managed marine conservation areas in policy implementation.

4. MPA Policy components

These will need to be defined by the Policy development team and will require resolution of the issues described in this paper.

4.1 National planning and strategic rationale for the policy.

4.2 Policy Objective

4.3 MPA Definition

4.4 MPA Policy Scope

4.5 MPA Policy Responsibilities (identifies the Government Agency(ies) /Minister(s) responsible for Policy development and implementation including administrative and financial arrangements)

4.6 Policy Integration (identifies other marine management legislation/tools and how the MPA policy will be integrated or coordinated with these)

4.7 MPA categories and related management tools

4.8 Compliance and Enforcement

5. Implementation Plan

As these policy fundamentals are developed and agreed to they will provide the policy drafting team with the basis for developing an Implementation Plan. The implementation plan could comprise three components:

5.1. Identification of the MPA Network design Principles (to apply to national network design and priority setting)

5.2. Identification of Planning Principles (to apply in support of MPA planning and establishment)

5.3. An Implementation Plan (identifies tasks, actions and timelines and outcomes)

IUCN Protected Area Management Categories.

Ia Strict Nature Reserve

- Category Ia are strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphical features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring.

Ib Wilderness Area

- Category Ib protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition

II National Park

- Category II protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities.

III Natural Monument or Feature

- Category III protected areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.

IV Habitat/Species Management Area

- Category IV protected areas aim to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.

V Protected Landscape/ Seascape

- A protected area where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.

VI Protected area with sustainable use of natural resources

- Category VI protected areas conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area.

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