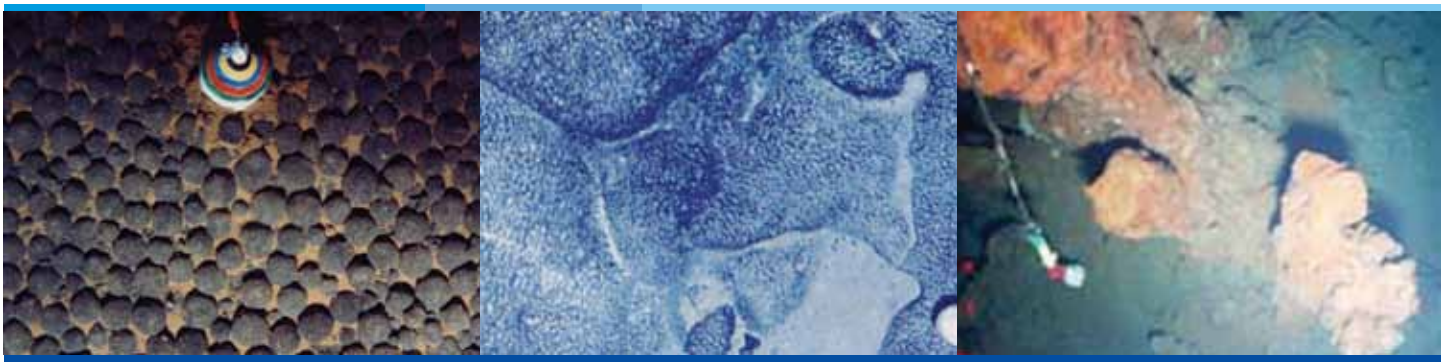
SPC
Secretariat of the Pacific Community

Applied Geoscience and Technology Division (SOPAC)

SPC-EU EDF10 Deep Sea Minerals (DSM) Project



Information Brochure 13
Application of the Precautionary Principle for Deep Sea Minerals

Prepared under the SPC-EU EDF10 Deep Sea Minerals Project[1] by the Applied Geoscience and Technology Division (SOPAC) of the Secretariat of the Pacific Community (SPC)

Introduction

Rising global demand for metals and developments in technology have recently renewed industry interest in exploring, and exploiting, deposits of deep sea minerals ('DSM'). The 1982 UN Convention on the Law of the Sea gives coastal states exclusive sovereign rights over the DSM contained within national marine boundaries. For many Pacific islands, this means that over 99% of their national jurisdiction is ocean. Surveys indicating abundant and promising mineral deposits in the Pacific Island region therefore suggest a potential economic opportunity for Pacific islands.

However, this must be balanced with other resource uses. As well as bestowing legal rights over DSM, international law also imposes duties. States must: protect the ocean environment; prevent, reduce and control pollution; and preserve rare or fragile ecosystems and ocean habitats. Since there is still much to learn about the vast ocean environments and how they may be affected by DSM exploration and exploitation activities, the 'precautionary approach' must be applied as States consider whether or not to pursue DSM activities. This brochure seeks to provide summary guidance to Pacific Island states in applying the precautionary approach to the management of DSM resources.

What is the Precautionary Approach?

The precautionary approach (or 'precautionary principle') has been defined in slightly differing terms in a number of international law instruments[2]. A common definition, used in the International Seabed Authority Mining Code – and so particularly pertinent to DSM, is the 1992 Rio Declaration on Environment and Development, Principle 15: *"In order to protect the environment, the precautionary principle shall be widely applied by States according to their capabilities, where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."*

While the Rio Declaration requires States to apply the precautionary approach 'according to their capabilities', a State's due diligence responsibilities in properly controlling DSM activities (and their impacts) within its jurisdiction are applied uniformly across developed and developing States.

The precautionary approach provides States with guidance on the process for avoiding serious or irreversible harm when the risks of a proposed activity are uncertain. The precautionary approach indicates that positive action to protect the

[1] The EU- funded EDF 10 Deep Sea Minerals project implemented by the SOPAC Division of the SPC is mandated to assist interested Pacific Island states in developing and strengthening a system of governance and capacity in the management of their DSM resources through the development and implementation of sound and regionally integrated legal, fiscal and environmental frameworks. The Project provides technical assistance and funding for Pacific-ACP states for their work developing national DSM regulation regimes and capacity.

[2] Some of these, and the relative 'strength' of their wording, is considered in more detail in the 2012 SPREP paper: 'Understanding and Applying the Precautionary Principle: A Socio-Cultural and Legal Approach'

environment may be required before scientific proof of harm has been provided. Unlike a preventive approach where action is taken when environmental threats are tangible, or a compensatory approach where remedial action or financial recompense is triggered once harm has occurred, the precautionary approach demands action to address risks (or, in extreme cases, that the proposed activity should not be taken), before there is certainty that the damage will materialise.

The precautionary approach is triggered when, for a given action, there is a) potential for harm and b) uncertainty about causality and magnitude of impacts. DSM mining[3] (like any extractive project) poses the possibility of serious or irreversible harm to the environment. It also entails scientific uncertainty, given the current 'unknowns': specifically in regard to the deep sea environment, the nature of DSM deposits, the methods that will be used to mine them, and the impacts this may have on marine life and ecosystems. Therefore a decision to proceed with a DSM mining project must be very carefully taken, and should consider all reasonable measures that could be taken to protect the marine environment and the people who value it. These measures should reflect both the levels of uncertainty and the probability of harm. Public consultation and participatory processes[4] will be an important component to the application of the precautionary approach, in order to enable an informed assessment of what degree of impact on the environment is deemed to be socially acceptable in order to achieve the benefits pursued by DSM extraction, and therefore whether DSM mining is justifiable at a given point in time.

One application of the precautionary approach may be a decision not to embark on a particular DSM development: if the risks, uncertainty, or anticipated impacts are deemed too serious. The precautionary approach however also recognizes that there are circumstances in which development may proceed despite insufficient information for fully-informed risk assessment. Scientific uncertainty does not necessarily require inaction. The State may take a decision that, despite a level of 'unknowns' at that time, the likelihood and degree of harm posed by a particular activity or project is considered acceptable. Where a decision is taken to initiate a DSM operation in such circumstances, the precautionary approach informs the method of moving forward. It requires States to consider all available methods of preventing incidents of environmental degradation, and to implement those which are cost-effective. It suggests that steps should be cautious and incremental. As activities proceed, information reducing the uncertainty becomes available – allowing stringent and active review of decision-making, and ongoing re-assessment of processes. The unknowns and the risk can be reduced as the project develops.

Why is the Precautionary Approach Important?

The precautionary approach is important as its application should prevent unanticipated and unacceptable damage to the environment. Its application will also provide protection to the State. Any State that decides to venture into pioneering DSM development has a responsibility to ensure the DSM operators under their sponsorship or operating in their waters comply with international law obligations to protect the marine environment. If a State does not undertake its best efforts to do this – including the application of the precautionary approach – responsibility for the restoration of deep sea habitats and liability for any damage incurred as a result will fall to the State.

[3] Before any DSM mining project occurs (and before a decision whether or not to permit that project), there will have been a period – often years - of prospecting and exploration, using marine scientific research methods, many of which will have little environmental impact, such as: water column testing, multi-beam mapping, sonar scan, camera and video imagery.

[4] A separate EU-SPC DSM Project information note on stakeholder participation in DSM matters will be produced. Further discussion and suggested models for such participatory processes can also be found in the 2012 SPREP paper: 'Understanding and Applying the Precautionary Principle: A Socio-Cultural and Legal Approach'.

How to Apply the Precautionary Approach in a DSM Context?

A continual approach: The precautionary approach demands application before commencement of any DSM activity with planning and policy development - including the potential for a decision for no development activity, in cases of very high uncertainty or probable harm at an unacceptable level; during DSM projects with continual monitoring and assessment, and checks and balances, on ongoing operations; and after DSM activities have ceased – to measure impacts and recovery of sites, to inform future decision-making. States can also take long-term action to build capacity over time to manage DSM (and may choose to delay embarking on DSM mining projects until such time). As a new and specialised multi-disciplinary industry, responsible State DSM regulation requires legal, environmental, scientific and economic expertise in-country. Capacity building initiatives (e.g. industry-sponsored or through agencies like SPC or the International Seabed Authority) are cost-effective measures which States can pursue.

A robust regulatory approach: Good governance is essential to State application of the precautionary approach. As a preliminary step in applying the precautionary approach, Pacific Island states must have in place and enforce sound legislation to govern their DSM resources: a comprehensive regulatory regime to enforce environmentally and socially responsible conduct by DSM mining companies and other marine research scientists operating within their waters. A robust legislative and licensing regime that empowers Government to exercise appropriate decision making processes to allow and control DSM activities within their jurisdiction, enabling public participation and a multi-stakeholder approach, will provide protection for states, marine biodiversity, sea users, and local communities, while providing welcome security and clarity to DSM companies and their investors.In particular, the precautionary approach can be furthered by the establishment or nomination of a national body to regulate DSM operations.

This body should be informed by multiple interest groups, have recourse to specialist expertise, and have the responsibility and the tools to establish, implement and enforce a national regime according to international law and national policy priorities. This regulator should be empowered to assess and approve proposed DSM activities, monitor and control DSM operators' work e.g. calling for more information, for amendments to exploration or mining methods, for additional environmental management measures, or for suspension of activities in extreme cases – in line with the precautionary approach. Recognising the limited human and financial resources and expertise available in-country to many Pacific Island states, consideration should be given to bolstering regulatory efforts with external expert advice and assistance.

A participatory approach: The uncertainty that invokes the application of the precautionary approach gives rise to the need for participatory approach. This requires a multi-stakeholder participation process appropriate at each step in the precautionary decision-making process – including whether or not to proceed with DSM development. A participatory approach provides stakeholders with an opportunity to understand proposed activities and to identify any impacts on their interests, to mitigate any tension amongst stakeholders with competing interests, and to assess collaboratively what level of environmental impact is deemed to be acceptable in each circumstance (when weighed against the benefits obtained from the activity that will cause that impact). Efficient forward planning is vital to the application of the precautionary approach, and early public consultation will assist Government and industry to identify all potential stakeholders, issues and impacts (particularly to bring understanding of the industry to local populations, and inform the development of appropriate law and policy) which will contribute to informed decision making whether or how to pursue DSM activities. In the Pacific region, traditional knowledge, customs and practices should be given consideration regarding marine life and any potential impacts of DSM activities.

A proportionate approach: The Rio Declaration is silent on the extent of the precaution required, other than noting that measures should be cost-effective. Invoking the precautionary approach should lead to action that is proportionate to the required level of protection, consistent with other current and future potential resource uses, and targeted to the risk.

An incremental approach: The precautionary approach suggests that countries permitting DSM projects should take one step at a time – with flexible staged work programmes, and an underpinning regulatory regime recognizing the different phases of DSM activities (e.g. prospecting, exploring, exploiting) and their different impacts. The regime should allow controlled, staged development of DSM activities as new information and scientific evidence emerge, before progressing to the later stages of exploration and exploitation. Pilot mining programmes may be acceptable, before full-scale commercial DSM activity is authorised, and caution should be exercised initially about the number and size of sites licensed for mining activities – with new projects not being authorised until existing ones are completed and the impacts measured or the sites rehabilitated.

An environmental management approach: prior environmental impact assessment (EIA) is a requirement of international law for any project likely to have significant impact on the marine environment. It is through the EIA (and ongoing environmental monitoring) that 'unknowns' for a particular project are reduced. Applying EIA requirements stringently for DSM: erring on the side of caution with regards which activities trigger an EIA, taking independent expert advice in the review of EIAs, and – if the EIA leads to an informed decision that mining can proceed - establishing a robust Environmental Management Plan ('EMP') on the basis of the EIA (with ongoing data collection and monitoring requirements), will be a key component to applying the precautionary approach in the DSM context. The EMP should impose clear requirements on DSM operators for comprehensive baseline research and regular data collection, to enable effective observation and analysis of the impacts of DSM activity on the marine environment, ecosystems and users.

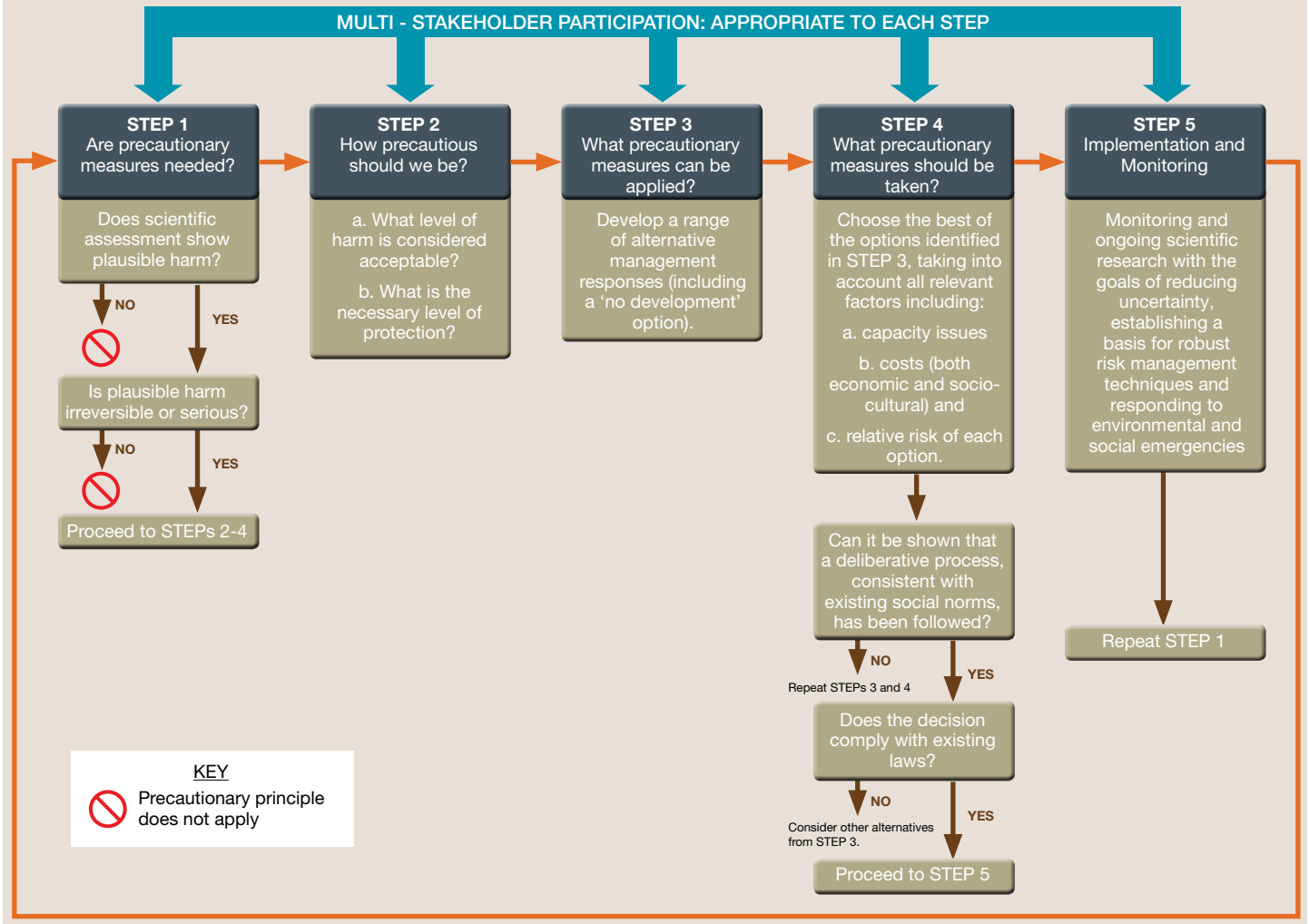
Other relevant environmental management measures include: establishing marine protected areas, implementing marine spatial planning, the use around mining sites of un-mined buffer zones and control zones for environmental monitoring and repopulation, mitigation strategies (such as limiting the number and size of DSM projects at any one time, and placing a requirement on all DSM operators to use the best available technology and best environmental practices). Strategic environmental assessment by Governments for their entire marine areas – and a paradigm shift from a single sector approach to an 'ecosystem approach' of integrated marine planning across all sectors is also recommended.

The legal underpinnings for this information brochure are:

- 1982 United Nations Convention on the Law of the Sea;
- 1986 Convention for the Protection of Natural Resources and the Environment of the South Pacific Region ('the Noumea Convention');
- 1992 Convention on Biological Diversity;
- 1992 Rio Declaration on Environment and Development;
- 2011 Seabed Disputes Chamber of the International Tribunal for the Law of the Sea, Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area, Advisory Opinion;
- 2000-2012 International Seabed Authority's Mining code and other ISA guidance.

The SPC-EU DSM Project also gratefully acknowledges the SPREP paper: '*Understanding and Applying the Precautionary Principle: A Socio-Cultural and Legal Approach*'.

The 5 Steps for applying the Precautionary Approach



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