"ESTABLISHMENT OF A NATIONAL REGULATORY FRAMEWORK FOR THE EXPLORATION AND EXPLOITATION OF DEEP SEA MINERALS: A CASE STUDY FOR KIRIBATI"

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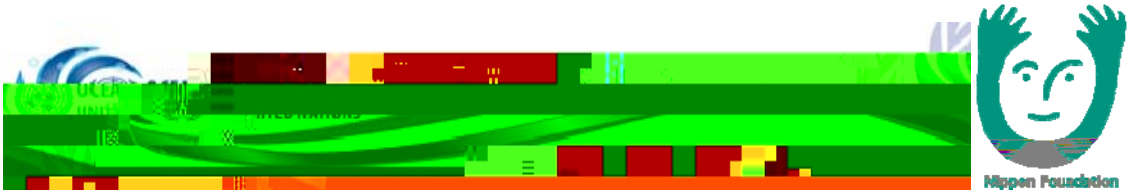

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The views expressed herein are those of the author and do not necessarily reflect the views of the Government of Kiribati, The United Nations, Nippon Foundation of Japan, the Marine and Shipping Law Unit (MASLU) or the University of Queensland.

Such a prescription constitutes the basis by which a State should adhere to in developing national legislative frameworks, looking specifically at the case of Kiribati. It is noted that although the thesis intends to provide a detailed and critical analysis on policy and legislative issues pertinent to deep sea mineral exploration and exploitation, it would be overly ambitious to suggest that the thesis considers all of them; and certainly for the scope of this thesis, such issues would be generalized and specific to Kiribati.

Specifically, the thesis provides guidelines on issues and priorities that should be considered by policymakers and more importantly included in national policy and legislative frameworks, as appropriate under the State's legal system.

And finally to my family, my mom and my sisters- thank you for being there for me from day one. To my son Teejay and my wife Aileen- thank you for your never ending support and for allowing me to spend hours on ends, away from you guys, to do this research fellowship. I dedicate this thesis to you two.

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Thesis outline

This thesis examines the international legislative framework for the exploration and exploitation of deep sea minerals, as its stands today; highlighting the requirements that entail what States must adhere to at the national level, in regards to carrying out activities related to the exploration and exploitation of seabed minerals, within a

and extraction could be carried out. This includes the current legal frameworks for the exploration and mining of seabed minerals, as it stands today, including views both for and against such activities and the interdisciplinary issues that arise and are pertinent to deep sea mineral initiatives. The consideration of views from both sides of the coin, regarding deep seabed mineral exploration and extraction activities, is vital in this thesis as it will help give more defining resolutions to issues and problems facing this emerging facet of the minerals industry and wider mining industry.

Chapter 2 discusses the legal provisions by which

Chapter 3 examines the practicality of adopting ‘appropriate’ and ‘necessary’ measures within the context of policies and legislative frameworks of states intending to carry out mineral exploratory and exploitation activities, on and in the seabed environment. Each of the sections in this chapter discusses specific aspects of policy and legislative guidelines that should be reflected in national regulatory regimes pertinent to seabed mineral activities; all of which should conform to the principles of ‘best environmental practices’, ‘the precautionary approach’. It also addresses the need for social communities to be included in the policy and legislative development process, and arrangements for adequate measures for to safeguard the integrity of the marine environment for communities that are dependent on the marine environment, including the necessity to consider other sea users and other states.

The second part of the thesis (Chapters 4-6), examines legislation and policy at the national level, regarding deep sea mineral exploration and exploitation, and how it relates to the broader regional level. Much of the issues discussed in Part 2 of the thesis are specific to Kiribati, and include the rationale for Kiribati’s interest in deep sea minerals and its appetite for offshore exploration and mining in the international seabed area, an analysis on the current institutions capacity of Kiribati for mineral resource development, relevant treaties and agreements that at the regional level of which Kiribati is a party, Kiribati’s legal system, and the relevant legal instruments existing in-country that are aimed to implement UNCLOS and which give international law direct effect under Kiribati’s legal system.

As a basis for ‘critical assessment’, much of this chapter will constantly refer to the issues and guidelines that were articulated in earlier chapters (particularly in chapter 3), that should be developed/adopted to give effect to what would be considered a ‘robust legislative regime’ that comprehensively covers all aspects of an effective policy, including fiscal, social and environmental management regimes. This should then provide a means by which national policies and legislation are ascertained to be able to adequately ensure that all ‘appropriate’ and ‘necessary’ measures are taken to protect the marine environment.

The collation of such concepts, issues and priorities may present a way by which uateNCLOS aTJ-26.71 1

initiative for a successful legislative framework, the actual drafting and writing of Laws is much more complicated and requires highly specialized work- which is not the objective of this thesis. For this reason, this thesis will concentrate and focus on providing a rationale and guidelines by which the ‘development of regulatory and legislative frameworks’ for seabed minerals, particularly nodule deposits can be successful, and explains the principles and elements of model regimes. It shall not provide model language and clauses for how such regimes can be drafted in Laws. In saying that, it should be noted that the thesis may allude to principles and other work by which such legal language; clauses and draft bills can be obtained and provided.

PART 1 OF 2: LEGISLATION AND POLICY AT THE INTERNATIONAL LEVEL

Chapter 1: Seabed Mining-

Interestingly, as the world also becomes intrin

identified[16]. This is a rather worst case scenario- but is still a valid concern, given the scale of proposed seabed mining projects.

Apart from the direct removal of parts of the sea floor during mineral collection, increased toxicity and turbidity is expected in the water column due to sediment re-suspension during the extraction (ie near bottom) and tailings rejection after minerals are sorted on the floating platform (ie near the surface) resulting in clouds of particles forming plumes[17]. Waste will represent most, 90%, of the volume of materials pumped to surface and, thus, seabed operations will deposit massive amounts of waste at the sea floor[18]. This waste can, in turn, release massive amounts of metals and other elements to the surrounding water, impacting on the ecosystems that thrive near these deep sea mining sites. While near bottom resuspended sediment may cause a major threat to local communities, surface plumes generated by tailing may have a wider impact by affecting larger areas, considering th

such as copper, manganese, cobalt and rare earth elements in some cases. There are currently 17 exploration contracts for the seabed that lies beyond national jurisdictions (the area) and in deep seas of the of the Pacific, Atlantic and Indian oceans- which is a relative surge from only 8 contracts in 2010[23] - hence the use of the aforementioned term ‘rushing’. Contract holders will then be able to apply for licenses to carry out6rc of tha5(cases. T Tc0.si189 Tw[(com000572ncecial 00572

But this must be balanced against other imperatives

and entities acting on its behalf, in carrying out exploratory and extractive activities regarding seabed minerals within and beyond national jurisdiction. This is imperative, not exclusively because the current Kiribati Government shows interest in the minerals within its EEZ and in 'the Area', including potential areas of extended continental shelf[30], but also in conforming to the obligations that the State has in protecting the marine environment, for the benefit of its people, and as an obligation under customary international Law.

1.3. Mining methods and technology

In considering the notion of seabed mining, what always seems to stand out is the environment in which such mineral deposits are found- the deep seabed. The deep seabed, as it is known today, has largely been considered a place of myth and mystery; a place beyond the usual realms of life that we know of on a day to day basis- much of which alludes to its intriguing and compelling notion

metres. There are a variety of other proposed methods for seabed mining, all of which differ between current companies, and the type of deep sea mineral deposit to be explored and mined. The Canadian registered company Nautilus Minerals Inc. proposes to use large robotic machines to excavate material by removing deep-sea hydrothermal chimneys and then cutting deeper in the seafloor. A suction hood and pipe behind the cutter head of the underwater robot will collect the material, along with anything living on it, and have this pumped up to a ship on the surface as a slurry. On board the ship, the slurry will then be 'dewatered' and the solid material will then be shifted into a barge, while the used seawater will then be pumped back down towards the sea floor using pipes[35]. Other companies, including UK Seabed Resources (a British entity owned by US defence giant Lockheed Martin) are investigating the option of vacuuming up manganese nodules that lie on the seabed[36]. All of these information suggests that seabed mining could very well eventuate in the near future- it is necessary then to ensure that the legislative framework is in place, not only at the international level, but within domestic legislations as well with States intending to carry out seabed mining.

[35] Ibid, n 33
[36] Ibid, n 34

Chapter 2: The international legislative framework

2.1. The United Nations Convention on the Law of the Sea (LOSC)

The 1982 United Nations' Convention on the Law of the Sea[37] (LOSC), is the international legislative framework that comprehensively provides for regulation of all ocean space, access to seas, navigation, protection and preservation of marine environment, exploitation and conservation of living resources, scientific research; settlements of disputes; and including the legal framework for the exploration and exploitation of the non-living resources of the deep seabed or 'deep sea minerals' (DSM). A notable characteristic of the LOSC is the omnipresence of the delicate balance between the enjoyment of rights and benefits and the concomitant undertaking of duties and obligations on the part of States Parties, culminating into the principle by which it is paramount that all State parties to the LOSC should respect the rights of others States[38].

The LOSC established the concept of an Exclusive Economic Zone of up to 200nm so as to enable the Coastal States to gain economic benefit from areas further off their shores. The coastal state is given certain economic rights in regard to the exploitation of living and non-living resources. The Exclusive Economic Zone (EEZ) consists of the area extending to 200 nautical miles (nm) from the baseline, which is measured by reference to geographical points set in accordance with Part II of LOSC, and subject to the delimitation of boundaries between neighbouring States. The seabed and subsoil up to 200 nautical miles is also the continental shelf (CS). The CS may extend beyond 200 nm, under specific criterion set out in article 76 of the LOSC.

Article 77 of the LOSC confers rights upon all coastal States, including small island nations, to engage in the exploration and exploitation of the natural non-living resources of the seabed and subsoil within its national jurisdictions. Specifically, the coastal State exercises sovereign rights over the CS for the purpose of exploring it and exploiting its natural resources (including its minerals). These rights are exclusive: if the coastal State does not explore the CS or exploit its

natural resources, no one may undertake these activities without the express consent of the coastal State. The coastal State also has sovereign rights within its EEZ for the purpose of exploring and exploiting, conserving and managing the natural resources of the waters superjacent to the seabed (LOSC Article 56), and also enjoys exclusive rights to construct and regulate the operation and use of artificial islands, installations and structures that are related to the exploration and exploitation of the resources of the EEZ and CS.

The LOSC also establishes two zones beyond national jurisdiction: the 'high seas' (the water column beyond the EEZ) and 'the Area' (the seabed and subsoil beyond national jurisdiction). The Area is the seabed and subsoil beyond the external limits of the CS (including extended CS), and comprises the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources. Under the 1994 agreement and part 11 of the LOSC, these are declared by the LOSC to be 'the common heritage of mankind'; the exploration and exploitation of which shall be carried out for the benefit of mankind as a whole. An independent autonomous body, the International Seabed Authority, is established by the LOSC to regulate in areas outside of national jurisdiction the conduct of prospecting or exploration, or exploitation of DSM. These will be discussed in greater detail in the subsequent section of the thesis.

2.2. The International Seabed Authority

The International Seabed Authority ('ISA') is responsible for organising and controlling activities in the seabed, ocean floor and subsoil beyond the limits of national jurisdiction (known as 'the Area'), particularly with a view to administering the resources of the Area. This mandate is set out in Part XI of the LOS Convention[39] and the Agreement[40] Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea. These activities may only be carried out under a contract with the ISA. Contracts may be awarded to entities having the nationality of State Parties or sponsored by State Parties. Detailed rules, regulations and procedures for these activities are set out in the ISA's Mining Code (comprising regulations tailored for each deposit type), which is being elaborated by the ISA progressively, as DSM mining activities develop[25].

[39] *Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea*, opened for signature 28 July 1994, 1836 UNTS 42 (entered into force 28 July 1996) ('*1994 Agreement*').
[40] Ibid

Under the LOS Convention art 153(2), activities in the Area may be carried out by:

(i) ISA (called ‘the Enterprise’ in the LOS Convention), on its own behalf or in a joint venture arrangement; or

(ii) State Parties, state enterpri

resources, e.g. minerals[43]. In effect the CS regime governs the seabed and subsoil and all rights to minerals both below and beyond the EEZ[21].Both regimes will have jurisdictional implications for seabed mining operations.

2.3. The Mining code

The 'Mining Code' refers to the comprehensive set of rules, regulations and procedures issued by the International Seabed Authority to regulate prospecting, exploration and exploitation of marine minerals in the Area. All rules, regulations and procedures are issued within the general legal framework established by the *1982 United Nations Convention on the Law of the Sea* and the *Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea*. To date, the Authority has issued Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area[44] (adopted 13 July 2000) which was later updated and adopted again on 25 July 2013; the Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area[45] (adopted on 7 May 2010) and the Regulations on Prospecting and Exploration for Cobalt-Rich Crusts (adopted on 27 July 2012). These Regulations include the forms necessary to apply for exploration rights as well as standard terms of exploration contracts.

2.4. The Advisory opinion of the Seabed Disputes Chamber (ITLOS)

Recalling that Under the LOS Convention art 153(2), activities in the Area may be carried out by: (i) ISA (called 'the Enterprise' in the LOS Convention), on its own behalf or in a joint venture arrangement; or (ii) State Parties, state enterprises or natural or judicial persons through sponsorship by a State Party; two Pacific island developing states, Nauru and Tonga, applied to the ISA for approval to obtain contracts to explore for polymetallic nodules, seeking to rely on the sponsorship provisions of the LE $ lt0.1 -1.722,7A]TJ20.83 0 TDad3 TD0.05S Coentio10 Ae Arepatesion

reserves) and a very small private sector responsible for fewer than 300 employees[46]. Tonga is an archipelago approximately 747 square kilometres in area, and has a population of a little over 105 000 people and per capita GDP of US$3518[47].

On 5 May 2009, Nauru and Tonga requested that the ISA postpone consideration of their applications. The reason for postponement is apparent from Nauru's proposal[48] to ISA on 1 March 2010 seeking an advisory opinion from the Chamber relating to the responsibilities and potential liabilities of sponsoring states.15 Nauru had originally sponsored NORI on the assumption that it: could effectively mitigate (with a high degree of certainty) the potential liabilities or costs arising from its sponsorship. This was important, as these liabilities or costs could, in some circumstances, far exceed the financial capabilities of Nauru.16 Further, Nauru suggested that, if sponsoring states were exposed to potential liabilities for damage caused to the Area by activities of the sponsored entity, Nauru and other developing states may, in effect, be precluded from participating in such activities, contrary to the purposes and principles of Part XI of LOS Convention.17 On 6 May 2010, ISA decided to request an advisory opinion[49] from the Chamber on three specific questions of law:

1. What are the legal responsibilities and obligations of States Parties to the LOS Convention with respect to the sponsorship of activities in the Area in accordance with the LOS Convention, in particular Part XI, and the 1994 Agreement relating to the Implementation of Part XI of the

3. What are the necessary and appropriate measures

(iii)ensure, within its domestic legal system, that the sponsored entity carries out such activities in conformity with the terms of its contract with ISA and its obligations under the LOS Convention.

In addition to the Primary Obligations, the Chamber identified further 'Direct Obligations' incumbent on sponsoring States under the LOS Convention and the related Regulations, including to:

(i) assist ISA in the exercise of control over activities in the Area.[61] This obligation will be met through compliance with the due diligence obligation;
(ii) apply a precautionary approach, according to the sponsoring state's capabilities, to ensure effective protection for the marine environment from harmful effects.[62]

This obligation applies in circumstances where the scientific evidence relating to the impact of the activity is insufficient and there are plausible indications of risk.[63] If a sponsoring state were to disregard those risks, it would fail to meet its obligation of due diligence. The Chamber also ruled that beyond the primary and direct obligations, it is also a requirement that a high standard of due diligence should also be observed by Sponsoring States . However, given the explicit text of the Convention, it was not a strict liability regime, despite arguments to the contrary. But if damage occurred, and the sponsoring state had failed to take "all necessary and appropriate measures to ensure compliance" by its contractor, then the state would be liable. Moreover, the

the sponsored entity. They must be at least as stringent as those adopted by the Authority and certainly no less effective than international rules.

2.5. Implications of the 'Advisory Opinon'

The *Advisory Opinion* is a landmark decision as it unanimously endorsed a legal obligation on sponsoring states to apply a precautionary approach and best environmental practices, and to ensure that EIAs are prepared. These are positive developments for the protection of the marine environment in the Area from the impacts of exploration and exploitation activities. With respect to the precautionary approach, the *Advisory Opinion* is significant because it recognised that there was a 'trend' towards making this approach part of customary international law. However,

work of States intending to exploit seafloor minerals in the area, and within their maritime boundaries. There are currently 17 contractors for the exploration of polymetallic nodules,[66] yet the report of the Advisory Opinion implied that only two State Parties (Germany and the Czech Republic) have adopted relevant domestic laws and regulations. It has not been investigated whether this is still correct as of today. However, assuming this to be the case, one may ask why so few states have implemented internal legislation. A future study could look at the reason(s) for the low rate of adoption of domestic legislation by sponsoring states. The absence of sponsoring states, particularly those in consortiums, could one day lead to interesting liability claims in the Chamber. While both the 'Mining code' and the 'Advisory Opinion' state that the existence of such laws, regulations and administrative measures is 'not a condition precedent' for concluding a contract with ISA, 'it is a necessary requirement for compliance with the obligation of due diligence of the sponsoring State and for its exemption from liability'.[67] This suggests that a number of sponsoring states may not be able to rely on the exemption from liability should their sponsored entities cause damage to the Area. Despite this exemption, sponsoring states should be implementing legislation and administrative measures in any event to ensure the marine environment is protected, and to lead by example. That is, states should adopt the highest standards of due diligence not only to avoid potential liability, but to protect the Area — the common heritage of mankind — more generally.

2.6. Other key responsibilities under international law

It is also a due diligence obligation therein, for States that are subject to other key international law responsibilities, to also reflect such provisions within their national policies and legislative frameworks:

- General and unqualified duty to protect and preserve the marine environment and rare or fragile ecosystems and habitats[68]
- Duty to prevent, reduce and control pollution from seabed activities[69]; or caused by ships[70], or by dumping of waste and other matter at sea[71]

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Development of national legislation and regulatory regimes, in the case of DSM, is much trickier/complex than most land-based exploration and extractive industries, given that the resources are located in jurisdictions beyond the territorial zones of a State and involves third party interests from the international community and from international legislative frameworks. For example national legislative for DSM activities must aim comprehensively to incorporate relevant international law obligations, as per due diligence obligation principles (LOSC Articles 208(3)-(4) and 209(2)). This in itself would not be a straight-forward concept, as opposed to land-based regulations on exploration and mining activities.

One approach to achieve this would be to make high-level statements reflecting these obligations as a preliminary 'purpose and principles' part of the legislation, against which decision-making under the legislation would be considered[36]. An alternative approach, to set clear parameters and avoid ambiguity, is to incorporate those obligations expressly into the sections of the legislation that provides for the decision-making power itself. In particular, powers, duties and functions under national DSM legislation should always be consistent with the LOSC. The RLRF suggests that the incorporation of the LOSC into domestic law could be achieved by a preliminary overriding principle provision in the legislation, for example setting a preamble such as, "This Act must be interpreted, and all persons performing functions and duties or exercising powers under it must act, consistently with the State's international obligations under the LOSC." However it should be noted that a high-level statement about interpretation should not, of course, replace careful consideration of the relevant international obligations during the drafting process.

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research, exploration, prospecting and exploitation to decommissioning and rehabilitation. The Code is necessary because little national environmental regulation of marine mining exists, especially beyond the territorial sea, apart from the ‘Mining code’ of the International Sea Bed Authority (ISA).

Setting broad directions in the context of shared values, rather than prescribing specific practices, the Code offers a framework to develop and implement a responsible environmental programme for marine minerals exploration and extraction, and to assess proposed and actual applications of best environmental practices at marine mining sites. An important aspect of the Code, in terms of developing national legislation, under the auspices of a broader international legislative framework; is that it seeks to complement national and international marine mining environmental regulations where they exist, and to provide environmental principles and guidelines where these are absent or could be improved. Where the Code sets higher standards than those legally required, following those standards and improving the legally binding requirements are encouraged. Designed to be a living, adaptive guide to the responsible development and use of marine mineral resources, responsive to improvements in best environmental practices, technological developments, changes in applicable regulations, and experience with its implementation, the Code requires a periodic review in consultation with marine mining stakeholders. Upon its formal adoption at the 40th Underwater Mining Institute in September 2011, the Code became the only international instrument specifically designed to guide environmentally responsible and sustainable marine mining at present. Given its voluntary nature, it is hoped that the Code may assist in providing a useful example for the development of future legally binding national and international marine mining legislation.

Chapter 3: Adoption of ‘necessary’ and ‘appropriate’ measures to protect the marine environment

In the event that a coastal State should be interested in exploring and extracting seabed minerals, either within or beyond national jurisdiction, as highlighted in the international legal framework,

the LOSC Articles 208(3)-(4) and 209(2) require laws, regulations and measures to be developed or adopted by coastal States with regard to seabed activities under a State's jurisdiction, and activities in the Area operating under a State's sponsorship respectively; to "be no less effective than international rules, standards and recommended practices and procedures". States are also required to endeavor to harmonize such policies at the appropriate regional level. The LOSC Articles 214 and 215 are clear that such standards must not only be enacted in national regulatory regimes and legislation, but steps must also be taken to enforce them.

In some cases, States could already have existing legislation and regulation in place, which will be similar to, or may overlap with, the new measures to be introduced to govern DSM activities. Examples include legislation relating to environmental management and other extractive industry or resource development; other offshore activiti

In any such policy discussions at the national level, it is important to consider certain issues as guidelines to policy priorities, to ensure that appropriate and necessary measures are taken to protect the marine environment, as set out in the international legislative framework[88]. An effective and comprehensive regulation, in that regards, should at the least have (1) an appropriate environmental management plan, (2) an equitable/transparent fiscal regime, (3) an active public engagement/consultation process, and (4) an effective enforcement and compliance scheme. Such guidelines are discussed below.

3.1. Environmental Management

3.1.1. Best environmental practices and precautionary measures

Most DSM projects are likely to have an impact on the environment, certainly at localized sites. Prior EIA is a requirement of international law. It is also one means by which to implement the precautionary approach, another requirement of international law. The licensing part of national legislation must therefore incorporate provision that before any DSM activities likely to have significant effect on the environment are permitted, a comprehensive report meeting set standards and assessing that effect must be provided and submitted to expert independent assessment. Where, after review of the EIA, a DSM project is permitted to proceed; an EMP must be put into place. A model increasingly in use for on-land mining is to provide a pre-selected pool of expert individuals and companies, from which the operator must choose, to prepare the EIA. The EIA should be supplemented by the EMP and by the monitoring of actual effects both during DSM operations, as well as for an agreed period afterwards.

An EIA requirement in the legislation will also assist with identifying potential adverse environmental (including social and economic) impacts and developing tailored mitigation strategies. This requirement, particularly for activities within national jurisdiction, should not be

values. An ‘Ecosystem Services’ approach is recommended. This recognizes that ecosystems provide a wider variety of services than just providing resources (fish, oil, minerals), such as regulating services (waste detoxification, nutrient regeneration, carbon sequestration), production services (oxygen), future options (biogenetics, biotechnology) and cultural services (aesthetic and existence values). Attempts should be made to value and balance these services with a longer-term perspective, before taking decisions that may affect or alter those ecosystems28.

If the existing environmental legislation does not cover social, cultural and health impacts, it is recommended to modify that legislation or to require a separate Health and Social Impact Assessment, and to include provisions to ensure that any human rights implications are identified. Key to ensuring that EIA addresses all values that might be affected by an activity is to define ‘environment’ broadly so that it encompasses all factors of concern, as well as those relating to geophysical and biochemical properties, flora and fauna.

Examples of definition of ‘environment’ can be found in legislation from other jurisdictions, e.g.

New Zealand’s Resource Management Act 1991: “environment includes

(a) Ecosystems and their constituent parts, including people and communities;

b) All natural and physical resources;

(c) Amenity values; and

(d) the social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) or which are affected by those matters”

In the Espoo Convention[89] on Environmental Impact Assessment in a Trans-boundary Context “impact” means any effect caused by a proposed activity on the environment including human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interaction among these factors; it also includes effects on cultural heritage or socio-economic conditions resulting from alterations to those factors.

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In the ISA Mining Code, relating only to the Area (where no people are in the vicinity), “marine environment” is used, and is defined as including the physical, chemical, geological and biological components, conditions and factors which interact and determine the productivity, state, condition and quality of the marine ecosystem, the waters of the seas and oceans and the airspace above those waters, as well as the seabed and ocean floor and subsoil thereof.

It is anticipated that States will already have in place EIA requirements and laws.

Terrestrial impacts of DSM will in many cases be governed by this existing national environmental legislation; however, the impacts of DSM that occur within the ocean will differ from the impacts of associated activities on land. Where relevant existing EIA legislation is already in place, the DSM legislation could incorporate the EIA requirement, by reference to existing national legislation and EIA requirements and processes, but may also need to amend the existing regime, to ensure that DSM activities and its likely effects are appropriately covered.

An effects-based or impact-specific approach (rather than an activity-specific approach) can be a good model for an EIA requirement. DSM exploration is a staged process, which may have almost no impact in early evaluation stages (and which does not necessarily result in mining). In an effects-based model the project is assessed by its potential impact, and not categorized according to the description of the activity. This means that a lower-impact activity or one with well-known effects would require less information and analysis than a large-scale and novel activity – and as impacts of the activity change and/or increase, the requirements change accordingly.

An effects-based approach: (i) avoids generalization about the types of activities that may be undertaken; (ii) accommodates the possibility that some deep seabed scientific research and/or exploration activity may not have significant environmental impacts; and (iii) takes into account that the ability to mitigate adverse effects/impacts of certain activities will improve over time.

Accordingly, it would be proportionate and reasonable for assessment requirements to be relative to scale and effect; for example, requiring an EIA in some circumstances and no EIA in others, or alternatively requiring:

- a comprehensive EIA (following a set template and incorporating extensive stakeholder consultation and public participation provisions) where a DSM project's potential impact is 'significant';
- a lighter EIA (following a shorter set temp

Authority should verify the DSM operator's primary analysis of potential impact. Where there is doubt or uncertainty, a cautious approach should be adopted.

The national DSM legislation, and the regulations made under it, may wish to specify the particular format of the EIA required for each DSM activity. Useful model templates are currently being prepared by the ISA – see the ISA's Technical Study 10 (http://www.isa.org.jm/files/documents/EN/Pubs/TS10/index.html). P-ACP States may wish to refer to, or adopt, this template in their national instruments.

The content of the EIA and the resulting statement must be sufficient to enable informed consideration of the actual or potential effect on the environment and other interests, such as social and human health conditions. For example the following may be required for a DSM project:

- a description of the project including information on its site, design and size;
- an assessment of the likely effects and impacts of the project;
- an explanation as to how that assessment has been reached;
- details of any consultation undertaken;
- a description of the measures envisaged to avoid, reduce or remedy anticipated adverse effects;
- the data required to identify and assess the main effects which the project is likely to have on the environment;
- an outline of the main alternatives studied by the operator (and the no-action option – for comparison) and an indication of the main reasons for the choice(s) made; and
- a non-technical summary of the above.

Kiribati may wish to seek independent review and assessment of the EIA report, and the legislation should make provision for this, and for related reasonable (e.g. capped) cost recovery, whose terms are set out in advance in the legislation or regulations.

There are no established best practices for DSM work yet. International law requires the precautionary approach to be applied by States engaging with DSM activities, as there is a very low level of information held currently about the deep seabed environment, and the new technologies that may be implemented for DSM activities and its effects on that environment. In

relation to the Area, the ISA's Mining Code provides that "In order to ensure effective protection for the marine environment from harmful effects which may arise from activities in the Area, the Authority and sponsoring States shall apply a precautionary approach, as reflected in principle 15 of the Rio Declaration, and best environmental practices."

Principle 15 of the (non-binding) Rio Declaration[90] is0.0shhe m

the absence of knowledge). Where there is a possibility of an adverse effect, the provision of evidence that the nature or extent of this will be acceptable should rest with the DSM

Inter-generational equity raises the issue of the allocation in time of natural resources – that is the principle that resources should be preserved today that will have a higher value later.

An interesting formulation, which takes into account both impact and probability, can be extrapolated from the definitions section of the International Law Commission's 2001 Articles on the Prevention of Trans-boundary Harm from Hazardous Activities, as follows: "'risk of causing significant harm' includes risks taking the form of a high probability of causing significant harm and a low probability of causing disastrous harm".

The operator (i.e. the company carrying out the activity), who should demonstrate safety to

is generated (most likely through the commercial use of resources, e.g. through activities by DSM operators). Plans should be drafted in a flexible and transparent manner, so as to enable improvement as more scientific, technical and environment baseline and resource assessment data are supplied by DSM operators and other relevant actors. Historically, marine and coastal resource management have been characterized by single- sector approaches (addressing quite separately, for example: fisheries, offshore extraction of aggregates or petroleum, aquaculture, shipping, marine pollution etc.) with jurisdiction falling to different levels of government. In developing policies for DSM activities – a new use of marine space – integrated governance, based on the concept of 'the ecosystem approach', is strongly recommended. Activities of different sectors may mitigate or enhance the impact of others; therefore all activities need to be considered cumulatively, in a comprehensive management plan. Ecosystem-based management seeks to consider together all uses and industries that affect an ecosystem.

Ecosystem-based oceans management strategies

East Atlantic). It generally refers to widely accepted norms or customs of environmental and risk management. The concept originally focused upon technical and physical aspects (also known as ‘best available technology’) but has since evolved to take into account a wider remit of concerns for social, community and gender issues.

National legislation does not have to reflect the specifics of best environmental practice as long as the principle of best environmental practice is reflected as a statutory requirement. This requirement is provided in relation to the Area by the ISA Mining Code and the ITLOS Advisory Opinion; and can be seen to apply equally to national jurisdiction through Article 208 of the LOSC, which requires Coastal States to adopt laws and regulations to prevent, reduce and control pollution of the marine environment arising from seabed activities within national jurisdiction, which are no less effective than international rules, standards and recommended practices and procedures, such as the Mining Code.

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mitigation) in cases where new information requires changes in approach. An adaptive management approach should also feed into policy and law development, as the regulatory framework for DSM is likely to require ongoing amendment as new scientific knowledge is obtained, and practical experience developed.

Other examples of how the precautionary approach might be incorporated into DSM decision-making include the following:

- Comprehensive baseline research requirements in the exploration/mining license, e.g., on the rate of encounter of new species per sample collected, or on genetic studies of species at the proposed mining sites.
- Regular reporting of data on environmental impacts (e.g., levels of emissions like noise, light, sediment plumes, and invasive species), and pre-emptive action (e.g. use of best available technology) to avert serious harm to the marine environment.
- Creation of marine protected areas in proximity to the mining footprint
- A requirement to introduce aspects into the DSM mining methods which encourages regeneration of biota.
- An incremental approach to a DSM activity where impacts are uncertain, e.g., staged work programs, that allow activities to be scaled up or down or cancelled, depending on observed results, or permitting trial mining (or validation sampling) on a small scale, rather than immediately authorizing commercial-scale activity.

3.3. An equitable fiscal regime

It is recommended that Kiribati should develop

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commenced and proven profitable, it should be taken into account that DSM is a new, start-up industry (and not an established one, like terrestrial mining), and that the risk and return profile is currently unproven. DSM mining requires, inter alia: high exploration risk, high capital investment, development of sophisticated machinery and technology, and sensitive environmental impact and stakeholder scrutiny – all before any extraction occurs. The cumulative effect on one operation of the whole tax regime (including any upfront fees and/or financial bonds required) should be taken into account. Non-monetary benefits (such as developments in national infrastructure, business, employment or technology) and the ripple effect of these on a State's economy may also be relevant factors in designing the fiscal regime.

Key objectives for a competitive fiscal regime should:

- be stable, predictable, equitable, and transparent in its application: to the State, the public and to the DSM operator and its investors;
- be established by law;
- support macro-economic stability;
- provide sufficient returns to investors to encourage continued financing and development of the industry;
- recognize non-monetary contributions to the State's development arising from operations

‘Resource rent’ is defined here as any financial return that is surplus to the level of return actually required to motivate an investor to invest[98]

There are generally two alternative methods of setting a fiscal system for an extractive industry project (as outlined in the RLRF[99]): (1) by a project-specific negotiated contract, or (2) in a unilaterally applicable legislation. While it may seem desirable in setting the fiscal regime to provide significant leeway for negotiation on individual projects, this can expose a State to risk of striking a bad bargain. This is particularly likely if the State has a weak or new mining administration, with limited knowledge of the relevant economics and engineering, and so poorly placed to engage in complex negotiations with DSM operators over fiscal terms. The project-specific approach can also be administratively burdensome and lacking in transparency, and may have a weakening effect on institutional checks and balances. DSM operators may also be reluctant to enter into a contract where volatile political systems may lead to subsequent demands by new political leaders to re- negotiate. Therefore a suitable approach is likely to be to have a largely fixed regime, to secure a minimum acceptable level of 'take' for the State, while offering incentives for risk-taking by DSM operators and their financiers, so long as this is balanced by a progressive fiscal arrangement to capture part of any upside arising when mineral prices are high, or a particularly rich deposit is exploited.

Regional co-operation with regards to DSM fiscal matters would assist in situations where deposits may be trans-boundary, or – given the mobile nature of DSM operations – where a mining vessel and equipment may move from one jurisdiction to another. In the latter situation the assets may have been written down due to depreciation in one jurisdiction (and the tax benefit claimed) and then moved to another jurisdiction, where the operator may seek to write up the value of the asset, in order to obtain a second tax break on the same equipment. Cross- border co-operation and information-sharing would assist in addressing any such potential tax avoidance. Regional co-operation in setting fiscal regimes is to be recommended23. Some States may have existing rules that place restrictions on foreign investment (or expatriate staff). Consideration may need to be given to amending such regimes where this may be necessary to provide an environment that is conducive to DSM activity funded by overseas companies and investors.

[99] Ibid, n 26

3.4.1. Fiscal regimes specific to the continental shelf

It is important to highlight that Kiribati also needs to establish fiscal regimes that relate to other jurisdictions beyond its maritime zone, such as potential areas of extended CS and for 'the Area'. This is because Kiribati has potential claims for eCS, in regions adjacent to the Clarion-Clipperton zone; and that it is sponsoring a State entity that will conduct DSM activities in 'the Area'. It is particularly interesting to note that while States enjoy sovereign rights over the minerals on any areas of outer CS claimed beyond 200 nm from the coastal baseline; they are required by the LOSC Article 82 to make payments and contributions to the ISA for exploitation of the non-living resources of its extended CS. This requirement will need to be taken into account by a State intending to offer mining tenements on its extended CS, in any financial modeling performed to underpin the setting of a fiscal regime for DSM. Payments and contributions are to be made annually at the rate of one percent on the value or volume of all production, commencing on the sixth year of production, and increasing by one percent per year until the rate reaches seven percent on the twelfth year, and thereafter remaining at seven percent[25]. The ISA is tasked to distribute the payments and contributions to State Parties in accordance with equitable criteria, taking into account the interests and needs of developing States, and in particular the least developed and land-locked States, and peoples who have not yet achieved full independence or other self-governing status. However it should be noted that Article 82, lacks the specifics as to how this unique and complex provision is to be accomplished and carried out.

3.4.2. Fiscal regimes specific to 'the Area'

In relation to the Area (as opposed to seabed within national jurisdiction), the LOSC designates the mineral resources as the "common heritage of mankind"[23]. Implicit in this is the notion that the benefits of deep seabed mining are to be shared for the benefit of mankind as a whole, irrespective of the geographical location of States.

The LOSC contains detailed and prescriptive provisions on the financial terms of deep seabed mining between the ISA and the DSM operator, involving the payment of a production charge based on a percentage of processed metals produced. These provisions proved to be contentious, however, and were removed as a consequence of the 1994 Implementation Agreement. The ISA is required instead to develop a fiscal regime on the basis of general principles set out in the 1994 Agreement. These general principles include, inter alia, that the system of payments to the ISA shall be fair to both the contractor and the ISA and shall provide adequate means of determining compliance; that the rate of payments shall be within the range of those prevailing in respect of land-based mining; that the system should not be complicated; and that an annual fixed fee should be payable. The ISA commenced work on the fiscal regime in 2011 with a view to putting a system in place by the time commercial deep seabed mining is expected to commence.

These financial arrangements between the ISA and the contractor do not include in their scope payments from the contractor to the sponsoring State. This fiscal regime must be set separately by the State, but should take into account the funds already required to be paid to the ISA by the contractor. These include an application fee (currently US$ 250,000 for a nodule application

The DSM Project intends to develop a regional DSM fiscal policy that will include a number of fiscal regime options from which States can choose. This regional fiscal policy is adaptable to suit each State’s comparative advantages, fiscal structure and mineral endowment.

In setting the terms of the sponsorship agreement, the State will wish to assess whether the benefits to the State of sponsorship will adequately compensate for the potential burden and risk of that sponsorship. The seabed resources of the Area are vested in mankind as a whole, of which the State is a part– but the State does not have sovereign rights over the resources of the Area and so cannot expect financial compensation for the resources extracted, in the same way as for those extracted from within its national jurisdiction over which the State does have exclusive rights.

When DSM revenue is forthcoming, responsible management of these funding streams is paramount in order to secure the development advantage that States hope to obtain from this new industry. Companies themselves attach increasing importance to the capacity of a host Government to use revenues effectively and transparently, to avoid objection to mining

operations at a local level by communities perceiving a lack of benefit to the country in return for the extraction of its resources.

A protected savings fund is to be recommended. Examples of such funds working in practice to support sound management of revenue generated from extractive industries can be found in a number of jurisdictions, including Alaska, Canada, Norway, and more recently in Timor Leste [36]. In the Pacific region, both Papua New Guinea and Nauru have experimented with such schemes, albeit being considered to have done so unsuccessfully; it would be remiss not to note that valuable lessons can be learned from their experiences. Protecting saved r of jurbeing co9 note al m

How the income will be managed, and by whom, should be a matter of published policy before DSM operators are licensed to mine. If the income is large, it may be appropriate at least initially to use the services of professional money managers to ensure that funds are wisely invested and yield a steady income for national expenditure. States are also encouraged to comply withsure s of p(4 o111

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consulted to be the potential for DSM to affect adversely fish populations[106]. Regional

environmental management (e.g. planning and EIA) of the uses and impacts of all activities that might take place within the EEZ.

It may be simpler and more cost effective for Stat

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- Specifically wording the terms of the national DSM regulatory requirements so that activities that are deemed to be MSR are not inadvertently caught within the provisions and processes (and fee structures) designed specifically for commercial DSM activities, insofar as the State does not intend to apply the same rules to MSR operators.

It is also interesting to note that the term 'Marine Scientific Research' is not defined by the LOSC, so it poses a challenge to effectively determine MSR from other activities, and it has been observed that it may be very difficult to distinguish in practice between MSR and commercial exploration, as the processes and impacts may be the same. Taking an effects-based approach, MSR operators should not be treated differently from commercial DSM operators in relation to environmental management requirements. MSR operators may actually be affiliated to DSM operators. In the event that planned MSR activities may cause adverse impacts on the environment or other sea uses, it is appropriate (and required under the LOSC) for the same EIA provisions and risk-based decision-making processes to apply. It is important to avoid setting up a dual system, which could encourage MSR activity to be used as a 'front' for commercial exploitation, to avoid regulatory requirements imposed on DSM operators. Coastal States may in their discretion withhold their consent to the conduct of a MSR project within their national jurisdiction in certain circumstances, for example if that project is of direct significance to DSM work, e.g., its results would inform the status and availability of DSM for commercial exploitation, or if it involves drilling into the CS or the introduction of harmful substances into the marine environment.

3.9. Occupational health and safety

DSM activities will operate in challenging conditions. The surface production vessel is likely to be remotely located – far from land, infrastructugteJ 20ct MSRsa TD Tw 6 Tf 0. aTJ -12.23Tf 0.

States should also specifically include employee and visitor health and safety information as a mandatory criterion, before any license is granted. The license itself should contain provisions requiring the DSM operator to comply at all times with the prevailing national laws and procedures relating to occupational health and safety, employment security and labor laws.

PART 2 OF 2: LEGISLATION AND POLICY AT THE NATIONAL LEVEL

Introduction

This chapter of the thesis explores Kiribati's interest in Seabed minerals and the Government's position on how it can utilize such resources as a means to expand its economic resource base and obtain much required economic benefits, with as little environmental impacts as possible. The chapter will integrally discuss how Kiribati, from as early as the moment it gained independence, declared showed interest in developing these non-living resources for the benefit of its national development, as stated in its national development plans. The Chapter also defines the configuration of Kiribati's legal system, including relevant aspects of the 'Constitution of Kiribati' as applicable in regards to seabed minerals. It will also discuss the several instrumental events that have confounded the Government's plan to alleviate its economic vulnerability by paving an interest in seabed minerals such as the discovery of manganese and cobalt-crust resources within its waters; the portrayed decline in fisheries resources; and the establishment of the Country's first ever Seabed Mineral exploration entity (Marawa Research and Exploration Limited or 'Marawa') that looks to explore the seabed minerals of the Clarion-Clippterton Zone and conduct marine scientific surveys- an incentive that has been granted approval by the International Seabed Authority. Such events, as will be discussed in this chapter, directly setting the imperative criterion that Kiribati must develop its policy, legislative framework and regulatory regimes for seabed minerals, for the State to be effectively competent in regulating such activties.

Chapter 4: Kiribati and Seabed Minerals – opportunities for a developing state

The republic of Kiribati is a coastal State comprising of 3 groups of 33 scattered islands, the Gilbert, Phoenix and Line islands; stretching over 2000 nautical miles of the equatorial south pacific, commanding an Exclusive Economic Zone of more than 3 million square kilometers (the second largest in the Pacific region after French Polynesia). Having a disproportionately larger ocean than land mass, the economy of Kiribati is heavily dependent on its marine resources, with fisheries being the most significant resource for Kiribati as a mainstay for food security, self-reliant livelihoods and economic growth. Commercialization of tuna, through access fees from international fishing fleets, is by far the biggest contributor to the state's GDP[12].This affixes immense pressure on Kiribati's fishery resources and outlines the need to seek out other economic resources to safeguard the livelihoods of the people of Kiribati in the future.

4.1.2. Formal process for development of legislation

All Laws enacted in Kiribati by the Parliament, are introduced through Bills and presented to Parliament either classified as Government Bills or bills introduced by Ministers and Private Members' bills. Bills can be further categorized in to two: those creating a new law for a particular new subject or a law to amend an already existing law. Nearly all bills introduced in Parliament are all Government bills.

Bills passed by Parliament must be assented by the President in order to become law and come into force and if the President is of the opinion that the Act will be unconstitutional he may withhold his assent. In such case the bill is send back to Parliament for amendments. If it is passed again and the President is still have the opinion that the Act will be unconstitutional, the bill is referred to the High Court for its determination on its constitutionality. If the High Court declares that the bill is not inconsistent with the Constitution then the President must assent. Otherwise the bill is referred back to Parliament for further amendments.

There are some domestic legislation that have been enacted as national Acts that give direct effect to international law, and guarantees that obligations required by Kiribati for being a party to international conventions are met. These include the Geneva Conventions Act, 1993 The Merchant Shipping Act, 1983, The Environment Act, 1999 as amended 2007 and the Marine Zones Declaration Act[111]. Of special interest is the latter, which directly relates to the implementation of the Law of the Sea Provisions under national Laws in Kiribati, and discussed below.

4.1.3. Kiribati and the Law of the Sea

Kiribati, being a party to UNCLOS, deems that it should enact appropriate legislation that should give direct effect to international Law (i.e. UNCLOS). An example of that legislation is the Kiribati Marine Zones (Declarations) Act of 1983, as amended (2011). This national legal instrument defines the territorial seas of Kiribati as those parts of the sea within the 12 nautical miles from the outer limits of the internal waters of the State. The Internal waters are all waters inland of the baseline of Kiribati; the baseline of Kiribati being the low-water line of the seaward

[111] All of these acts listed are national legal instruments implemented to give direct effect to international law, all of which can be found in <www.parliament.gov.ki/list-acts>

side of the reef fronting the coast of any part of Kiribati or bounding any lagoon waters adjacent to any part of the Coast (ref38). Articles 55 and 57 of the LOSC prescribe the inner and outer limits of the EEZ. The inner limit is the outer limit of the territorial sea, and the outer limit, “shall not extend beyond 200 nautical miles from the baseline from which the territorial sea is measured”. While 200 miles is the maximum breadth of the EEZ from the baselines from which the breadth of the territorial sea is measured, it would be possible for a state to claim an EEZ of some lesser breadth, as baselines can be (and are) manipulated by the Coastal State. Kiribati did not opt for that choice, but it does have to delimit some areas of its EEZ, at a breadth less than 200nm, because of the presence of neighbouring EEZs of other Pacific states, (namely Tuvalu, Nauru, Tokelau, the Cook Islands, Marshall Islands, and the USA) following principles of the al sea, a Tc the USA)

formation of the 3 island chains of Kiribati, particularly due to the limited context of studies conducted in the area.

With the exception of Banaba (a raised atoll), all islands of Kiribati are low-lying atolls or reef-top islands. Most of the atolls of Kiribati have a typical configuration of reefs with small islands surrounding a central lagoon, and were formed on extinct submarine volanoes. In terms of mineralogical composition of the sediments comprising Tarawa, and to an extent, the rest of the Kiribati islands (apart from Banaba that once had phosphate), there is no other means of economically significant resource on land such as precious or base metals and other significant geological resources[112]. Whilst many countries have the option of relying upon their land based minerals to underpin their national economies, the geological setting of the atoll nation deems it unlikely to possess significant economic mineral deposits on land. As such, Kiribati is looking to the seafloor to alleviate the economic vulnerability of its limited resource base and secure a sustainable future, in any appropriate extent under the national legal structure of the Republic of Kiribati, yet also compliant to standards set out in international laws and conventions of which the State is a party.

Early marine mineral exploration in Kiribati waters were reported as part of the Pacific Ocean Expedition in the 1960s and early 1970s[113]. In 1979 there was the CCOP/SOPAC survey[114] investigating potential for manganese nodules and crust resources, and later expeditions were also carried out in 1980-1981 and 1987, 1989 and 1991 with the Japan-SOPAC cooperative study yw[5re]TJ227J21Jrenc5 0 TD.62landsCCO04]TJ-20.79.1discovenye5 TD- Tcmithd coT

The Kiribati National Development Plan of 1979-1982[116] is quoted as follows:

“It appears from the available data that the region extending from Nauru, through the Gilbert Islands, the Phoenix Islands and as far as the Line Islands, should be regarded as having the greatest potential for offshore phosphate…[117]”

The same national development plan alluded to the discovery of significant deposits of da27 that thve asengconsid4ree -1.7259. Tc0006 Tc0.1432 Tw[(Is0644pears econo,

Currently, the Solwara 1 Project, a high grade copper-gold resource in the waters off Papua New Guinea, is poised to begin full-scale undersea excavation of mineral deposits within the next 5 years[121].

These new developments consequently sparked the interest of the Government of Kiribati in Seabed Minerals, and have resulted in the Government to begin considering opening its waters for further explorations and survey work. Moreover the Government has also applied for rights to sponsor a state entity to explore for seabed minerals in 'the Area', namely the Clarion-Clipperton Zone, approximately 90 nautical miles east of the Line Islands of Kiribati, securing the paramount need for Kiribati to develop its regulatory and legislative frameworks for seabed minerals.

4.3. Current Deep Sea Minerals projects

In a summary report of the LTC during the 2012 annual session of the ISA[122], it was stated that Kiribati has been naturally interested in the exploration activities occurring in the CCZ, given it extends into Kiribati's own EEZ and also because the ISA's map "Polymetallic Nodules Exploration in the Pacific Ocean"[123], depicts that the ISA Contractor/Reserved area blocks are situated approximately 80 nautical miles from Kiribati's EEZ in the Line islands; making Kiribati the closest state in the world to these ISA blocks. Whilst development of policies for Mining of such resources is yet to be formalized by the "Authority", mineral explorations have been progressing over the last 30-40 years, including the historical approval of licenses for NORI and TOML, respectively sponsored by Nauru and Tonga; giving Kiribati a heightened interest to participate in mineral exploratory activities in the CCZ and joining the other States already involved. Furthermore, the polymetallic nodule belt in the EEZ of the Line Islands is an extension of the deposits in the CCZ and therefore increasing the knowledge of the minerals and seabed environment in the CCZ will simultaneously contribute to having a greater understanding of the mineral deposits within Kiribati's EEZ. This is reflected in the policy statements of the

4.3.1. Marawa Research and Exploration Limited

On May 30, 2012, Marawa Research and Exploration Ltd. (Marawa), sponsored by the Government of Kiribati, submitted an application for approval of a plan of work for polymetallic nodule exploration to the Secretary-General of the International Seabed Authority.

As outlined by the Legal and Technical Commission of the ISA[124], Marawa is a State enterprise

and other hazards, as well as impacts on the marine environment. It will also expedite the development of its legislative regimes, as stipulated under the regulations of the international seabed authority, the LOSC, and the outcomes of the 'Advisory Opinion'.

4.3.2. Challenges

The LOSC, and general international law, imposes a general due diligence obligation on State parties not to cause harm to the environment beyond national jurisdiction. In the context of DSM, due diligence requires a State to adopt laws and regulations and to take administrative measures which are, within the framework of its legal system, reasonably appropriate for securing compliance by persons under its jurisdiction. Those laws and regulations must be monitored and enforced, in accordance to the ITLOS Advisory opinion. Obviously the comprehensive collation of policy guidelines from a wide range of key areas of environment, fiscal and social issues; albeit an industry that is unlike any other thus far and open to global scrutiny, would not be an easy and straight-forward task and would pose many challenges. Currently, Kiribati does not have the relevant technical skills and knowledge or the technology on mineral mining and that lack of capacity will also pose a challenge. Kiribati has not yet enacted comprehensive policies, regulations and appropriate legislation to govern such activities[125], and it would not be prudent to initiate such activities without advocating due diligence to actively safeguard the integrity of our marine environment. Reviewing existing policies, regulations, legal instruments and legislative authorities related to such activities, and using them as basis for enacting specific national policies and legislative instruments, would be greatly beneficial for Kiribati in exploring the potential of DSM for future economic development aspirations.

It is acknowledged that exploration and subsequent mining of seabed minerals of the deep ocean environment is a very new concept worldwide, moreover in Kiribati, and there is currently no set legislation for Seabed exploratory and mining activities[126]. However Kiribati is not new to exploitation of its ocean resources and it does have regulatory frameworks for protection of the marine environment from human activities. Such legislations emphasize the sustainable use of

[125] Ibid, n 122

[126] The International Seabed Authority is currently in talks with Member States in beginning the development of the exploitation frameworks, particularly for Polymetallic nodules; in other parts of the Pacific, Tonga and the Cook Islands are in the final stages of establishing their Deep Sea Mining legislation.

ocean resources and protection of the marine environment/ecosystems and can be used to develop legislations for Mineral exploration and Mining activities in Kiribati. Such developmental work can also be actively coalesced with other relevant international and regional conventions, agreements and guidelines, principally the LOSC, but other international and regional instruments that Kiribati is a party to should also be considered, such as the Rio Declaration, the Noumea Convention, the Madang Guidelines, the PIROF- to list a few.

Chapter 5: Institutional development

5.1. Introduction

As stated earlier, the creation of adequate legislative and regulatory frameworks by States is not sufficient in itself to meet international obligations, or to provide adequate comfort to parties concerned about the potential impacts of DSM activities. Implementation and enforcement of the regimes created are also crucial. Strong institutions are particularly important to the oversight of DSM activity and legal, fiscal and environmental matters will all require dedicated public administration capacity. It is recognized that this may be particularly challenging for Kiribati with limited administrative and technical capabilities. This lack in technical capacity can easily be quantified (for example, Kiribati has only 1 qualified Marine Geologist and one legal advisor for the whole government who specializes in the Law of the Sea, several qualified tax officers, several environmental managers and only 1 small patrol boat manned by only 10 crew members and no fire arms).

5.2. Institutional development

It is instrumental then, that for Kiribati to begin engaging with DSM industry activities, either within national jurisdiction, or in the Area, it will require the creation or identification of a specialized government body to regulate, on behalf of the State, operators performing those DSM activities. This body will: (i) receive and assess applications to explore or exploit DSM; (ii) set the terms of permitted activities, by issuing licenses; (iii) receive and assess reporting documents from licensed operators; (iv) monitor their compliance with the terms of the license; and (v) take action to amend the terms of licenses or suspend activities if necessary, and to enforce sanctions for non-compliance. Such institutions must be given sufficient capacity and

The DSM industry might also provide direct employment opportunities for States within a State's regulatory mechanism and within the private sector, depending upon the degree to which administration, transport and technical operations related to DSM are situated within States. Potential training programs could be established to fill highly skilled or technically specialized positions within the DSM field. Indirect employment, for instance in hospitality, lodging, and provisioning industries, could occur if mining operations obtain goods and services locally. Mining operations may also require the development of new local infrastructure (e.g. roads, ports, power plants) that could serve to spur infrastructural development in the host States. Nevertheless, it is also possible that DSM operations will take place entirely at sea, and that the ore would be shipped directly to processing plants elsewhere, thus 19[(nw loca)lia,o9i5 TD0 TlieoTnt,9ging, nd

5.4.2. PIROF and the Pacific Oceanscape Framework

The Pacific region covers a vast area of the earth's surface - at least 40 million square kilometres - prompting a vital need for stewardship responsibility in effective oceans governance (ref). Testament to the concern for their Islands, coasts, and Oceans are the many commitments that Pacific Island countries have made at national, regional and international levels, which includes endorsement of various multi-lateral environmental agreements and regional policies. Such instruments cover various aspects of ocean activities, from fisheries management, management of non-living resources, to protection of the marine environment, and include the Pacific Islands Regional Ocean Policy (PIROP), the Pacific Plan and, more recently the Pacific Oceanscape Framework ref. Seen as a catalyst for implementation of comprehensive and effective ocean policy for regional ocean governance, the Pacific Oceanscape Framework is the ocean governance policy currently the focus of marine management activities in the region ref.

5.4.3. The Madang Guidelines

There are also existing specific guidelines relating to development of DSM activities in the region such as the Madang Guidelines, which is a framework for activities in the Pacific Ocean areas structured specifically for PICs activities in the ocean (EEZs and beyond) involving seabed mining ref. The Madang guidelines proposes and outlines recommendations in regards to activities of deep seabed exploration/mining, within and outside the extent of national EEZs ref.

The Madang Guidelines will play a vital role to provide, in particular, for the accommodation of the unique attributes and occurrences of the DSM deposits themselves, the

5.5. Transitional provisions

It would be best practice for Kiribati to have law in place before site allocation and the granting of licenses for DSM activity. That said, it is recognized that some activities may occur within States' jurisdiction or beyond (i.e. the Area) before a comprehensive legislative and regulatory regime has been enacted, and appropriate administrative bodies and functions have been set up. This is possible given that under the Mining Code of the ISA, there is no prerequisite requirement for a State to have in place a legislative framework prior to applying for the rights to explore in 'the Area', which was what the Government of Kiribati did with Marawa; however it is in the State's interest to develop/adopt and enact appropriate legislation and regulations relevant thereof, as stipulated in the LOSC, (214, 215, etc.) including the advisory opinion of the seabed disputes chamber of ITLOS.

Since Kiribati has already engaged in securing rights to explore in 'the Area', the national DSM law it is intending to develop/enact should address how pre-existing licenses are to be handled. Equity suggests that those DSM operators already active in the State's jurisdiction, or under its control, should be required retrospectively to follow the new DSM regulatory procedures, once they are formally enacted and introduced. The onus can be placed on the DSM operator to notify the Regulating Authority of their activities, within a set deadline (e.g. three months from the date on which the legislation comes into force). The legality of doing this may depend on the terms of licenses previously issued. Where the relevant law is under review, the investor may seek agreement of further specific terms with regard to that operation, for the transitional period.

In the absence of significant concerns about the pre-existing DSM operator's activities, the Regulating Authority should be empowered to provide a temporary transitional licence permitting activities to continue, while a new application for consent, under the new regime, is made and processed. It may be sensible for the Regulating Authority to have a fast-track process for any such applicants, which takes into account processes already undertaken and checks already made.

Such transitional provisions should seek to give pre-existing DSM operators neither an advantage nor a disadvantage over new applications made once the new DSM regulatory regime is properly in place. It should however, take into account the considerable amount of time and

money that will already have been invested by the DSM operator in prospecting and exploring, and obtaining the pre-existing consent for those activities.

In practice the options open to migrate an existing operator to the new licensing regime will depend on the basis of the operator's right to explore or mine. If it has been licensed under existing (but not DSM-specific) legislation, the circumstances in which that license can be cancelled or the conditions changed will be governed by the existing legislation. If the Government has simply entered into a contract with a DSM operator, the terms of that contract will need to be examined to determine the most appropriate way forward.

It is also recognized that the proper finalization of Government Policy and the passage of Bills through Parliament can be a time-consuming process. DSM operators are commercial enterprise and as such their interest in investment may be time-specific and limited. There may, therefore, be applications to undertake DSM activities made to States after the work on DSM legislation has begun, but before it has been finalized and implemented. States therefore should either: (i) take a policy decision that consideration of such applications must be postponed until the DSM legislation and administrative arrangements are in place; or (ii) allocate responsibility and resources to a suitable existing body to deal with any such interim applications in accordance with the spirit and principles of this RLRF. The latter option may be complicated and open to abuse or inconsistency. Certainly care should be taken to not rush decision-making. The legal authorization (license) may provide for a very long tenure period, perhaps many decades. It is important not to rush through the application by one particular investor to the long-term detriment of the nation. Many nations that commence mineral sector legislative development b

5.6. Allocation of exploration and mining sites

The method by which exploration or mining sites are to be identified and allocated will need to be determined as a matter of policy by the State. The Government of Kiribati is likely to find it useful to have a map-based (GIS) system to be able to identify which sites are under application or license, which sites are protected, and which are available for DSM applications. Practically the identification of exploration tenements and mining leases by the State will be based on the geological potential and prospectivity of any site (and it will be difficult to employ such methods without knowledge of the resource base). States may therefore choose to be conservative and to impose stringent data requirements in early licensing rounds, in order to be able to develop knowledge of any potential resource base. The mechanism of allocation once established should be published policy, to provide for certainty and transparency of process. Mapping of potential exploration sites must also take into account and be consistent with submarine cable planning, and the State's marine environmental management plan, and allocation of sites may require marine protected areas, and/or buffer zones around areas of DSM activity.

Allocation systems should enable investment by mining companies and facilitate competition. Clear, consistent and stable conditions are essential. There are a number of possible methods of opening up sites for mining exploration. International tender is one established and transparent

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may prefer to give notice of areas that are not available for license applications, indicating that any unlisted area is open for application. The policy or regulations

primary legislation – usually by the Minister or other authority responsible for administering the primary legislation. Where an individual DSM operator successfully applies for permission to conduct DSM activities, a tailored license (and/or sponsorship agreement, in relation to the Area) would be issued (in accordance with the legislation and regulations) setting out the particular conditions of the license.

Mega-projects are sometimes regulated using a combination of statutory laws and a special agreement that is ratified by the law-making body. If numerous projects are envisioned, a standardized regulatory system, with the standards and rules largely set out in legislation, may be preferred. But if the number of projects will be small, an agreement-led approach (with a less prescriptive statutory framework) can provide flexibility to accommodate individual project attributes and needs. In the development of such an agreement care should be taken in determining what terms should apply from general legislation and what terms need special treatment.

One option for States is to adopt the same model and extend the existing personnel also to cover

reporting to Parliament, rather than a Minister); or it may be an advisory body, making recommendations to the ultimate decision-maker (e.g. the responsible Minister).

Independent regulation and decision-making can be a challenge in small Governments and States with small populations, and yet is key to establishing and maintaining confidence in the system from all parties. Where it is not feasible to establish a new independent regulatory decision-making body in-country, then other measures to preserve independence and impartiality – and public confidence in the procedures – should be considered, for example oversight by an Ombudsman or Auditor-General of decisions, or an opinion from the Attorney- General's Office in each case confirming that the decision complies with applicable legal requirements and procedural propriety. The public participation and appeal procedures also recommended will also serve to strengthen the integrity of the system.

5.8. Due Diligence

To meet international obligations, before issuing a DSM exploration or mining license or sponsorship agreement, States must conduct appropriate initial checks and analysis of the operator and its proposed work plan, to satisfy itself of the company's ability to perform the proposed activities in a timely, safe, environmentally responsible, and efficient manner. The legislation may therefore require certain pre-requisites from an operator before an application for DSM activity will be considered. These might include a minimum amount of operating capital, evidence of technical competence, appropriate insurance or other certification of financial responsibility, undertakings that relevant industry standards are adhered to by the DSM operator. Also, evidence or undertakings as to the seaworthiness, manning, equipment, and navigation of those vessels involved in DSM; perhaps also evidence as to energy efficiency and initiatives to reduce carbon footprint; and that adequate staff and operational performance policies and procedures are in place.

These due diligence checks could be done as a stand-alone registration process. Once these checks have been satisfactorily made, the State registers the company as pre-approved, and therefore as permitted to make an application for DSM activity in the future. Or it may be covered in the short-listing stage, where a State has held a tendering process and is selecting a DSM operator from a pool of interested applicants. The due diligence process may require input

from other government agencies – for example approval with regard to the financial arrangements from the Finance or the Trade and Industry Ministry, or certification with regard to the vessel information from the government department with responsibility for shipping.

5.9. Review of Application

The Regulating Authority will be responsible for making decisions on applications to conduct DSM activities (or for making recommendations to an approving authority such as the Minister – depending on the national model chosen). If a tendering system is used, clear guidance on selection criteria should be set out either in the public tendering legislation or the mining legislation. Legislation can specify the content required in an application, and should specify that it must describe all aspects of the proposal, and identify all impacts/effects.

5.10. Environmental impact Assessment

The regulatory regime should specifically require the applicant to conduct an EIA as soon as the DSM project is sufficiently defined to permit

consideration also of the cumulative or collective effects of all activities on the receiving environment.

The mining license application process should also allow for a supplementary or partial application, to allow the process to move forward while environmental baseline data collection (which would be expected to span a period of time) continues. A fully supplemented EIA should be available for review; however, prior to the actual issuance of a mining license. As a result of the EIA process, an EMP is usually developed, containing conditions specific to the proposal. See section 18 for more details regarding the EIA requirement in DSM regulation.

The legislation, or regulations made under it, should specify the contents that are required in an application for a license. This may be different for different DSM activities, but (following the ISA's regulations) is likely to include the following:

- List of coordinates and chart of proposed area.
- Proposed long-term plan of work (e.g. for the life of the operations).
- More detailed shorter term (e.g. 5 years – but duration may vary according to the different scales of envisaged operations or type of deposit).
- List of employees necessary to operate the project (specifying which of those may be expatriate appointments).
- Anticipated annual actual and direct expenditure on activities.
- Proposal for oceanographic and environmental baseline studies and preliminary environmental impact assessment, and mitigation strategies.
- Proposed measures to prevent pollution.
- Contingency planning for accidents or incidents in which pollution may have occurred (including containment, clean-up, recovery of waste, and future mitigation).
- Copies of relevant corporate policies, procedures and certification.
- Undertakings to adhere to legal requirements, and to act in good faith.
- Application fee.

The legislation, or regulations made under it, may stipulate a time limit within which the Regulating Authority will acknowledge receipt (and notify the applicant of any requisite information that has been omitted from the application), and a commitment that the Regulating

Authority will consider applications and provide the applicant with a decision expeditiously. Where an application is made for an exploitation license, pursuant to a previous exploration license for the same site, the exploration license's term may be deemed to be extended until the time at which a decision is made by the Regulating Authority on the mining license application. Assurances as to the Regulating Authority's commitment to maintain appropriate confidentiality may also be given.

The legislation may state that an application will be refused if a license has already been issued by the Regulating Authority to a third party for the exploration or exploitation of the same resources or in the same area; or if it relates to an area which the State has disapproved for exploitation because of the risk of serious harm to the marine environment.

The Regulating Authority will assess the license application (or applications, in the event of a tender exercise) against objective, pre-established criteria. These (which may be weighted) would be likely to include factors such as: technical capacity, financial resources, in-house expertise and experience, professional integrity and ethos, provision of sufficiently comprehensive and detailed information, the fit between that State's DSM policy and the proposed plan of work, the economic benefits to be derived to the country from the project, assessed viability of the business plan, and anticipated compliance of the project with environmental standards.

The Regulating Authority in particular should be satisfied on the evidence before it that the DSM applicant and its proposed plan of work makes effective provision for: protection of human health and safety; protection and preservation of the marine environment including the impact on biodiversity; and avoidance of interference with the use of recognized sea lanes essential to international navigation or in areas of intense fishing activity. As with the collection of baseline environm term15 0 TD0.9l5 the econctivityd D0.0551 Tw2Tw[(nce)Tj10.13 048 Tw[(ap8<5 thJ19.32]TJ w

As was done with Marawa Research and Exploration Limited, where the activities will take place in the Area, the operator will first obtain sponsorship agreement from the State, and will then apply to the ISA for a contract to explore or to exploit DSM in the Area. This contract is issued by the ISA on the basis that the, as sponsoring State, has effective control over the DSM operator. Therefore it is recommended that the also put in place a specific agreement between the State and the operator, to cover the terms of any individual project for which an ISA contract is issued to the operator. This will be in addition to the sponsorship agreement, and will be similar to a license granted for activities within national jurisdiction, likely to take a different form, as it may refer specifically to, and require compliance with the same terms as, the DSM operator’s contract with the ISA.

Chapter 6: National implementation

Kiribati, having expressed its support for Manganese Nodules exploration within its EEZ as well as in the International Seabed Area ('the Area'), now has a great need for the development of a regional framework and management policies from which national offshore minerals policy, legislation and regulations can be enacted, Furthermore, as the Republic of Kiribati (through State owned Marawa Research and Exploration Ltd. ("Marawa")) having made an application to the International Seabed Authority ("ISA") to explore for seafloor manganese nodules in international waters and carry out related scientific research and environmental studies and having being granted approval; necessitates the need to finalize such processes within the next 2-3 years, as part of the due diligence required by a State to adopt laws and regulations and to take administrative measures which are, within the framework of its legal system, reasonably appropriate for securing compliance by persons under its jurisdiction[43]. At the same time, there is also a great need for capacity building and institutional strengthening on technical, legislative and fiscal and environmental issues in regards to DSM. In the immediate work of Kiribati and DSM, these 2 areas should be prioritized.

In the case of domestic legislation, considerations should also be emphasized on perhaps only two legal instruments, which are directly relevant to the principles and the notion of seabed mining. These are (1) the Environment Act (as amended 2007; including its PIPA regulations, 2008) and (2) the Mineral Development Licensing Ordinance of 1973. Other national instruments may be important to consider as well, but for the immediate scope of the thesis, and more importantly for the relevance of the issues to be discussed; only these 2 national legislations will be analyzed.

6.1. The Environment Act (as amended 2007)

Kiribati's Environment Act of 1999 (as amended 2007) sets forth the country's national EIA procedure. The Act provides the statutory definitions of the 'environment' and the 'Environment Impact Assessment' and 'Environment Impact Statement'. The Act sets out the requirement that the relevant governmental minister should consider the environmental impacts arising from any activity/project is undertaken, and consult with all relevant parties. Government ministers are also required determine whether an 'Initial Environment Eval

Impact Statement' is needed based on the likely impact of the proposed development on the environment. An important feature of the Environment Act, as amended 2007, sets out provisions necessary for the implementation of the international agreements such as the Convention for the Protection of the World Cultural and Natural Heritage and the Convention on Biological Diversity. Such provisions contain principles of environmental best practices', 'precautionary approach', 'public engagement/consultation', and the mandatory prerequisite for EIA surveys to be carried out for large-scale activities. This is important as it conforms with the international framework for environmental protection, as set out under the regulations of the CBD and the Rio Declaration, and should be a vital regulatory tool for seabed exploratory and exploitation activities.

6.2. Mineral Development Licensing Ordinance (1973)

The Mineral Development Licensing Ordinance of 1973[129], was developed and enacted merely for the purposes of the phosphate mining activities carried out in Banaba, and which became depleted beyond economically profitable levels in 1978.

The Ordinance consists of 63 sections divided into 11 Parts: Preliminary (I); Acquisition of mineral rights (II); Administration (III); Reconnaissance licences (IV); Prospecting licences (V); Mining licences (VI); Mineral rights and surface rights (VII); Financial (VIII); Withdrawal of applications (IX), Surrender and termination of mineral rights (X); Regulations (XI); Penalties and offences (XII); Records, information and arbitration (XIII).

Mineral rights shall be granted only to citizens of Kiribati or to a corporation that is incorporated by or under any law of Kiribati (sect. 3). Subject to the provisions of this Ordinance the Minister may in his discretion grant to any person a reconnaissance licence over any area in Kiribati. No reconnaissance licence may be granted in respect of any area over which a prospecting licence or a mining licence has been granted (sect. 10).

The Minister may prohibit "wasteful mining or treatment practices" under section 36 and may order merger or co-ordination of mining licences under section 37. Section 39 concerns the exportation of radioactive minerals, which no person shall export, except under and in

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accordance with the terms and conditions of a permit granted by the Minister. No mining shall take place on any land not being Crown land set aside or used for the purposes of Government (sect. 42). Sections 44 and 45 provide for compensation in case of disturbance including the disturbance of fishing. Where the Minister considers that any land is required to secure the development or utilisation of the mineral resources of Kiribati he or she may compulsorily acquire such land (sect. 46).

Importantly, the legislation sets out provisions for many of the issues that have been discussed throughout the thesis, and of which have been suggested as priority issues to consider, not only under the LOSC, the regulations of the seabed authority and the ‘Ádvisory Opinion’; but also under auspices of customary international law. These include issues such that Mineral rights shall be granted only to citizens of Kiribati or to a corporation that is incorporated by or under

primary and secondary legislations pertinent to DSM activities, along with relevant international and regional conventions, agreements and guidelines discussed throughout the thesis, and other relevant details of national priority; to ensure a comprehensive national framework.

- Environmental Management and Monitoring Frameworks. Frameworks and guidelines for deep sea exploration and mining should take into account the protection of the integrity of biodiversity in the deep sea environment such as seabed habitats, water column and benthic habitats; waste management and disposal measures in the ocean; protection of marine life from offshore activities; and safety measures for vessel impacts to the environment. In order to ensure that vessels comply with the relevant frameworks of DSM, agreements should be made initially with the responsible entity for observers (nationals) to be present on boat during its activities at sea. Indeed it was noted that the working group was quite adamant for participation of locals/nationals in observer schemes, once developed. Apart from other monitoring compliance activities at sea, the observer will be closely monitoring activity impacts on the environment.
- Appropriate Fiscal Regime policies for deep sea mining. There is a great need for Kiribati to have specific taxation legislation in regards to minerals exploration and mining. In relation to this, enforcement of such taxation regime is just as important to ensure that the people of Kiribati get maximum benefits from this new industry while at the same time it remains attractive for investment opportunities. Appropriate fiscal regime should also be in place to cater for mine workers.
- Provision of Assistance for Further Studies. There is a great need for the provision of scholarship programs to support studies in the fields of policy development, marine affairs and economic planning. Studies in specialized fields such as the Law of the Sea and deep sea mining related fields should be strongly encouraged as well; at the national level from the Kiribati Public Service Office, and regionally and internationally from organizations such as SPC-SOPAC, ISA, AusAID, etc..
- Appropriate Economic Planning. MFMRD as the responsible ministry in-country need to incorporate DSM long-term study and training needs on the country's' Human Resources Development plan so it can be reflected on Kiribati National priority list for in-service scholarships. Capacity building Policies and regulations in deep sea mineral explorations should be in line with economic growth and development.

- Technical and Technological Challenges of Deep Sea Mining and Recommendations. Currently, Kiribati does not have the relevant technical skills and knowledge or the technology on mineral mining. In order to ratify the issue regarding technology, an agreement (MOU etc.) should be signed between government and other party(s) for technology transfer of DSM equipments. A stakeholder partnership between government/private sector/SPC/NGO could be formed not only for technology transfer but also for capacity building issues.

6.4. Principles for national development

6.4.1. A consistent fiscal regime and tax structure

Legislation and expert advice could be obtained before the fiscal structure is set, to ensure the interests of the Kiribati Government are taken into account, but investment is not deterred[130].

6.4.2. Transparency

The Madang principles could be incorporated into any work towards enactment of regulations and legislation for DSM in Kiribati, as a condition of exploration / mining licences. The principles could apply not only to the funds passing between the mining company and the Government, but also to the Government's use of those funds[131].

6.4.3.

Chapter 7: Conclusion and recommendations

The world as we know today is rapidly changing, including the global population, and there is a greater need for strategic metals, including rare earth elements (REE). But with land-based reserves fast becoming depleted, this insatiable need for metals has pushed the prospects mining into the deep seabed environment. With a new industry in uncharted waters the attainment of a social license involves the development of a consensus that the activity is safe and that it does not adversely affect the environment in which it is conducted. This is frequently a substantial hill to climb for industries in new areas, such as the seabed area. The complete legal framework for seabed mining is not yet in place, what currently exists is a developing framework and it is essential to develop such frameworks first prior to carry out mining activities.

In the case of ISA regulated leases one expects that a generic regime, including a royalty structure, will be developed to cover production in all ISA regulated areas. This will probably be a regime bereft of any individual negotiation between ISA and its individual licensees. It will be interesting to see whether the companies who have leases in ISA areas as a result of state sponsorship have the staying power to await an ISA articulated mining regime.

In the South Pacific very few of the island nations have mining codes, although some are in progress, such as the Cook Islands. Part and parcel of the establishment of the regulatory framework is the development of a taxation/royalty

the need to “foster broad-based economic growth”. As part of its Ministry Operation Plan (MOP), Government, being aware that fisheries resources is currently Kiribati’s only resource mainstay for economic development; recognized that Kiribati’s seafloor polymetallic nodule deposits will play a key role in the future development of the State by assisting Kiribati diversify its narrow economic base, as well as provide career opportunities for Kiribati nationals in a new industry. At the same time Kiribati recognizes the need to develop policies and management frameworks as basis for enacting appropriate legislation for DSM; and to engage with the deep-sea mining industry and attract foreign investment to ensure Kiribati can build its national capacity to a level that will ensure Kiribati fulfills its international obligations under UNCLOS pertaining to environmental protection.

It is acknowledged that exploration and subsequent mining of seabed minerals of the deep ocean environment is a very new concept in Kiribati and there is currently no set legislation for Seabed exploratory and mining activities. However Kiribati is not new to exploitation of its ocean resources and it does have regulatory frameu193 Tw[(environmecram)7.9(e)-6 .r K[(bate deep ocean)]TJ-20.67

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