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ENACTING NATIONAL SEABED MINING LAWS IN AFRICA: IMPORTANCE
OF A PRACTITIONER'S PERSPECTIVE

Nicholas N. Kimani

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1

INTRODUCTION

It is expected that African countries will, in the near future, experience increased commercial interest in exploiting the offshore mineral resources situated within their national marine waters. It is also not inconceivable to expect them to seek ways of benefiting from those resources. It is therefore prudent to prepare for this eventuality, not only in view of the potential environmental impacts on sensitive species and little-understood ecosystems that are found on the ocean floor, but also in view of the wider economic and social issues which may arise. However, we must also consider that national seabed mining laws will also have to take cognisance of the prevailing legislation on natural resource management, energy and extractives. Where these are characterised by unclear procedures, imprecise definitions, institutional overlaps, the result may be a well intentioned but unsatisfactory seabed mining regime. “Unsatisfactory”, here, would refer to a regime that is inefficient to administer from industry’s perspective, while its high compliance costs effectively inflate the cost of environmental or social or economic development far above their deemed benefits.

This study’s point of departure is that the exercise of developing national seabed mining laws extends beyond drawing on international best practices and models from other jurisdictions. It also requires countries to review their existing natural resources management (NRM) framework, for instance in relation to extractives, energy and other relevant legislation. Through “cross-checks”, it becomes possible to identify jurisdictional overlaps, imprecise procedures, and, perhaps even missed opportunities. The result is seabed mining legislation that is “custom-fitted” for local conditions—in terms of being clearly understood and capable of implementation by stakeholders.

For these reasons, there is rich reward in adopting a practitioner’s perspective as a prism through which laws are reviewed. Practitioners are, after all, most concerned that legislation must work in practice.

They need to see clear definitions, coupled with the absence of jurisdictional overlaps, as well as streamlined procedures. Furthermore, they require national legislation that coheres with regional law and policy. Their insights, therefore, would lend themselves to rich scholarly discourse and contestation over the range of legal and policy issues should go into effective regulatory oversights, and which warrant further scholarly exploration.

Furthermore, industry would welcome a seabed-mining regime that has predictable rules. Regulatory uncertainty can, after all, affect the viability of mining projects. Once mining companies have raised the huge sums needed for mining¹, it is critical that they plan and execute the project with certainty. Laws and procedures should only be varied in the most extreme cases. If legislation is not clear on these matters, then unnecessary delays might lead to unforeseen changes in project scopes and schedules, thereby adding to overall project costs. This regulatory uncertainty could, in turn, discourage financiers and company boards from committing capital to planned investments. As a result, the national economy loses out on jobs for locals and opportunities for local businesses to “cash in”, as it were.

This study’s empirical domain is Kenya. Admittedly, this is an unlikely choice, unless one considers the fact that its marine waters contain several valuable natural resources. Leaving aside, for the time being, questions about their commercial viability and accessibility, news of their existence provides reason to engage in for scholarly contestation, debate and analysis over the range of issues should be considered not only in a national seabed mining laws, but which should also inform elements of a future “African seabed mining strategy”.

1 Recent media reports indicate that deep seabed mining is high-cost and high-risk work, with costs for a mining site topping USD \$1.6 billion. See: The Economic Times, ‘China proposes joint mining of Indian Ocean with India’ (New Delhi 7 May 2015) <http://articles.economictimes.indiatimes.com/2015-05-07/news/61902686_1_international-seabed-authority-indian-ocean-jiaolong> accessed 18 May 2015.

2 WHY AFRICA, WHY KENYA

Kenya is among the African Coastal States that have already claimed extended continental shelves extending beyond 200 nautical miles (nm).² Others include South Africa, Namibia, Kenya and Somalia. That these immense territories³ contain treasures of

inestimable worth is clear from Bramley Murton's compilation of data regarding the natural resources found in countries' continental shelf.⁴ The following table presents selected data of six African countries, which is drawn from a much larger data set. All data is expressed in tonnes, and, where applicable, in billion barrels of oil equivalent (BBOE).

Table 1: Compilation of offshore resources held within the continental shelf of selected African countries

Country	Manganese	Copper	Nickel	Cobalt	Oil & Gas (BBOE)	Gas Hydrates (BBOE)
Somalia	12,133,799	485,352	242, 676	485	15	3
Kenya	1,039,100	41,564	10,391	10	0.3	1
Tanzania	2,784,052	111,362	55,681	56	25	5
Mozambique	24,651, 600	616,290	616,290	616	0.5	1
South Africa	27,731,850	924,315	1,109,130	616	0.2	0
Namibia	55,586,750	7,782,145	924,315	370	0.005	0
Angola	12,565,228	753,914	1,256	1,257	0.1	0.1

(Source: From Bramley Murton, 2000)

2 Article 77(1) of the United Nations Law of the Sea Convention (adopted 10 October 1982, entered into force 16 November 1994) 1833 UNTS 3 (UNCLOS), provides that a coastal State exercises 'sovereign rights for the purpose of exploring and exploiting its natural resources.

3 Nii Allotey Odunton, 'Under Seabed Wealth in Africa's maritime domain: The role and functions of the International Seabed Authority' (presentation made to the Commission of the African Union on 19 April 2012) <http://pages.au.int/sites/default/files/International%20Seabed%20Authority.ppt> accessed 15 January 2015.

4 Bramley Murton, 'A Global Review of Non-Living Resources on the Extended Continental Shelf' (2000) 18(3) Brazilian Journal of Geophysics 281, 281-306. Murton's data is compiled from several sources, including published literature, core texts on marine resources, as well as the databases of several organisations. These include the British Oceanographic Data Centre (BODC), the US' National Geophysics Data Centre (NGDC), and the UK's Ocean Information System (OCEANIS).

The above figures are subject to several limitations. Firstly it is not possible to determine specifically whether resources contained in nodules and crusts occur at grades above or below economically viable cut-off limits (e.g. when considering recovery, transport and production costs against present commodity prices). Furthermore, with advances in modern exploration technologies, namely remote-sensing and airborne geophysical surveys, further studies may identify more recoverable proven “reserves” of commercially important minerals. Other limitations with the data would be in relation to the overly conservative estimates of oil and gas deposits. Fortunately, these are not the main scope of this paper. Nevertheless, for present purposes, Murton’s study serves us well. By alerting us to the possibility that commercially viable resources exist on the continental shelf, we are given licence to debate over what range of legal and policy issues should be considered in regulatory oversight of seabed mining.

3

SEABED MINING IN PERSPECTIVE

Seabed mining, also referred to as deep-sea mining, is the extraction of valuable metals and minerals by stripping away wide swaths of the deep ocean floor using robotic cutting machines. In the past, the high cost, technical difficulty and environmental risks associated with mining the seabed were considered barriers to pursuing deep-sea mining. In recent years, however, with the combination of technological advances in mining equipment and the skyrocketing value of precious metals used in consumer electronics—such as nickel, copper, cobalt, manganese, zinc, gold, platinum and other rare-earth metals—commercial interest in seabed mining has grown.

Marine mineral deposits that are the main focus of exploration and mining fall under three major categories: Manganese Nodules, Cobalt-rich Crusts and Seafloor Massive Sulphides (SMS). Seabed mining is imminent in three regions: the Bismarck Sea within Papua New Guinea, the Solwara I project, which is slated to be operational

by 2018.⁵ There is also mining of SMS deposits within the Atlantis II Basin in the Red Sea. Additional permits have been issued for deep-sea mining exploration in the Clarion-Clipperton Zone in the Pacific Ocean, the Central Indian Ocean Ridge and the Mid-Atlantic Ridge.⁶

There are two main methods proposed for deep-sea mining. One method uses remotely operated mining machines that continuously excavate the ocean floor using mechanical or pressurised water drills. In its application to mine for iron sands off New Zealand’s coast, a company, Trans-Tasman Resources, sought to mine an area of 66km². Up to 50 million tonnes of sand per year would be excavated using a “crawler”, or subsea sediment extraction device, following which it will be pumped by a slurry delivery pipe to a ship where the slurry mixture would be ‘dewatered’ in order to separate out the iron ore. About 45 million tonnes of waste sand would be returned to the seabed using pipes.⁷

Another method involves dredging. In 2011, the Namibian Ministry of Mines and Energy issued mining licenses to a company known as Namibia Marine Phosphates. It gave the go-ahead for the exploitation of marine phosphate deposits in their proposed Sandpiper Project. The plan proposed transferring dredged phosphate sands back to shore at Walvis Bay in order to separate out other marine sediments.⁸

5 David Batker & Rowan Schmidt, ‘Environmental and Social Benchmarking Analysis of Nautilus Minerals Inc. Solwara 1 Project’ (*Earth Economics*, 2015) < <http://www.eartheconomics.org/FileLibrary/file/International/Earth%20Economics%20Environmental%20Social%20Benchmarking%20Solwara%201%202015.pdf> > Accessed 4 June 2015.

6 Refer to the International Seabed Authority (ISA) website: < <https://www.isa.org.jm> > Accessed 3 August 2015.

7 Trans-Tasman Resources Limited, ‘South Taranaki Bight Iron Sands Project Impact Assessment Summary’ (21 October 2013) < http://www.epa.govt.nz/Publications/TTR_Impact_Assessment_Summary_FINAL_21_October.pdf > accessed 24 January 2015.

8 Midgley and Associates, Enviro Dynamics and CSIR, ‘Final Scoping Report: Proposed recovery of phosphate enriched sediments from the Marine Mining Licence Area No. 170 off Walvis Bay, Namibia. (Prepared for Namibian Marine Phosphate (Pty) Ltd)’ (Windhoek, Namibia 2012) < http://www.envirod.com/pdf/scoping_report_NMP_terrestrial_component/FinalScopingReportNMP_TerrestrialComponent.pdf > accessed 24 January 2015.

The project would involve dredging the seabed to a depth of up to 3 meters (potentially up to 6 m). Up to 5.5 million tons of marine sediments would be extracted annually from an area of up to 3 km², to produce 3 million tons of export-quality rock phosphates. The material would be transferred to shore where the phosphate sands would be separated from other marine sediments.⁹ Once operational, the project could produce 3 million tons of marketable rock phosphate concentrate per annum, placing Namibia among the top ten world producers.

4 ENVIRONMENTAL CONCERNS

Marine researchers are concerned about the harm seabed mining activities might cause to the sensitive species and little-understood ecosystems that are found on the ocean floor.¹⁰ Depending on the depth, currents and the types of deposits mined, these methods have potential to cause long-term impacts on deep-sea ecosystems. Sediments released during the mining process may smother habitats and floral and fauna, physically changing the seabed topography.¹¹ Heavy metals and acidic wastes contained in the sediment could result in exposure of marine life to algal blooms and impacts on commercial fish species.¹² There are additional risks

of pollution—ranging from discharge from ships on the surface water, coupled with noise pollution from the vessels as well as from underwater equipment.¹³

5 REGULATORY REGIME

In general, the United Nations Convention on the Law of the Sea (UNCLOS) provides for a system of maritime zones that determine the applicable regime for seabed mining. First in terms of regulating activities within national jurisdiction, there is the territorial sea, followed by the contiguous zone, and finally the exclusive economic zone (EEZ), which can extend up to 200 nautical miles from the baseline. Within these maritime zones coastal nations have sole exploitation rights over all natural resources.¹⁴ Several countries already have national legislation that allows mining to take place within their national jurisdictions. These include Papua New Guinea, Tonga, Cook Islands, Micronesia, Marshall Islands, Solomon Islands, Kiribati, Tuvalu, Fiji and Vanuatu.¹⁵ UNCLOS also recognizes the rights of a coastal State over its adjacent continental shelf. Where the continental margin extends further than 200 miles, coastal States may claim jurisdiction of up to 150 nm. This is in addition to the EEZ. Beyond the EEZ and continental shelf lies “the Area”, whose natural resources are deemed to be the common heritage of mankind (Article 136). Here, no State may claim sovereignty or sovereign rights over any part of the Area or its resources (Article 137(1)).

9 Alex Benkenstein, ‘Seabed Mining: Lessons from the Namibian Experience (2014) 87 South Africa Policy Briefing 1-4 <http://www.saiia.org.za/doc_download/506-seabed-mining-lessons-from-the-namibian-experience> accessed 12 August 2015.

10 ‘China’s sub finds mysterious deep-sea living creatures in Indian Ocean’ *Times of India* (New Delhi, 15 January 2015) <<http://timesofindia.indiatimes.com/World/China/Chinas-sub-finds-mysterious-deep-sea-living-creatures-in-Indian-Ocean/articleshow/45896643.cms>> accessed 20 May 2015.

11 J Rogers and X Li, ‘Environmental Impact of Diamond Mining on Continental Shelf Sediments Off Southern Namibia’ (2002) 92(1) *Quaternary International* 101, 101-112.

12 Jan Markussen, ‘Deep Seabed Mining and the Environment: Consequences, Perceptions, and Regulations’, in Helge Ole Bergesen and Georg Parmann (eds.), *Green Globe Yearbook of International Co-operation on Environment and Development* (OUP 1994).

13 Jeremy Firestone and Christina Jarvis, ‘Response and Responsibility: Regulating Noise Pollution in the Marine Environment’ (2007) 10 *Journal of International Wildlife Law and Policy* 109, 109-152.

14 UNCLOS, Article 56(1)

15 During the seventeenth session of the Authority in 2011, Council further invited sponsoring States and other members of the Authority, as appropriate, to provide information on, or texts of, relevant national laws, regulations and administrative measures to the secretariat of the Authority see: ISBA, ‘Decision of the Council of the International Seabed Authority’ (2011) ISBA/17/C/20, para. 3; The database on national legislation is available at: <https://www.isa.org.jm/national-legislation-database> > Accessed 2 August 2015.

Under Article 157(1), the International Seabed Authority (ISA) is the United Nations organization designated for States Parties to administer the Area's natural resources. All State Parties to UNCLOS are members of the ISA. The ISA currently has 166 members consisting of 165 States and the European Union. Headquartered in Kingston Jamaica, the ISA is mandated to establish global rules, regulations and procedures for the exploration and extraction of mineral resources and protection of the environment in The Area.¹⁶ In addition to a Secretariat (Article 166, UNCLOS), the ISA operates through the Assembly and the Council. The Assembly (Articles 159 and 160, UNCLOS) comprises all members of the ISA, and is the supreme organ. It is empowered to appoint the Secretary-General, elect members of the Council, adopt rules, regulations and procedures, and approve the Council's recommendations. The Council (Article 161, UNCLOS) is the ISA's executive body. It comprises 36 ISA members, who the Assembly elects from different country groupings. The Council approves contracts with private corporations and government entities for exploration and mining in international waters. It also oversees rules for the exploration and extraction of seabed minerals and for environmental management of The Area.

The Council is supported by and takes decisions on the basis of the recommendations of two groups of expert individuals elected for 5-year terms. First, there is the Legal and Technical Commission (Article 163, UNCLOS), which comprises 25

individuals who specialise in subjects relevant to the exploration for and exploitation and processing of mineral resources. These include oceanography, protection of the marine environment, or economic or legal matters relating to ocean mining. There is also a Finance Committee, comprising 15 individuals, who oversee financial issues relating to the ISA. UNCLOS also provides for the Seabed Disputes Chamber of the International Tribunal on the Law of the Sea, which is empowered (under Article 191 of UNCLOS) to provide advisory opinions at the ISA's request, and to adjudicate any dispute arising in relation to the seabed. Finally, there is the Enterprise, a commercial entity (presently not operational) which is meant to partner with developing States that would otherwise lack capacity to conduct mining themselves.¹⁷

6

KENYA'S NRM FRAMEWORK

6.1 Setting the Scene

The appropriate starting point for any exploration of Kenya's NRM framework is Kenya's Constitution of 2010.¹⁸ There are practical benefits to doing so. Practitioners would recognise constitutional provisions can be used defensively—in terms of protecting against violation of one's constitutional rights—as well as “affirmatively”, in terms of compelling government to observe certain constitutional rights, such as those found in the Bill of Rights (Chapter 4) of the constitution. For investors, invoking particular, constitutional rights could provide a “safety net” for resolving problems that existing laws and procedures do not address. The fact that seabed mining is relatively new and fast evolving means that seabed laws are unlikely to address all the legislative and regulatory problems

¹⁶ The regulatory regime for deep-sea mining in the Area is principally highlighted in the “Mining Code”, which comprises relevant rules, regulations and procedures of the ISA. These are binding on all investors, whether States or non-state actors. The guidelines also introduce detailed environmental guidelines for the prospecting and exploring polymetallic nodules in the Area: Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area. Adopted 13 July 2000 (ISBA/6/A/18, dated 4 October 2000); Regulations on prospecting and exploration for polymetallic sulphides in the Area. Adopted 7 May 2010 (ISBA/16/A/12/Rev.1, dated 15 November 2010); and the Regulations on Prospecting and Exploration for Cobalt-rich Ferromanganese Crusts in the Area. Adopted 27 July 2012 (ISBA/18/A/11, dated 22 October 2012). Also relevant are the UNCLOS and the 1994 Agreement Relating to the Implementation of Part XI of UNCLOS 1836 UNTS 3.

¹⁷ Furthermore, under UNCLOS Annex III, Article 9 (1) and (2), in considering such joint ventures the Enterprise is obliged to offer developing states and their nationals the opportunity for effective participation.

¹⁸ Kenya, Constitution of Kenya Act of the Laws of Kenya (August 2010).

that arise. Investors could involve relevant constitutional provisions to ensure regulators' actions or decisions do not unfairly penalise them.

The Preamble to the 2010 Constitution makes reference to respecting the environment on grounds that it constitutes citizens' heritage, and should be sustained for the benefit of future generations. Furthermore, Article 10, on national values and principles of governance, imposes certain obligations upon State organs, State officers, public officers and all persons who enact, apply or interpret the 2010 Constitution, or any laws or any public policy decision. In effect, seabed mining laws and policies would have to incorporate principles of good governance, integrity, transparency and accountability, as well as sustainable development. Further, Article 35 provides that all citizens have the right of access to information, including information held by the State. Under Article 42, citizens have a right to a clean and healthy environment, including the right to have the environment protected for the benefit of present and future generation. Article 60 provides land in Kenya must be used and managed in a manner that is accordance with sustainable and principles. Under Article 61, all land in Kenya belongs to the people collectively as a nation, as communities and as individuals. According to Article 62, public land includes all minerals and mineral oils as defined by law, the territorial sea, the exclusive economic zone and the seabed and the continental shelf. Article 69 provides that public participation must be encouraged in respect of environmental management, protection and conservation. Furthermore, under Article 71, a transaction is subject to ratification by Parliament if it involves the grant of a right or concession by or on behalf of any person, including the national government, to another person for the exploitation of any natural resource of Kenya.

In summary, while the constitution is a source of legal rights and obligations, practitioners would be mindful of their limitations. To begin with, the presence of particular constitutional provisions does not necessarily mean they will be observed. It is possible that express constitutional provisions are honoured more in their breach than in their adherence. On the other hand, faced with

compelling facts, and where a constitutional right is established, both courts and regulators may be more willing accommodate the seabed mining entity even in the absence of explicit provisions under existing seabed mining laws.

6.2 Lesson 1: Address Ownership and Control

Effective ownership and control of seabed minerals is a *conditio sine quo non* for legal framework overseeing seabed mining activities. Determining this issue is important because of the practical implications that flowing from two key questions.

First, what are Kenya's territorial boundaries? By way of background, many African States have unresolved disputes arising over their maritime boundaries, often owing to historical reasons. Examples of African States with overlapping claims for their outer continental shelf areas, include Namibia and South Africa (4,776km²), Mozambique and South Africa (23,919km²), and Tanzania and the Seychelles (2,893km²).¹⁹ Although many African coastal States have submitted applications to the United Nations Commission on the Limits of the Continental Shelf (CLCS) relating to their outer continental shelf areas,²⁰ many (particularly adjacent States) have either been late in submissions, or made partial submissions, or have made submissions to overlapping areas of the outer continental shelf. A key reason for the delays can be ascribed to the complexity, scale and cost involved in gathering the relevant hydrographic, geological and geophysical data required to submit a claim under the conditions imposed by Article 76 of UNCLOS.²¹

19 Robert van de Poll and Clive Schofield, 'A Seabed Scramble: A Global Overview of Extended Continental Shelf Submissions' (Proceedings of the Advisory Board on the Law of the Sea (ABLOS) conference on Contentious Issues in UNCLOS – Surely Not?, Monaco, 2010) <<http://ro.uow.edu.au/cgi/viewcontent.cgi?article=2640&context=lhapapers>> Accessed: 18 February 2015.

20 African Union (AU), 'Decision on Extension of the African Continental Shelf and Climate Change', 31 January-2 February 2008, Doc.EX.CL/391 (XII).

21 Edwin Egede, 'Africa and the Extended Continental Shelf under the Law of the Sea Convention (2012) The Journal Jurisprudence 173, 173-200.

Unfortunately Somalia has instituted proceedings in the International Court of Justice against Kenya with regard to “a dispute concerning maritime delimitation in the Indian Ocean”. In its Application, Somalia requests the Court “to determine, on the basis of international law, the complete course of the single maritime boundary dividing all the maritime areas appertaining to Somalia and to Kenya in the Indian Ocean, including the continental shelf beyond 200 [nautical miles]”. Somalia further asks the Court “to determine the precise geographical coordinates of the single maritime boundary in the Indian Ocean”.²² From the perspective of seabed mining, several challenges are identifiable. One is that the existence of unresolved maritime boundaries render uncertain questions about which national authority has jurisdiction to license exploration and exploitation activities within the disputed territory. Furthermore, border disputes are likely to be protracted, which would affect investment decisions.

Secondly, what is a seabed mineral? This question presents the difficulty of distinguishing offshore minerals from their terrestrial counterparts. Some may be found both in both locations, while others may only be found offshore. What, then, are the applicable criteria when describing them? This question is not trivial. In practical terms, seabed miners might be subjected to statutory levies established under dedicated seabed mining laws as well as under conventional laws. Consider the case of seabed miners interested in exploiting undersea deposits of cobalt, manganese or gold. They may be required to pay levies imposed by the Mining Act 2015, whose jurisdictional scope extends to all minerals found in Kenya, potentially covers them, may affect them, in addition to any additional levies that may be imposed by other statutory funds relating to natural resources. One example is the Natural Resources Fund, created pursuant to the Natural Resources Benefit Sharing Act, 2014. This Act is discussed elsewhere in the study. Finally they

may also be required to pay into any funds established under seabed mining laws. The outcome would be multiple levies, which offends the principle of fairness.

6.3 Lesson 2: Importance of Streamlining Processes

Practitioners would recognise the importance of due process—in terms of ensuring that all necessary legal procedures are observed. However, unless these are streamlined, it is possible that they may result in unnecessary delays, costs, and possibly protracted litigation. The constitutional provisions on public participation provide a case in point. While companies may welcome the opportunity to engage with the public, through environmental impact assessments, they should be mindful of potential risks. Opposition to the firm’s proposed activities may be expressed through claims that certain procedures were not observed, or that certain affected persons were not consulted, or even that certain environmental risks were not adequately addressed. Whereas these concerns may be genuine, there is always a risk these issues are only being raised to frustrate the company’s progress.

A particular concern for practitioners would be ensuring procedures also specify timeframes. By way of illustration, let us consider the process involved in undertaking environmental impact assessments under Part IV (sections 58-67) of the Environment Management and Coordination Act, 1999 (EMCA).²³ Under section 58, project proponents must submit an EIA report in accordance with the relevant EIA regulations and guidelines.²⁴ One may expect to wait

²² Somalia Institutes Proceedings Against Kenya With Regard to “A Dispute Concerning Maritime Delimitation in the Indian Ocean” ICJ Press release 2014/27 <<http://www.icj-cij.org/docket/files/161/18360.pdf>> accessed 2 August 2015; more information on the proceedings are available at the International Court of Justice website <<http://www.icj-cij.org/docket/index.php?p1=3&p2=3&code=SK&case=161&k=00>> Accessed 2 August 2015.

²³ Kenya, Environmental Management and Coordination Act, EMCA (Act No 8 of 1999, Kenya Gazette Supplement No. 3, Acts No. 1, January 2000). Section 2 of EMCA defines “environmental impact assessment” as a systematic examination conducted to determine whether or not a programme, activity or project will have any adverse impacts on the environment.

²⁴ These include the Environmental (Impact Assessment and Audit) Regulations 2003, L.N. 101/2003; Environmental (Prevention of Pollution in Coastal Zone and Other Segments of the Environment) Regulations 2003, L.N. 159/2003; Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations 2009, L.N. No. 61 of 2009. Also refer to: <<http://www.nema.go.ke>> Accessed 3 August 2015.

for a period between 30 and 60 days. Upon receipt of the EIA study, the National Environmental Management Authority (NEMA) must publish a notice in each of two successive weeks in the Gazette and newspaper circulating in the area of the proposed project. Among the contents of the notice is a summary description of the project, the place where the project is to be carried out, and the place where the EIA study may be inspected, and a stipulation of a time limit not exceeding ninety days for the submission of oral or written comments on the said report.

Under section 59(2), the period for public consultations may be extended. Under section 60, a lead agency may be requested to submit written comments on the EIA report within thirty days of a written request by NEMA.²⁵ The nature of environmental and social risks associated with seabed mining is such that these agencies would likely be requested to review the EIA report. If timelines are not specified, it is possible that NEMA may make the written request *at any time* (emphasis added) within the public consultation period. Further delays may be expected if, under section 61, NEMA appoints a technical advisory committee to advise it on the EIA report. The Director-General of NEMA must prescribe the terms of reference and procedural rules of the committee. This might take time. Thereafter, even after the issue of an EIA licence, section 64(1) empowers NEMA to direct the licence holder to submit a fresh EIA. This may arise where it comes to light that the project poses environmental threat, which could not be reasonably foreseen at the time of the study.

To sum up, three practical issues present themselves. Firstly, a review of the EIA regulations does not identify specific guidelines relating to seabed mining. A practitioner may view that as a problem: existing regulations may be insufficient in addressing specific environmental risks arising in the marine ecosystems. Additionally, it is unclear as to the nature of qualifications needed to undertake EIA studies in the context of seabed mining. Unqualified

professional EIA consultants might undertake work of an unacceptable standard. Thirdly, the timelines (particularly from the regulator's point of view) appear open-ended. A practitioner would welcome having clear timeframes during which time matters can be heard, assessed and determined.

6.4 Lesson 3: Importance of Capacitating Judicial Officers

Practitioners would also recognise the importance of having well-exposed judges who understand the issues and are able to make reasoned judgments. Seabed mining is relatively new and highly complex. There is a risk that should conventional legal principles be applied in such context, the outcome may go against principles of fairness and justice. This, in turn, raises important questions about the extent of the judiciary's readiness to determine novel legal issues. Take, for example, the constitutional provisions of public participation and the right to information, and the challenges that arise when applying them to seabed mining. The case of *Erick Okeyo v County Government of Kisumu & 2 others*²⁶ concerned an award of contract for solid waste management in Kisumu County, Kenya. The petitioner, a resident of the country, challenged the award on several grounds, including the fact that Article 201 of the Constitution requires public participation. He argued that a policy needed to be developed following public participation before any tender could be floated. He also argued that the respondent's refusal to provide information regarding the tender effectively denied him the right to public information, as provided under Article 35 of the Constitution. Lastly, he complained that his right to a clean and healthy environment under Article 42 was threatened.

In its judgement the Court observed that the Constitution and the County Governments Act (No 17 of 2012) provide for citizen participation in several instances, including the legislation process, policy formulation, planning and development, effective resources mobilization and use for sustainable development, project identification,

²⁵ Section 2 of EMCA defines a lead agency as any government ministry, department, parastatal, state corporation or local authority, in which any law vests functions of control or management any element of the environment or natural resource.

²⁶ [2014] eKLR. The case is available on the Kenya Law Reports (KLR) database: < <http://kenyalaw.org/caselaw/cases/view/97414/> > Accessed: 17 May 2015.

prioritisation, planning and implementation. This is in order to ensure citizens can play a more effective role in the governance matters affecting them. The project was held constitutionally and legally indefensible because there was no evidence to show how the solid waste management project was conceived. Neither was there evidence that the project arose from any policy decision and objective in which the residents of the County were engaged.

If this court decision were applied to a seabed mining matter, important policy questions would arise regarding the nature and extent of public participation:

1. How would the public participation principle fulfilled in the context of seabed mining? How exactly should the public become involved in law making, policy formulation, and project development processes?
2. How much information are members of the public entitled to, bearing in mind the sensitive commercial considerations, and the highly technical processes involved in the seabed mining endeavour, and the evolving state of knowledge over the environmental issues at stake?
3. Who determines that sufficient regard has been had to the aforementioned constitutional provisions, namely the procedural rights? On what basis is such determination made?

The 'golden thread' running through these questions points to the importance of building capacity of judges. Apart from theoretical insights on the technical subject matter, local judges would benefit from understanding how courts in other regions address issues like right to information and public participation, and the nature of reasoning applied when balancing environmental and developmental considerations.

6.5 Lesson 4: Learning from Other Legislation

Practitioners would also appreciate having policies which draw on lessons-learnt and best practices from

related legislation. Take the notion of "local content" for instance. In principle, its purpose is clear: giving locals and local businesses opportunities in the procurement process. However, insights from the mining, energy and petroleum sectors suggest a divergence of approaches. Whereas different sectors may have unique features that lend themselves to particular approaches, the lesson for seabed mining legislation is that there is merit in compiling the various approaches used, and identifying the best features, and apply them to the context of seabed mining.

Insights from the petroleum sector suggest a move away from individually negotiated contracts to a model production-sharing contract. Section 9(1)(g) of the Petroleum (Exploration and Production) Act 1986 provides that one of the implied terms of a petroleum agreement (Production Sharing Contract or "PSC") is an obligation on the contractor to give preference to the employment and training of Kenyan nationals in petroleum operations. Section 9(1)(h) of the Petroleum (Exploration and Production) Act 1986 provides that a PSC must contain an obligation on the contractor to give preference to the use of products, equipment and services that are locally available. A different approach is seen in Schedule 1 of the Petroleum (Exploration, Development and Production) Bill of 2015, which contains a model PSC. A PSC is defined under section 2 of the Bill as a petroleum agreement entered between the Government and the contractor, which enables the contractor to explore, develop and produce petroleum within a contract area. From the above, important questions for seabed mining legislation would be:

- 1) Should local content be individually negotiated, or is it a matter for legislation?
- 2) What are the timelines required for the implementation of local content legislation or policy statements?
- 3) What are the envisaged monitoring and evaluation mechanisms?
- 4) Which stakeholders would be involved in local content policy formulation and in monitoring its compliance?

Similarly, insights from the mining sector highlight the importance of clearly regulations. The Mining (Local Equity Participation) Regulations of 2012 provide that they apply to Kenyan citizens, and that local equity means the share of interest in a mining right, which must be held by a Kenyan citizen. The regulations further provide that every mining licence must have a component of equity participation amounting to at least 35% of the mineral right. From a legal practitioner's perspective, clarity is needed on the following:

1. Would a seabed-mining venture be covered under such rules? If so, when must a mining venture have attained a 35% local equity ratio?
2. At what stage of the mining lifecycle would such rules apply: prospecting or during exploitation?

In summary, the point of comparing legislation with comparable provisions, for instance on local content and local equity participation is to identify best-practices, weed out poorly-drafted or imprecise provisions, and, above all, to identify important policy issues that stakeholders in other related sectors may have already identified practical solutions. Through "cross-checks", unnecessary duplication would be avoided, while also resulting in time-savings.

6.6 Lesson 5: Benefit-Sharing Must Be Clearly Defined

Practitioners would highlight the importance of ensuring that the economic benefits accruing from seabed mining are clearly defined in existing national laws. Whereas the constitution entitles citizens to receive a benefits of the country's natural resources, it is still necessary to "fine-tune" existing institutional arrangements. Let us consider the Natural Resources (Benefit Sharing) Act 2014 (hereafter referred to as the Benefit Sharing Act). This establishes a system of benefit sharing between the parties, the government and local communities. It also establishes the Natural Resources Benefits Sharing Authority. Under section 2, "benefit", refers to gains, proceeds or profits from the exploitation of natural resources. Further, "benefit sharing" refers to sharing

of any benefits arising from the utilization of natural resources in a fair and equitable manner.

The first set of practical considerations relate to the institutional arrangements. Section 3(i) of the Act provides that its scope extends to petroleum and minerals. The Act further provides that while the abovementioned benefits-sharing authority administers it, the Kenya Revenue Authority undertakes actual revenue collection. This means that if the dedicated seabed mining legislation creates its own institution, then a tripartite arrangement between Natural Resources Benefits Sharing Authority, the Kenya Revenue Authority and itself is necessary. Even more important is the revenue-sharing ratio, and the importance of ensuring that it is adjusted to ensure its relevance in the context of seabed mining. Under s. 26(1), revenues collected must be shared as follows: sovereign wealth fund (20%), national government (60%), and devolved (County) government (40%). Section 26(2) provides that the monies paid into the sovereign wealth fund must be paid as follows: Futures Fund (60%) and Natural Resources Royalties Fund (40%). Furthermore, under section 26(3), at least 40% revenue assigned to the county governments must be assigned to local community projects and 60% must be utilised in the whole county. Specific concerns for seabed mining, here, are:

1. What is the appropriate ratio for sharing revenues collected between the sovereign wealth fund and national government? Are there any circumstances under which revenues can be shared with county governments?
2. How should revenues be paid into the sovereign wealth fund?
3. What is the purpose of such Natural Resources Royalties Fund? Could it be used to support development of the seabed mining industry? What arrangements could prevent double-payment of levies on account of minerals that are extracted both offshore and on-shore?

The political significance attached to having sound legal provisions that adequately address "benefit-

sharing” cannot be understated. Some county governments, particularly those closest to the site of mining operations, may be viewed as unduly benefitting from the economic opportunities generated from mining operations. Other county governments, perhaps those situated far away from the coast, may complain of being marginalised. Yet others may argue that since they have contributed most of the skilled labour (e.g. graduates from particular universities), then they deserve additional compensation for maintaining those facilities. Such demands, however inconsequential as they might initially seem, could quickly descend into protracted (and unnecessary) national political debates.

6.7 Lesson 6: Benefits of Regional Cooperation

There are clear advantages to cooperating with neighbouring countries along environmental issues. The East Africa Community Protocol on Environment and Natural Resources Management (EAC Protocol) provides the best justification for Kenya to partner with other EAC Member States (Kenya, Uganda, Tanzania, Rwanda and Burundi) in the management of the environment and natural resources found within their jurisdiction. These include minerals and energy resources. Practitioners and judicial officers would clearly appreciate opportunities to share experiences and compare approaches used in relation to public participation, prior informed consent, notification in cases of activities with transboundary impacts, information sharing, strategic environmental assessments, and regional approaches which could be used to facilitate participation of civil actors.²⁷

The benefits of cooperation extend much further, however. For instance, UNCLOS contains several provisions, which encourage countries to cooperate. These include Article 118, which concerns co-operation in the conservation and management of living resources of the high seas. Additionally, Articles 197–201 concern co-operation on protection and preservation of the environment. Furthermore,

Articles 242–244 encourage countries to co-operate on marine scientific research. Finally, Articles 270–274 concern co-operation on development and transfer of technology.

Additionally, the seabed minerals sector could be viewed as providing opportunities for an entire region to supply goods and services: distribution services, education services, financial services, tourism and travel-related services as well as transport services. Apart from sharing in the economic benefits, they could also address other policy concerns, such as youth unemployment and enhancing the region’s skills base. However, a worrying tendency is to view the national seabed mineral resources along strictly ‘national’ lines. By way of illustration, let us consider the Energy (Local Content) Regulations, 2014. Section 2 defines local content as the use of Kenyan local expertise, goods and services, people, business and financing before the systematic development of national capacity and capabilities for the enhancement of the Kenyan economy. In part II, which concerns local content obligations, Kenyan citizens must have consideration for employment and training in any operations executed by a licensee, the contractor or its sub-contractor, or any other entity in energy activities. Furthermore, first consideration must be given to services provided from within Kenya, to goods manufactured in Kenya, to locally available goods and Kenyan citizens. Finally, a non-indigenous Kenyan company which intends to provide goods, works or services to a licensee, contractor or its sub-contractor, or any other entity within the country shall incorporate a joint venture company or any other business arrangement with an indigenous Kenyan company and afford that indigenous Kenyan company a participation of at least ten per cent of equity or contract value.

The above provisions appear to be in breach of the 1999 East African Community Treaty, which in Article 76 calls for free movement of goods, labour, capital and service within the region. The specific protocol under discussion is the EAC Common Market Protocol, which came into effect on 1 July 2010, and was to be implemented by 2015. Under Articles 7 and 10 of this Protocol, there should be free movement of workers who are citizens of other partner states within other partner states.

²⁷ Nicholas Kimani, ‘A Collaborative Approach to Environmental Governance in East Africa’ (2010), 22(1) *Journal of Environmental Law* 27, 53-56.

Furthermore, there must be non-discrimination of workers in relation to employment, remuneration and other conditions of work and employment. Non-discrimination, here, means that a partner state must treat nationals of other partner states in a manner not less favourable as it would treat its own. “Not less favourable” means that persons supplying services should be able to supply the services to consumers in other partner states and must be treated equally to domestic suppliers.

In summary, it is important to consider the seabed minerals from a regional perspective—both on environmental grounds, but also as a resource that can be jointly developed for the benefit of the region as a whole. The undue emphasis on Kenyan citizens in respect of local content and local equity participation seems to reflect “resource nationalism”. This is where host governments seek greater control over extractive activities at the expense of a more open and co-operative approach involving neighbouring countries.

6.8 Lesson 7: Importance of Long-term Planning

“Technology transfer” refers to the process of transferring know-how or knowledge among knowledge institutions in order to ensure that the technological advancements are made available to others who can further develop the technology into new uses. Review of relevant legislative provisions demonstrate this issue is taken very seriously, and bears a number of implications for long term planning at national and continental levels.

Section 23 of the Petroleum Bill 2015 requires the Upstream Petroleum Regulatory Authority, in consultation with the relevant Ministries, Departments and Agencies, to develop and publish the National Plan on technology transfer with respect to the petroleum industry. Thereafter, under section 24, a contractor must support and carry out a programme in accordance with the national plan on technology transfer and priorities for the promotion of technology transfer to Kenya in relation to the upstream petroleum industry. Furthermore, section 25 requires all Technology Transfer Plans submitted to include a programme

of planned initiatives aimed at promoting the effective transfer of technologies from the contractor or its sub-contractor, licensee, or any other entity to an indigenous Kenyan company, established centres of excellence or citizens. Further, contractors must support and facilitate technology transfer as regards the formation of joint ventures, partnering of licensing agreements between indigenous Kenyan companies or citizens and foreign contractors and service companies or supply companies.

The relevance of these provisions in relation to seabed mining legislation are best understood by reference to issues highlighted by Edwin Egede. He identifies the main obstacles to African countries’ participation in deep-sea mining: absence of technology and limited finances.²⁸ The complexities of surveying, prospecting, exploration and eventual exploitation and processing merely point to the fact that deep seabed mining requires immense technological capabilities.²⁹ The costs of developing such technology are also out of reach for African countries. Having said that, something needs to be done. Looking at the African Union’s 2050 Africa Integrated Maritime (AIM) Strategy envisages a Common Exclusive Maritime Zone of Africa (CEMZA), which will encompass a host of maritime activities, including seabed mining. According to the Strategy, CEMZA is expected to:

...grant Africa enormous cross-cutting geo-strategic, economic, political, social and security benefits, as it will engender collective efforts and reduce the risks of all transnational threats, environmental mismanagement, smuggling and arms trafficking.³⁰

28 Edwin Egede, ‘Africa And The Extended Continental Shelf Under The Law Of The Sea Convention (LOS) 1982 (2012) *The Journal Jurisprudence* 173, 177-179; Edwin Egede, ‘African States and Participation in Deep Seabed Mining: Problems and Prospects’ (2009) 24 *International Journal of Marine and Coastal Law* 24 (2009) 683, 683-712.

29 Edwin Egede, ‘African States and Participation in Deep Seabed Mining: Problems and Prospects’ (n 26) 685-689.

30 African Union, ‘Africa Mining Vision’ (February 2009) < <http://www.africaminingvision.org> > accessed 8 December 2014.

To realise these benefits, African countries must develop a collective marine policy, with an appropriate institutional framework, and sufficient funding and governmental support that is oriented towards developing marine technology. At a national level, it may be necessary to first determine elements of a national plan required before demanding compliance by seabed miners.

7 TOWARDS AN AFRICAN SEABED MINING VISION

The practical insights identified within this study provide important elements that could inform a four-pronged “African Seabed Mining Strategy”: development of a seabed minerals atlas, legal and institutional framework, an economic component, and, finally, formulation of strategic interventions. The first task, long overdue, entails developing an accurate “seabed minerals atlas”, which combines illustrative maps, charts and comparative images of the continent’s riches. This resource would be aimed at a range of end-users: policy-makers, who would use it for preliminary evaluation of technical and economic potentials in their own planning processes. The atlas would also benefit private investors, who would use it to study market potentials before engaging in their own detailed studies. Finally, scholars and members of the public would use the atlas for basic information and awareness building.

Secondly, the strategy proposes development of a legal and institutional framework would involve clustering African countries in form of sub-regions—e.g. Eastern, Southern, Lusophone, Francophone, Northern Africa. Thereafter in each sub region, initial surveys may be undertaken of the underlying NRM frameworks potentially applying to seabed mining. Ideally, local experts should be used, as they would also play a key role in any future local capacity-building efforts. They would also be familiar with local laws, and have greater familiarity with developments in related fields, such as mining, oil and gas or energy. Thereafter, sub-regional

consensus-building workshops could be held to identify common issues and concerns relating to that particular region. Resource persons from other regions can be brought in to share expertise on law and policy-making.

Additional expertise could be drawn from external bodies: the ISA, the United Nations Economic Commission for Africa and the United Nations Environment Programme. Where necessary, distinguished scholars with expertise in different fields would be approached for their input. Finally, consultants drawn from each sub-region would be tasked with developing draft model legislation, and model resources, which may be used in community outreach, legal compendia, and model curricula for African learning institutions.

The proposed “African Seabed Mining Strategy” encompasses more than just a legislative exercise. Its overarching objective concerns the determination of specific strategies through which African countries could optimize the benefits of their seabed mineral resources. African governments, and ultimately the African Union must take up the challenge of formulating strategies, aimed at breathing life into the 2008 Resolution. These strategies must ensure that citizens are “capacitated” at each major stage of the seabed mining value chain. To avoid duplication of effort, these could draw from existing policies and strategies, which are relevant to seabed mineral resources, including science and technology, mining and maritime issues.³¹ Also relevant are strategies and policy pronouncements like the CEMZA and the African Mining Vision (AMV)³². Apart from providing overarching goals, they also provide a common platform, which allows national agencies that are responsible for science, technology and innovation

³¹ African Union, ‘Ministers Responsible for Maritime Related Affairs Strive to Develop and Finalize the 2050 Strategy’ (Press Release N 022/122, 21 April 2012) <http://pages.au.int/sites/default/files/Press%20Release%20-%20Closing.pdf> > Accessed 15 January 2015.

³² The African Mining Vision (n 30) specifically highlights the need to harness the continent’s mineral resources in a transparent and equitable manner that also underpins broad-based sustainable growth and socio-economic development.

to collaborate around developing appropriate technology, legal and institutional development.³³

The final element comprises a number of specific priorities, firstly that Africans can explore locate resources as well as to test ore content and quality. As Egede explains, institutional arrangements for co-operation in economic and social development are already in existence, and these could form the basis for future cooperation on technology transfer and knowledge dissemination.³⁴ India, for instance, has a long-running programme in developing its own technology for deep-sea exploration for minerals and methane hydrates.³⁵ Similar sentiments would apply to the next stage, which relates to extraction: ensuring that Africans can develop, own, and operate the equipment used in transporting ore to the surface. Strategies are also needed on the third stage: transportation phase where emphasis is on ensuring Africans are involved in shipping and shipbuilding industries. Finally, there is the processing phase, where emphasis would be on determining how Africans could own the plants, ideally situated in Africa, which refine and export the minerals.³⁶

8 CONCLUSION

The take-home message is simple: countries should develop seabed mining laws that maintains environmental and social protections, yet whose safeguard rules are easier to understand and can be implemented at lower cost. If countries blindly copy legislation from other jurisdictions, or place hopes upon so-called “best practices” guidelines, they are at risk of ending up with a national seabed mining legal regime that is fragmented, inefficient and costly to administer from industry’s perspective. In this regard, the metaphor of a legal practitioner emerges as a useful prism through which laws dealing with NRM, energy or extractives have identified potential conflicts, opportunities and policy issues. The outcome of such deliberations, however, will depend on the priorities of the political leaders and commitment of national regulators who will be charged with overseeing the law-making process.

33 See: Ecorys, ‘Study to investigate the state of knowledge of deep-sea mining: Final Report to European Commission - DG Maritime Affairs and Fisheries under FWC MARE/2012/06 - SC E1/2013/04 (2014) pp 55-64 <https://webgate.ec.europa.eu/maritimeforum/sites/maritimeforum/files/FGP96656_DSM_Final_report.pdf> Accessed 26 January 2015.

34 Edwin Egede, *African States and Participation in Deep Seabed Mining: Problems and Prospects* (2009) 24 *International Journal of Marine and Coastal Law* 24 (2009) 683, 709-711.

35 India’s Ministry of Earth Sciences has a programme on developing a seabed mining machine. See: <<http://www.moes.gov.in/programmes/development-deep-sea-mining-machine-continuing>> Accessed: 24 January 2015.

36 Ecorys, ‘Blue Growth: Scenarios and Drivers for Sustainable Growth in the Oceans, Seas and Coasts: Marine Sub-Function Profile Report Marine Mineral Resources (3.6)’ (13 August 2012) <https://webgate.ec.europa.eu/maritimeforum/sites/maritimeforum/files/Subfunction%203.6%20Marine%20Mineral%20resource_Final%20v120813.pdf> accessed 24 January 2015.

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