

| | | |
|---|----------------------------------|--|
| Institution: Cardiff University | | |
| Unit of Assessment: Politics and International Studies (19) | | |
| Title of case study: Embedding Deep Seabed Mining into Africa's Blue Economy policy | | |
| Period when the underpinning research was undertaken: 2009-2019 | | |
| Details of staff conducting the underpinning research from the submitting unit: | | |
| Name(s): | Role(s) (e.g. job title): | Period(s) employed by submitting HEI: |
| Edwin Egede | Professor | 05/03/2007 - present |
| Period when the claimed impact occurred: 01/08/2013-31/07/2020 | | |
| Is this case study continued from a case study submitted in 2014? No | | |
| 1. Summary of the impact (indicative maximum 100 words) | | |
| <p>Between 2020 and 2030, 5-10% of the world's minerals will come from Deep Seabed Mining (DSM), with global annual turnover growing from virtually nothing to an estimated €10B. Cardiff research helped enable African states, currently the only region in the world which has not developed an approach to DSM, to develop strategies to match global development and access this untapped resource. This research changed the policy approach of international organisations, including the United Nations Economic Commission for Africa and the maritime strategy of the African Union. Through the development of a 'Roadmap' framework, the research also developed the DSM capacity of individual countries, such as Ghana.</p> | | |
| 2. Underpinning research (indicative maximum 500 words) | | |
| <p>Deep Seabed Mining (DSM) is part of the Blue Economy – an emerging concept in international relations which encourages sustainable use of ocean resources for economic growth. The deep seabed is beyond national jurisdiction and mineral resources located there are the common heritage of mankind. Known as the 'Area', it covers more than 54% of the total area of the world's oceans, and offers a future source of mineral resources to support an increasing global population, address challenges with accessing land-based deposits, and provide the rare metals needed to drive the future renewable economy.</p> <p>Cardiff research highlighted that Africa is currently the only region in the world not engaged in DSM initiatives, meaning that mining sites off the coast of Africa's states would be utilised by other countries [3.1, 3.2]. Failing to access this untapped resource means: i) African states would miss out on numerous economic benefits and ii) negative impacts to African waters and coastline as a result of mining activities would be out of their control [3.1, 3.2].</p> | | |
| 2.1 African engagement with DSM | | |
| <p>Cardiff research highlighted the strategic policy importance of Africa's engagement with the DSM sector, arguing that:</p> <ul style="list-style-type: none"> • DSM will ultimately compete with Africa's land-based mineral industries so it would be strategically prudent for Africa to diversify its mineral production base by actively engaging with the DSM industry [3.1, 3.2, 3.3, 3.4, 3.5]; • DSM's potential environmental impacts could affect the oceans adjacent to the African continent. Active African involvement in the development of the appropriate regulatory framework would ensure that mining activities are carried out sustainably [3.1, 3.2, 3.3, 3.6]; • Direct engagement with DSM by African states would help encourage capacity building and transfer of marine technology [3.1, 3.2, 3.5]. | | |
| 2.2 Strategies for increasing African engagement | | |
| <p>Cardiff's research proposes more proactive and cohesive African engagement at global, regional and state levels with the ongoing development of the appropriate regulatory frameworks for DSM. Egede recommended relatively cost-effective approaches to promote</p> | | |

Africa's engagement, including [3.1, 3.2, 3.4]:

- Intra-African cooperation, involving a pooling of resources (employing the African Union and regional economic communities as such cooperative platforms);
- Strategic cooperative alliances with States already engaging with DSM activities, for example South-South cooperation between Africa and China, and South-North cooperation between Africa and the EU;
- Public-private partnerships between interested African States and transnational corporations with the necessary technology.

The research also recommended revisiting the African Integrated Maritime (AIM) Strategy of the African Union (adopted in 2014 as a long-term vision to better harness Africa's blue economy) to incorporate an approach to DSM [3.3, 3.4]. This would ensure African states were better placed to strategically engage with this future major source of mineral wealth and to protect their marine environments from potential negative impacts.

3. References to the research (indicative maximum of six references)

[3.1] Egede, E, African States and Participation in Deep Seabed Mining: Problems and Prospects, 2009, 24(4) *International Journal of Marine and Coastal Law*, pp.683-712; DOI:10.1163/157180809X45560

[3.2] Egede, E, *Africa and the Deep Seabed Regime: Politics and International Law of the Common Heritage of Mankind*, 2011, Springer, Heidelberg/Dordrecht/London/New York); DOI:10.1007/978-3-642-17662-3

[3.3] Egede, E, Institutional gaps in the Africa's Integrated Maritime (AIM) Strategy, 2016 *Journal of Ocean Law and Governance in Africa (JOLGA)*, pp.1-27, ISSN 2414-8253. Available from HEI on request.

[3.4] Egede, E, Deep Seabed Mining (DSM): Sponsorship and Responsibilities of Developing States, in Alexander Proelss, Nele Matz-Lück and Markus Kotzur, (eds.), *A Sea Change for Sustainable Ocean Resource Governance* (Brill Publishers, 2018), pp.157-184, DOI:10.1163.9789004360273

[3.5] Egede, E, Pal, M, and Charles, E, *A Study on Issues Related to the Operationalization of the Enterprise in particular on the Legal, Technical and Financial Implications for the International Seabed Authority and for States Parties to the United Nations Convention on the Law of the Sea*, 2019, (Peer-reviewed Study for International Seabed Authority, Kingston, Jamaica), pp.1-47, https://isa.org.jm/files/files/documents/enterprise_study.pdf

[3.6] Egede, E, Maritime Security and the Deep Seabed Beyond National Jurisdiction', in Catherine Barnett (ed.), *New Uses and Abuses of the Seabed – Legal Challenges* (Brill Nijhoff, 2019), pp.185-210. ISBN 9789004391550. Available from HEI on request.

4. Details of the impact (indicative maximum 750 words)

Cardiff's research was instrumental in enabling African states to engage with Deep Seabed Mining (DSM), with Egede central to supporting an African common approach to DSM. This included appointment as a consultant for UNECA (United Nations Economic Commission for Africa) between 2016 and 2020, and membership of the Group responsible for integrating DSM into the African Union maritime security strategy in 2016.

Kaiser De Souza, Egede's collaborator at UNECA, confirmed that "Egede's research findings have created an important shift in African DSM policy, from ignoring the DSM sector in long-term African Ocean Economy Strategies, to developing it as an essential pillar for the first time. This has helped African States to develop strategies to match development in this area with other regions globally" [5.1].

4.1 Mobilising a common international approach to African DSM

De Souza stated that "Egede's research was the first to highlight to the UN that African Maritime Strategies had not included DSM" [5.1]. He noted that the "research has been essential in rethinking policies towards DSM...in the case of UNECA, it has been vital in

revealing the lack of engagement in the region, and in developing our ability to undertake developmental work to better engage African states” [5.1]. Other international organisations have also changed their policy approach to the positive benefit of African nations, for example:

- Funmi Folorunsho, Chairperson of a Maritime Strategy ad hoc expert group for the African Union (AU, a continental body comprising 55 member states) said: “Egede’s research has ensured that there is a greater understanding of the opportunities available through DSM, both for the AU as a governing body and for the individual countries that it represents. This has led, for the first time, to the integration of DSM into the policy approach of the AU” [5.2]
- Michael Lodge, Secretary General of the International Seabed Authority (ISA) – an autonomous body set up by the UN to organise, regulate and control access to the ‘Area’ – stated that the research “served as a ‘go to’ reference book” which “assist[ed] ISA to identify the key critical capacity-building needs of African states” [5.3].
- Mehdi Ramaoun, Permanent Mission of Algeria to the UN and Coordinator of the African Group of the ISA, noted that “[Egede’s] research work has been highly influential...to coordinate and develop an African common position” [5.4].

The research also changed the approach of African states towards DSM. As UNECA consultant, Egede co-developed a first-of-their-kind series of workshops for individual states and international bodies [5.1, 5.5]. De Souza described them as “an important step forward in advancing African countries engagement with DSM” [5.1]. The 2017 workshop was attended by over 60 policymakers from 11 African countries (including Uganda, Nigeria, and South Africa), as well as NGOs and international organisations (including the International Seabed Authority (ISA), the PEW Charitable Trust (USA), DEME-Group (Belgium), and the Netherlands’ Ministry of Foreign Affairs). The workshop made a number of recommendations reflecting Egede’s research [3.1, 3.2, 3.3] including:

- For African countries to “include environmental sustainable standards in African states’ mining legislation, regulatory frameworks and policies in order to mitigate or minimize the environmental impact in mining activities” [5.6a, p.41];
- For the African Union, the International Seabed Authority and the African Minerals Development Centre (policymakers from all of these attended the workshop) to “work with partner organisations in creating awareness and disseminating information about deep seabed mining activities, technology and development” [5.6a, p.41].

De Souza confirmed that the workshop “was successful in its aim of encouraging African states to develop a greater understanding of DSM as a strategic priority and the ways they could engage with the sector, and to start to consider plans they could put in place to achieve this” [5.1].

In 2019, two subsequent workshops (Ghana, January and South Africa, May) brought a total of 93 policy makers together from 20 African countries and eight international organisations including African Minerals Development Centre and Commonwealth Secretariat [5.6b]. This culminated in a fourth focus group led by Egede in 2020, with nine participants from seven key African countries that would be most affected by DSM [5.7, p.31]. The main outcome of this workshop was to review and input into Egede’s ‘Roadmap for Development of DSM’, described below.

4.2 Improved individual country capacity to engage with DSM

Egede worked directly with individual African countries including Uganda, South Africa and Ghana to develop their approach to DSM, including being contracted by UNECA to produce the ‘Roadmap for Development of DSM’ [5.7]. This framework, launched in May 2020, outlines seven steps to close what it describes as “glaring gaps” in the African approach to DSM [5.7]. De Souza noted this “key document” is “a huge mark of success, in terms of Egede’s research reshaping debate in the region” [5.1]. It uses Egede’s research [3.1, 3.2, 3.3, 3.4, 3.5], and recommendations highlighted at the three UNECA workshops, for example:

- Strategic Goal 1 includes establishing a trans-African coordinating body to “harmonise involvement” in DSM, promote technology transfer and capacity building [5.7, p.19].

- The Roadmap lays out a framework for how countries can ensure that the environmental impact of DSM is mitigated or minimized [5.7, p.14-16].

With Ghana and South Africa, Egede is working on supporting their implementation of the Roadmap. Engaging with DSM is particularly important for Ghana as one of the world's leading exporters of manganese, which will likely see price fluctuations in the future as DSM provides an alternative source.

[Text redacted]

For example, Egede's research is referenced in the 2019 training outline for African states, to make the case for the need to train African countries in this area [5.9, p.4].

4.3 Integrating DSM into the African Union Charter of Maritime Security, Safety and Development

Cardiff's research also changed the maritime security policy of the African Union (AU). The 2016 Charter of Maritime Security, Safety and Development, also known as the Lomé Charter, is an implementation tool of the AU's African Integrated Maritime Strategy which coordinates and legally binds the approach of all 55 member states on maritime development and activities.

Egede, as the only academic with DSM experience, drafted Annexes to the Charter in 2017. Funmi Folorunsho, appointed Chairperson of the ad hoc expert group by the AU, noted, "*The Charter had already been agreed...but Egede's research findings highlighted that this [DSM] was an important area that we had thus far not developed an approach towards*" [5.2] and that "*the DSM provisions of the Annexes particularly addresses Egede's research*" [5.2]. It requires African states to:

- "Individually, bilaterally, or in cooperation at the regional or continental level, undertake to sponsor entities to engage in deep seabed mining in the Deep Seabed Area" [5.2];
- "Ensure entities sponsored by the States Party carry out mining activities in accordance with the State Party's obligations under international law with respect to the protection of the environment" [5.2];
- "Cooperate to strengthen their capacity to engage in deep seabed mining" [5.10].

The Annexes were subsequently validated in an AU workshop for a wide range of stakeholders from all sectors, including practitioners, academia, and the private sector. They are currently being examined by member States prior to adoption by the AU Assembly and, in line with the rest of the Charter. Folorunsho states: "*This will create a legally binding approach towards engaging with DSM*" [5.2].

Folorunsho continued: "*Without Egede's research, and the influence his findings have had on policies and approaches, the integration of DSM into the African region's (and particularly AU's) policies would not have been possible. His role has been really important in this first key step towards the end goal of an African nation (or group) sponsoring an entity...to engage with deep seabed mining.*" [5.2]

Prior to Egede's work, Africa was the only regional grouping in the world which had not engaged with DSM as an integral future source of mineral resources. Through Egede's role as UNECA consultant, Cardiff research raised awareness of the political, strategic and socioeconomic importance of DSM for Africa and led to the development of an international common approach to DSM in Africa. This includes the integration of DSM into African Union maritime policy. The development and publication of the 'Roadmap for Development of DSM', and work with individual countries including Ghana, also improved the capacity of individual countries to engage with DSM for the first time. Folorunsho notes that Cardiff's research "*supported African countries to keep pace with the rest of the world in terms of their engagement with and exploration of the DSM sector*" [5.2].

5. Sources to corroborate the impact (indicative maximum of 10 references)

[5.1] Testimonial: Kaiser De Souza, Senior Economy and Natural Resources Management Expert, Natural Resources Management Section, United Nations Economic Commission for Africa

[5.2] Testimonial: Funmi Folorunsho, Chairperson of the AU ad hoc expert group charged with drafting the Lomé Charter; Secretary-General to the African Shipowners Association

[5.3] Testimonial: Michael W Lodge, Secretary General of the International Seabed Authority

[5.4] Testimonial: Mehdi Ramaoun, First Secretary, Permanent Mission of Algeria to the UN, 2017

[5.5] UNECA Appointment letter 2016

[5.6] a) ISA-AMDC Kampala Workshop 2017 Technical Study ('Marine mineral resources of Africa's continental shelf and adjacent international seabed') b) Attendance lists for Ghana workshop (January 2019) and South Africa workshop (May 2019)

[5.7] UNECA Contract of Appointment and Strategic Roadmap for the Development of DSM

[5.8] [Text redacted]

[5.9] International Seabed Authority Training Programmes for Developing Countries: African Group (2019)

[5.10] Annexes of the AU African Charter of Maritime Security, Safety and Development in Africa 2016