SEA VIEWS

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Deep seabed mining: Should Malaysia get involved?

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The "National Conference on the United Nations Convention on the Law of the Sea 1982: 30 Years On" held by MIMA in December 2012, assessed Malaysia's progress in the implementation of the convention. Malaysia has done significant work in implementing the LOSC within its national jurisdiction, and is now beginning to look into the developments in the international seabed Area and to consider exploration of its mineral resources. This commentary looks at the benefits and opportunities, as well as the challenges and concerns should Malaysia get involved in deep seabed mining in the Area.

The Area refers to the seabed, ocean floor and subsoil beyond limits of national jurisdiction (beyond 200 nautical miles from baselines or 350 nautical miles of baselines with an extended continental shelf) and include all solid, liquid, or gaseous mineral resources in situ, at or beneath the seabed. The geological conditions for the formation of these resources, i.e., metallic minerals such as manganese and cobalt, occur only in the deep waters of the Area. Within the exclusive economic zone of Malaysia, generally at water depths less than 200 m, such metallic minerals are not the norm.

The International Seabed Authority (ISA), an autonomous international organisation administers mineral resources in the Area as guided by the common heritage of mankind principle expressed in Part XI and Annex III of the LOSC and the 1994 Implementation Agreement. The ISA has

issued what is commonly referred to as the Mining Code to regulate prospecting, exploration and exploitation of minerals in the Area.

The fundamental principles governing the Area are covered by Articles 136 to 141 of the LOSC. The Area and its resources are considered the common heritage of mankind and all rights in them are vested in mankind as a whole, are represented by the ISA and that no state can claim or exercise sovereignty or sovereign rights over them. Also, activities in the Area are to be carried out for the benefit of all mankind and for peaceful purposes.

Prospecting and exploration in the Area as regulated by the Mining Code covers each of the deep seabed mineral resources namely polymetallic nodules, polymetallic sulphides, and cobalt-rich ferromanganese crusts. However, regulations for exploitation of the mineral resources are not yet available.

Only state parties, state enterprises sponsored by state party or natural or juridical persons sponsored by a state party may apply for a prospecting or exploration licence in the Area. State sponsorship is a fundamental requirement indicating the effective control of the state party over the entity it sponsors and reinforcing state responsibility to ensure compliance and liability for damage.

Exploration licenses are awarded for duration of 15 years. Qualified applicants have to submit information on financial capability, technical capability, a proposed 15-year exploration programme, a detailed 5-year plan showing anticipated annual actual and direct expenditure on exploration, a proposal for oceanographic and environmental baseline studies and preliminary environmental impact assessment, proposed measures to prevent pollution, an undertaking of good faith, prescribed application fee, and list of coordinates and chart of the proposed area, in support of its exploration licence application. There is also a commitment towards minimum expenditure for exploration.

Applications for an exploration licence are considered by the Legal & Technical Commission for recommendation to the ISA Council for approval. The exploration contract is awarded by the Secretary-General of the ISA.

To date, the ISA has awarded 12 exploration licenses for polymetallic nodules and 3 exploration contracts for polymetallic sulphides. Exploration contracts for cobalt-rich ferromanganese crusts have yet to be awarded.

The current focus at the ISA is to put in place a mechanism for the equitable sharing of financial and other economic benefits derived from activities in the extended continental shelf and in the Area. There is also an urgency to establish regulations for exploitation of polymetallic nodules considering that the seven pioneering exploration contracts for them will expire in 2016 and 2017.

There is no doubt that there is strategic value in deep seabed mining and its minerals. Malaysia aims to be a high-technology nation and a secure supply of future technology minerals is necessary. Active involvement in activities in the Area also provides the opportunity for

Malaysia to seek new exploitable resources and to establish a deep-sea industry which will further lead to development in deep-sea technology and geosciences, and resource investigation, exploitation and processing technology. It will also benefit and develop Malaysia's offshore support services.

However, the decision for Malaysia to embark on mining exploration in the Area is likely to be influenced by the constraint of finance and technology.

The financial commitment is huge. A workshop organised by the ISA in cooperation with the National Institute of Ocean Technology of India in 2008 provided estimates of exploration costs at US$74 million, capital and operating expenditure for nodule mining in the range of US$442 to US$658 million, transportation costs at US$26 million per year per vessel, and capital and operating expenditure for a nodule processing plant costing US$1billion. The economic feasibility of deep sea minerals mining which is very much dependent on the fluctuating prices of minerals does not make deep seabed minerals an attractive resource compared to the alternatives through terrestrial mines and minerals recycling.

Although Malaysia's National Mineral Policy 2 encourages the expansion of the mineral sector through intensifying resource investigation and mapping of resources that include offshore resources, the focus of the mining industry is to develop known terrestrial mining reserves rather than to gamble on unknown resources deep in the ocean.
It would thus appear that the initiative to begin deep seabed mining and exploration must be led by the Government and driven not so much by mineral security, but by the strategic opportunity to enhance marine scientific research, research and development for deep sea technology and offshore support services.

Whether or not Malaysia chooses to embark on mining exploration in the Area, Malaysia should continue to participate in the endeavour to exercise her rights as a state party as she has submitted a claim for an extended continental shelf and thus has a direct interest in the formulation of a benefits-sharing mechanism. There are also opportunities offered through the compulsory training programme organised and sponsored by contractors in the Area which will help Malaysia build capabilities in deep sea mining technology and marine scientific research.

If a decision is finally made to venture into this area, it would be important, considering that deep seabed mining is a multidisciplinary sector, that a systems approach be used (see Figure 1) that engages government, industry, academia and society stakeholders before a commitment is made to apply for an exploration licence in the Area.

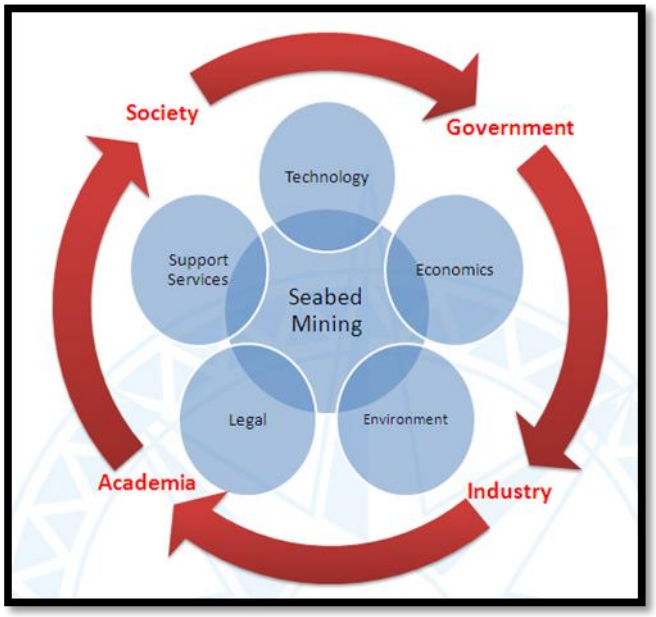

Figure 1: A systems approach to deep seabed mining