MEASURING THE EFFECTIVENESS OF INTERNATIONAL SEABED AREA MANAGEMENT IN DEVELOPING COUNTRIES

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Abstract *– An international seabed area is a part of a marine area existing beyond a state's national jurisdiction. Neither state nor party can claim the area based on the activity done. The principle of the common heritage of humanity applies to international seabed areas, according to Article 136 of UNCLOS 1982. Consequently, any activity in the International Seabed area should be based on the interest of all human beings. Very sophisticated technology is required to do activities in the international seabed area. This potentially leads to the developed countries' domination in area utilisation. UNCLOS 1982 mandated the International Seabed Authority to manage and coordinate the activities conducted in International Seabed Area. Such a role is critical, recalling the obligation and responsibility imposed on International Seabed Authority, as mentioned in UNCLOS 1982, to share technology and scientific knowledge with developing countries to enable them to participate in the activities in International Seabed Area. This research aims to determine the extent to which the effectiveness of International Seabed Area management coordinated by the International Seabed Authority and states with advanced technology benefit by prioritising justice for developing countries and all human beings.*

Keywords: *Seabed Area; International Seabed Authority; UNCLOS 1982.*

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INTRODUCTION

According to the provision of International Law, an independent and sovereign state is governed by Article 1 of the Montevideo Convention 1933. The provision explains that every state must have some qualifications: a permanent population, specified region, government, and capacity to establish a relationship with other states. In the 20th century, when the state legalised the maritime domain, the relationship between the state and the maritime space changed, and specific global trends further strengthened the role of the ocean in international affairs (Østhagen, 2020). The specified region becomes one of the necessary qualifications of states that have involved land, sea, and air areas. The Sea area is one of the unique state areas. The area has specific international law regulations; the United Nations Convention on the Law of the Sea 1982 (UNCLOS 1982) is divided into some sea area divisions. In addition, the sea area can be used as the basis for the state to determine aerial space. It refers to the definition of aerial space located above a state's land and marine areas (Setiani et al., 2017, p. 491).

A state's sea area governed in UNCLOS 1982 involves inland waters, territorial sea and additional zone, exclusive economic zone, continent substratum, high seas, and seabed area. (United Nations Convention on the Law of the Sea, 1982) Each seabed part has its regulation in specifying its border and

management. Additionally, a state has sovereignty and proper sovereign status over certain sea areas. Sovereignty is defined as full authority over the area regulated by the state, while in sovereign status, there is a limitation governed by international law in a state's authority over the sea area division (Strating & Wallis, 2022). One of the sea area divisions interesting to study is the Seabed area.

Seabed area (furthermore called the area) is, based on UNCLOS 1982, defined as the bottom of the sea, the bottom of the ocean, and the soil it carries beyond the national jurisdictional borders. It gives the Area status in which there is neither state sovereignty nor sovereign right exclusively (Afriansyah, 2015, p. 615). The sea area beyond national jurisdiction consists of the High Seas Water Column and the area involving over 60% of the global sea on the Earth. The area has a complex natural system and plays an essential role in maintaining life(Martins et al., 2003, pp. 25–39) on the Earth and having a vital ecosystem (Gjerde et al., 2016, p. 46). Global sea resilience in the areas beyond national jurisdiction is endangered by climate change, excessive exploitation, pollution, habitat degradation, and its interaction and cumulative effect (Gjerde & Yadav, 2021, p. 2; Marques & de Araújo, 2019).

To the area not located in national jurisdiction and the continent substratum regime of a state, a general principle applies to the common heritage of humanity (Heryandi, 2013, pp. 358–359; Wang & Chang, 2020). When the common heritage of humanity appears, developed and developing countries have different definitions of the concept. It is because of the different interests in pursuing the marine resource contained in the Area. To avoid competitive exploitation among the advanced-technology countries in the area, most developing countries recommend the principle of the common heritage of humanity to be applied to the Area as an international institution that should be protected, managed, and supervised by International Agency. Developing countries can claim to share much more benefits of the Area; in contrast, the developed countries decline the legal status and claim that biological or living resources in the area are under the freedom of the high seas principle. In developed countries, living resources should be opened to all countries and individuals regarding the right to exploration and development (Ma, 2018, pp. 150–151). The debate ended when UNCLOS 1982 established that the Area and its resource are humanity's common heritage, and their exploration and exploitation should be done for the benefit of all humanity (CHM) (Li et al., 2021, p. 2). The principle of CHM is an essential element of UNCLOS and exclusively applies to the regulation and management of the resources that lie outside the limits of national jurisdiction (Bourrel et al., 2018).

The common heritage of humanity principle explains that anything existing in the Area, including its utilisation or management, should be intended for the interest or the benefit of all humanity. Therefore, every country has access to the management and exploitation of the area. It is because, in principle, all countries can use the Area. Thus, to provide the orderliness element to the area, an International Seabed Authority is established, functioning to organise and control any activities in the Area. International Seabed Authority (ISA) is a unique institution because it is this international organisation that firstly has resources and jurisdiction in a sea area (particularly in the Area) (Yuliatiningsih, 2010, p. 29).

The management and exploitation activity conducted by the state in the Area on which this study focuses is the exploitation in the form of natural resource mining in the area. Mining in the Area has attracted significant worldwide interest for more than five decades. It is because of marine mineral potency, like a polymetallic nodule, cobalt-rich crust, and polymetallic sulfide considered the strategic alternative source of metal for industrial development. In 2010 eight contractors were allocated to the international waters area to do exploration works in the Pacific (France, Russia, Japan, China, Korea, Interocean Metal and Germany) and Indian Ocean by ISA organising the activities related to seabed minerals in the Area. In addition, seven other contractors have claimed polymetallic nodules in the Pacific Ocean, and five countries (China, Korea, India, Russia, and France) have claimed the exploration of hydrothermal sulfide in the Indian and Atlantic Oceans (Sharma, 2015, p. 204).

The management of an Area beyond any state's jurisdiction faces some problems. Only a few states can manage the area primarily for developing countries to ensure that the benefits of seabed mining are not only enjoyed by a handful of industrialised countries that can make significant investments in seabed mining technology (Jaeckel et al., 2016, pp. 198–204). The requirement, of course, results in the gap in

area management and exploitation between developed and developing states. In addition, the problems with the management, the Area territory belonging to the state's exploiting activity such as mining then having an impact on the environment and recalling the potential mining in the Area located in high seas area existing beyond the state jurisdiction, international regulation and the role of the international institution are required to regulate the state activities in the Area (Nugroho & Putranti, 2018, pp. 39–40).

The state activity in the attempt of management in the Area, such as mining activity in the Area territory, is, of course, faced with a problematic attitude to state and international organisations serving as supervisors of the Area to balance economic potency and effect results. Anxiety appears within the community, society, and international and national laws to ensure an effective form of protection in preventing and coping with the effect of activity in the Area territory (Levin et al., 2016, p. 246). Regarding the protection of activity's effect on the Area territory, Article 134 of UNCLOS mandates ISA to do some functions in the Area. The provision establishes that marine scientific research in the Area should be conducted exclusively for all humanity's peace and benefit(George & George, 2018, pp. 122–123). Furthermore, Article 145 (b) of UNCLOS explains that ISA must adopt appropriate rules, regulations, and procedures to protect and conserve the natural resource, including genetic resources in the Area, in the term of preventing flora and fauna from being damaged in the marine environment (de Paiva Toledo & Bizawu, 2020, p. 342). ISA is responsible for organising and managing all mining activities in the Area. In performing its responsibility, ISA must ascertain the adequate protection of the marine environment against dangerous effects likely resulting from the mining activities in the area (Guilhon et al., 2021, p. 885). It confirms that ISA plays an essential role in managing the Area and benefits human interest.

Considering the phenomenon above, this research studies the effectiveness of international seabed area (Area) management in the states that have been unable to exploit the Area's territory technologically. This study aims to determine the extent to which ISA coordinates the management of Area territory as an international organisation mandated by UNCLOS 1982 and advanced-technology states to manage the Area territory to benefit the human by prioritising justice for developing countries and all humanity.

1. RESEARCH METHODS

This research obtains information from various aspects relevant to legal problems for which the solution is sought later. As aforementioned, this research was conducted using the statute approach. The statute approach is carried out with a comprehensive study of the regulations related to legal issues (Marzuki, 2005, p. 133). The regulation studied in this research was the United Nations Convention on the Law of the Sea 1982, focusing on the substance of International Seabed Area territory regulation.

2. RESULT AND DISCUSSION

Article 1 clause (1) of UNCLOS 1982, "Area means the seabed and ocean floor and subsoil thereof, beyond the limits of jurisdiction". The definition explains that the Area not existing in the state's sovereignty can be said to belong to international jurisdiction. Furthermore, Article 136 UNCLOS 1982 states that "The Area and its resources are the common heritage of mankind", meaning that the common heritage of humankind principle applies to the Area. This principle means that anything contained in the Area territory is the common heritage of humanity, and all activities carried out in the Area should be intended for humanity's interest. The substance of both regulations lying on the phrases "beyond national jurisdiction" and "common heritage of mankind" means that whoever is doing the activity in the Area is not allowed to lay claim to the Area for any reason or rationale.

UNCLOS 1982, regulating the area, decides that all rights to seabed natural resources belong to all humankind. The benefits should be shared equally or fairly in relation to financial and economic benefits obtained from activities in the Area. The activities conducted in the Region aim to encourage healthy global economic development and balanced international trade growth. In addition, the activities in the Area also aim to promote international cooperation for the comprehensive development of all countries,

particularly the developing ones or those technologically incapable of utilising the Area (Ardron et al., 2018, p. 59). UNCLOS 1982 requires the Area to be opened and used exclusively by all countries, both countries with beaches and those without beaches without discrimination, for peace purposes (Egede, 2020, p. 191). The regulation of Area in the legal framework of UNCLOS 1982 is the form of power or authority in the Area management. It proves that some standards in managing the activities in the region should be obeyed obligatorily by all states, international people, and other parties that do activities in the region.

The context of management in the Area territory in prioritising the aspect of justice for all countries is a subject needing in-depth investigation. It is because many developing countries have not yet been able to exploit the Area's territory. In its implementation, the management of Area needs very sophisticated technology; thus, it becomes one of the weaknesses in the management of Area. The concept later is the two international legal principles underlying the developing countries to establish cooperation in exploiting the Area: international cooperation for development and the right to benefit from science and technology. This principle is implemented in international cooperation by involving developing states in a joint venture between Authority (The Enterprise) and the pioneer investor(Sodik, 2016, p. 330). Based on the legal principle, it can be ensured that there will be an opportunity for the developing countries to contribute to the management and exploitation of the Area. Cooperation is a vehicle used by developing countries to recall the limited technology for management and exploitation works in the Area. Collaboration with the countries with advanced technology is a means of enabling the developing countries to participate in the activities in the Area.

The concept of management in the Area can be comprehended further in the presence of ISA as an international organisation established based on UNCLOS 1982. ISA was established in 1994 and is an independent, autonomous agency of the United Nations. The state participants of UNCLOS 1982 in ipso facto are the members of ISA(Rona, 2012, p. 512). ISA is an international organisation that regulates and controls the activities of exploring and exploiting mineral resources in the Area. ISA must take action on behalf of all humanity (just like a guardian of the present and the future generations (Jones et al., 2019, p. 2) in managing the Area and its resources. The legal status of the Area and its resource, of course, will affect any aspect of the ISA regime. ISA is responsible for mineral resources and the sea environment in the Area. ISA considers the exploration and exploitation of marine resources conducted by the contractor, evaluates the environmental impact and supervises the mining activities in the Area (Miller et al., 2018, p. 418). It involves determining the balance between facilitating mineral mining and protecting the sea environment (Jaeckel, 2015, p. 97).

Regarding the protection of the sea environment, in the case of the negative impact of exploration and exploitation activities in the Area, ISA has a draft of regulation in establishing an Environmental Liability Trust Fund to cover the damage not covered by the scheme of mining obligation in the Area. It may occur when there is a situation in which the contractor getting a sponsor in conducting activities in the Area found some damage and encounters arrears or claims beyond its insurance coverage in coping with the damage (Svendsen, 2020, pp. 609–610). In dealing with the environmental effect of the activities in the Area, ISA has a critical mechanism, Environmental Impact Assessment (EIA). Through EIA, ISA and the states affiliated with it can operate their primary obligation to ensure the adequate protection of the sea environment from hazardous effects as specified by UNCLOS 1982 (Durden et al., 2018, p. 194). Concerning monitoring activity as an attempt to prevent the impact of the activity on the environment in the Area, ISA, in Draft Exploitation Regulations (March 2019), has 3 (three) methods: independent reporting, inspection, and remote monitoring (Xu & Xue, 2021, p. 6).

ISA cooperates with and has authority over all contractors and countries intended to explore and exploit the Area. This ISA's critical role will be very decisive in managing the Area, particularly in the attempt to benefit all countries, particularly the developing ones, and all humanity. ISA has a specific system for the region and mineral of the Area shared between the related parties (Idris & Nugraha, 2021, pp. 274–275). The Exploration and Exploitation of the area should be done only in the regions specified in the work plan and approved by ISA corresponding to UNCLOS 1982 and ISA's relevant rules, regulations, and procedures. Having been approved by ISA, each work plan (except the one proposed by The

Enterprise) should be made in the form of an exploration and exploitation contract between ISA and the applicant (Shen, 2017, pp. 493–494).

Considering the Secretary General of ISA's annual report in 2020 included in the document Secretary-General Annual Report Achieving the Sustainable Use of Deep-Sea Minerals for The Benefit of Humankind 2020, the Strategic Plan of 2019-2023 contains two target focuses related to the development and participation of developing countries. The first relates to the capacity development target in developing countries. The document explains that UNCLOS 1982 has established specific requirements for capacity development and technology transfer for developing countries. ISA takes some measures to obtain technology and scientific knowledge related to the activities in the Area to ensure the capacity development mechanism and technology transfer to developing countries. ISA, along with the countries affiliated with UNCLOS 1982 and related international organisations, actively encourages and facilitates the transfer of marine technology, skill, and scientific knowledge to developing countries, their people and corporation. ISA has implemented its functions through the program established, one of which is the contractor training program (Authority, 2020, p. 36).

ISA, along with the contractor in the contractor training program, has a legal obligation related to providing and funding the training opportunity for personnel from developing countries based on UNCLOS 1982. This program aims to ascertain that the personnel from developing countries get the operational skill to participate in the mining activities in the Area (Authority, n.d.-a). Deep Ocean Resources Development Co., Ltd. (DORD), along with ISA, according to its exploration contract for polymetallic nodule, offered five training places on the ship in the training program of 2020 for candidates coming from developing countries. The program decided on five candidates from Columbia, Ecuador, Bangladesh, Egypt, and Indonesia (Authority, n.d.-b). Then in 2021, The Ministry of Earth Sciences (MoES) of the Government of India, along with ISA, according to its contract for the exploration of the polymetallic nodule, offered nine online training opportunities to the candidates coming from developing countries and decided the candidates from some countries Argentina, Nigeria, two candidates from the Philippines, Kenya, Madagascar, and two candidates from Nigeria, and Chile (Authority, n.d.-e).

The study on one of the ISA programs that implemented the provision of Article 144 of UNCLOS 1982 in terms of sharing technology and scientific knowledge with developing countries in the contractor training program has performed well and consistently from year to year. However, attention should be paid to the lower level of participation among developing countries compared with the number of developing countries affiliated with UNCLOS 1982. In addition, the quota specified in the program’s annual offering still belongs to a small category; thus, the opportunities for developing countries to participate in the area's management program are limited. Concerning the program sustainability, ISA should facilitate the elected candidates to be resource persons or trainer socialisation and workshop activities intended for the people in the candidates' countries. It is intended to disseminate the candidates' knowledge to the broad society in their own countries. In addition to the quantity aspect (participation level) of developing countries in the contractor training program activity, attention should also be paid to the quality aspect. The contractor training program is expected not limited to annulling ISA's responsibility according to the mandate of UNCLOS 1982. However, the program should be conceptualised comprehensively to enable the elected candidates to contribute significantly to their countries in terms of management in the Area territory.

The second target for developing countries is to ensure fully integrated participation by developing countries. ISA plays one of the roles in promoting the participation of developing countries. It accomplishes it by identifying and promoting the opportunity for personnel from developing countries by providing training in marine science and technology. In 2019, ISA, in collaboration with China, established Joint Training and Research Center (Authority, 2020, p. 42). The program aims to promote capacity development and marine technology transfer to developing countries and to promote and share human knowledge on the Area and its environment. The program implementation reportedly involved 55 participants from 20 countries, including 45 per cent of citizens from less developing countries, developing countries circumscribed by land or small-island developing countries (Authority, n.d.-d).

Joint Training and Research Center is a program with the excellent concept of giving the developing countries an opportunity of knowing and participate in management activity in the Area territory. The program concentrates on capacity development and marine technology transfer to developing countries, according to Article 144 of UNCLOS 1982. More attention should be paid to the participation of developing countries in this program, recalling that in the activity report, only 20 countries are joining the program, 45% of which are developing ones. It, of course, has not been as expected by ISA, recalling duty and responsibility imposed on it related to sharing technology and scientific knowledge based on UNCLOS 1982. Evaluation should be made on the program, from which a concept is expected to appear to facilitate all developing countries to dispatch their representatives to join this program. Thus, the developing countries can utilise the substance of sharing technology and scientific knowledge from the Area. It, of course, becomes one of the challenges to the management of the Area to improve the participation of developing countries in the activities and the management of the region.

The study is not limited to the sample of both programs implemented by ISA. Observing the Exploration Contracts section, ISA has signed a 15-year contract to explore polymetallic nodules, polymetallic sulfides, and cobalt-rich ferromanganese crusts with 22 contractors in the Area (Authority, n.d.-c). If an analysis is conducted on the number of contractors that have cooperated with ISA, the domination of developed countries or those with sophisticated technology in the exploration activities in the Area can be seen. It indicates that the principles of sharing technology and sharing knowledge have not been perceived fully yet by developing countries. A kind of output target is required in the programs, e.g. determining the indicator of a successful implementation of sharing technology and sharing scientific knowledge, according to UNCLOS 1982, i.e. the presence of technology independence that developing countries can implement in management and exploitation in the Area.

CONCLUSION

The area is a part of the sea region beyond any state's national jurisdiction. The common heritage of humanity principle applies to the Area, meaning that the area is the common heritage of human beings; thus, all activities in the Area must be intended for the interests of all humanity. As mentioned in UNCLOS 1982, the organisation and the control of the activities of exploring and exploiting mineral resources in the Area are conducted by ISA. ISA's role and responsibility, based on UNCLOS 1982, are the key to managing Area territory in which developed and developing countries are interested. ISA has had some mechanisms for coping with the environmental effect of activities conducted in the Area territory through the management and the programs intended to enable the developed countries to share technology and scientific knowledge with developing countries, corresponding to Article 144 of UNCLOS 1982. However, in the technical implementation of programs, concept development is required to ascertain that the participation of developing countries in sharing technology and scientific knowledge by ISA and developed countries can be distributed equally. Improving the number of participation among developing countries in the preexisting program is the work to be prioritised by ISA in the future. It is intended to create independence in marine technology among the area's developing countries. The independence will enable the developing countries to collaborate directly with ISA and developed countries in the attempt to conduct some activities in the Area. It enables the common heritage of humanity principles in the area to be implemented and to avoid the developed countries' domination over the area's management.

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