Research Article

Equity Interest Scheme's Compatibility with the UNCLOS 1982's Common Heritage of Mankind Principle

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ABSTRACT

The Mining Code Exploration for polymetallic sulphides and cobalt-rich ferromanganese crusts provide options for exploration contractors to offer an equity interest in a joint venture with Enterprise. UNCLOS 1982 has never regulated the existence of such a scheme as a substitute for the obligation to submit reserved areas at the exploration stage. The presence of the equity interest scheme raises questions on its compatibility with the Common Heritage of Mankind (CHM) principle, especially with the aspect of equitable benefits sharing (EBS) to all mankind. This study aimed to assess the compatibility of the equity interest scheme with the CHM principle. The study was conducted normatively by analyzing equity interest scheme implementation associated with the norms in the CHM principle and UNCLOS 1982. The results showed that the equity interest scheme is compatible with the EBS aspects in the CHM principle by presenting the optimization of financial benefits for all mankind. The implementation of the equity interest scheme, even though it is contrary to the provisions of Annex III Article 1982, is a form of subsequent practice accepted by state parties. This study recommends that the relevant stakeholders reconsider the involvement of the Enterprise in the equity interest scheme based on financing efficiency.

Keywords*: *Common Heritage of Mankind; Deep Seabed Mining; Equitable Benefits Sharing.

A. INTRODUCTION

The application of the parallel system in the Area utilization allegedly experienced a covert degradation. A polemic arose as the International Seabed Authority (*hereinafter* ISA) issued the Mining Code Exploration Regulations regulating the exploration activities for polymetallic sulphide (*hereinafter* PMS) and cobalt-rich ferromanganese crust (*hereinafter* CFC). The degradation is manifested in the option for prospective contractors to contribute in other forms rather than submitting a reserved area to the ISA. In mining code exploration for PMS and CFC (respectively), it is stipulated that the prospective contractor can choose between (a) contributing by submitting a reserved area to the ISA; or (b) contributing by offering the Enterprise an equity interest in the joint venture operation (International Seabed Authority, 2010).

The existence of such a provision raises questions, considering that the United Nations Convention on the Law of the Sea 1982 (*hereinafter* UNCLOS 1982) and the Agreement Relating to the Implementation of Part XI of the UNCLOS 1982 (*hereinafter* Agreement 1994) never contained provisions that exclude the

obligation to submit reserved areas in any context. In practice, exploration activities for polymetallic nodules (*hereinafter* PMN) are still required to submit reserved areas without any other options provided for the contractors.

The equity interest scheme provides an alternative in implementing a parallel system in the Area, which also impacts the operationalization of the Common Heritage of Mankind (*hereinafter* CHM) principle (Jaeckel, Ardron, & Gjerde, 2016). Part XI Article 140 (2) of UNCLOS 1892 recognizes two types of equitable benefits sharing (*hereinafter* EBS), namely 'financial benefits' and 'other economic benefits'. In this context, the equity interest scheme relates to both types of benefits.

On the one hand, the equity interest scheme impacts the financial benefits aspect with the guarantee of ISA's income from joint venture activities carried out by the Enterprise. On the other hand, the equity interest scheme also impacts the aspects of the other economic benefits, particularly in terms of the reduced number of reserved areas that will be available. This article uses the term 'EBS' to refer to the 'equitable sharing of financial and other economic benefits' under UNCLOS 1982. Otherwise, this article uses the term 'financial benefits' and 'other economic benefits' when referring only to that one aspect of the EBS under UNCLOS 1982.

This article is mainly dealing with the CHM principle and its operationalization under UNCLOS 1982. Currently, there is no universally accepted or recognized definition of the CHM principle under any international law instrument. UNCLOS 1982 did not define the CHM principle, instead only declaring the Area and its resources as CHM. Despite this, the CHM principle has several characteristics (at least under UNCLOS 1982) that differentiate it with other principles.

There are at least four main elements of CHM principle that we can identify from UNCLOS 1982's provisions, namely: (Guntrip, 2003; Millicay, 2015; Noyes, 2020; Wolfrum, 1983)

(a) The prohibition of appropriation of any part of the Area.
(b) The use of the Area is reserved only for peaceful purposes.
(c) Equitable sharing of benefits.
(d) Common management of the Area.

Understanding these elements is crucial in analyzing whether the equity interest scheme is compatible with the CHM principle.

The ability for the contractor to choose between reserved area and equity interest under joint venture with Enterprise practically results in lessening the availability of reserved areas, (Jaeckel et al., 2016, p. 201) which can be interpreted as a compromise on the access for developing countries to use the Area. Sure enough, almost all contractors prefer the equity interest scheme. Out of the total 12 exploration contractors for PMS and CFC (combined) as of 2021, only one contractor chose to submit a

reserved area (namely the Russian Government) (International Seabed Authority, 2021).

No provisions under UNCLOS 1982 allow derogation from the obligation to submit reserved area obligation, except for when the Enterprise is the one applying for the exploration activity. In this sense, the provisions under the exploration regulations for PMS and CFC that allow such derogation are not consistent with UNCLOS 1982. However, the equity interest scheme has been approved by the state parties, hence we can find its provisions in the mining code exploration for PMS and CFC.

The ISA Legal and Technical Commission (*hereinafter* LTC) has considered amending the PMN exploration mining code to provide the equity interest scheme option (Dingwal, 2020; International Seabed Authority, 2018b). If the obligation to submit reserved areas is made optional for all exploration activities in the Area, it is almost certain that there will be little to no additional reserved areas in the future.

The discourse development in this direction raises the urgency to assess the compatibility of the equity interest scheme with the aspects of EBS in the CHM principle under UNCLOS 1982. Unfortunately, this topic has not been widely touched on and has not been discussed among academics.

This article attempted to offer a view on the compatibility of applying the equity interest scheme in the PMS and CFC mineral exploration regime as an alternative to submitting reserved areas within the framework of the CHM principle under UNCLOS 1982. Firstly, this article attempted to answer the rationale behind the demand to incorporate the equity interest scheme into the PMS and CFC exploration regulations as an alternative in implementing the parallel system. Secondly, this article attempted to analyze whether the equity interest scheme is compatible with the EBS aspects under the CHM principle.

The analysis is aimed to clarify whether or not such incorporation can be consistent with the CHM principle. The incorporation of the equity interest scheme into the PMS and CFC exploration regulations would inevitably affect the implementation of CHM principle in the Area. This study attempted to identify the positive and negative impacts of the incorporation as the basis to consider whether it can be compatible with the CHM principle.

As of the writing of this study, no scholarly articles have specifically addressed the topic of equity interest for PMS and CFC. Several articles have mentioned the risk it may pose to the reserved area availability (Dingwal, 2020; Jaeckel et al., 2016). However, no scholarly articles have comprehensively addressed the equity interest scheme and its overall impact to the other aspects of the CHM principle if applied in the PMS and CFC exploration regimes.

An article by Jaeckel, Ardron, and Gjerde (2016) briefly mentioned that the equity interest scheme, as an alternative to the parallel system, may generate more monetary benefits but risking

the future availability of reserved areas. However, there was no further analysis on whether the incorporation of the equity interest into the PMS and CFC regimes is compatible with the CHM principle. An article by J. Dingwall (2020) acknowledged that the LTC had considered amending the PMS and CFC to incorporate the equity interest scheme but no further analysis provided regarding the impact it will have on the operationalization of the CHM principle.

B. RESEARCH METHODS

This research is normative by analyzing the applicable legal norms within international law. The legal norms used as a reference in this research are those contained within the relevant international law of the sea, particularly UNCLOS 1982 and its implementing instruments. The research was conducted by utilizing secondary data in the form of primary and secondary legal materials. In addition, this research also uses non-legal materials and ones from other disciplines to enrich researchers' insights and deepen the understanding of the identified issues.

C. RESULTS AND DISCUSSION

1. The Rationale for Incorporating the Equity Interest Scheme into the PMS and CFC Exploration Regulations

The adoption of a parallel system in Area utilization under UNCLOS 1982 regime stems from the differences in views between the developing and developed countries. On the one hand, the developing country group represented by Group 77 wanted mineral resources to be treated as CHM resources (Kasa, Gullberg, & Heggelund, 2008). They viewed that the minerals in the Area can be used to rectify the economic gap between the rich and developing countries (Adar, 1987; Feichtner, 2019). The view of developing countries was supported by the socialist countries (Eastern European), including the Soviet Union. On the other hand, developed countries, especially the United States and its allies, viewed that the utilization of the seabed mineral resources must be freely accessible to all states (Vasciannie, 1989; Wang, & Chang, 2020).

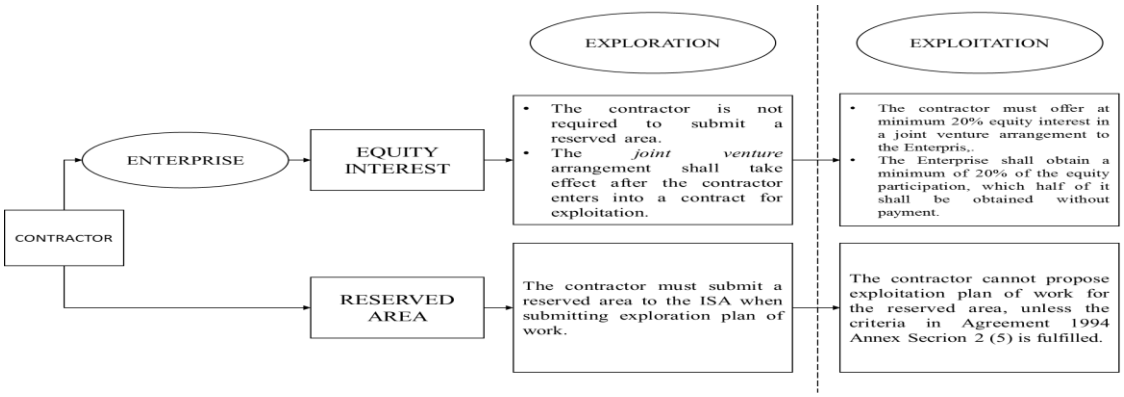
This fundamental difference encouraged each side to reach an agreement through a compromise (Feichtner, 2019). An idea emerged to implement a parallel system, in which individual countries (or consortiums) are allowed to carry out utilization activities independently, and a mining company will be formed (later known as the Enterprise) under the ISA to become a forum for the participation of the entire international community (Arrow, 1982; Dingwal, 2020). This idea was first introduced by Henry Kissinger (United States Secretary of State 1973-1977) at the third session of the First Committee in 1976 (Feichtner, 2019) .

UNCLOS 1982 never mentioned the term ‘parallel system’ in its provisions or annexes. However, the term can be interpreted in Article

153 of UNCLOS 1982, which allows utilization activities by the states or the private entities (other than the Enterprise). Although utilization activities are also open to individual states, provisions are in place to provide reserved areas to be utilized specifically for the Enterprise and developing countries to guarantee their access to participate in the utilization activities.

Technical arrangements regarding reserved areas at the exploration stage have been regulated in the Mining Code Exploration issued by the ISA. The regulations are divided into three for each type of mineral (PMN, PMS, and CFC). Allegedly there seems to be derogation towards the obligation for the contractor to submit a reserved area. The obligation for prospective contractors to submit reserved areas applies in absolute terms only in PMN exploration activities. Meanwhile, this obligation is only optional in the PMS and CFC exploration activities.

In the case of PMS and CFC exploration activities, it is regulated that the contractor, when submitting an exploration plan of work, is obliged to determine whether to (a) contribute a reserved area for activities in accordance with Annex III Article 9 UNCLOS 1982; or (b) offer the Enterprise an equity interest in a joint venture when it engages in the exploitation activities (International Seabed Authority, 2010). The difference between the equity interest scheme and the reserved area is presented in Figure 1 below.



There was another option considered as an alternative to the reserved area obligations. The alternative is a 'taxation scheme' as a form of the ISA participation in exploitation activities (International Seabed Authority, 2006). However, the taxation scheme was discarded because it was considered too intrusive as it would require the ISA to access and examine the contractor's books. The equity interest scheme currently adopted into the Mining Code Exploration for PMS and CFCs was presented by the LTC at a meeting in Kingston, Jamaica, 31 July – 4 August 2006.

Should the contractor choose to offer an equity interest in a joint venture with the Enterprise, the scheme will take effect after the contractor enters into a contract for exploitation (International Seabed Authority, 2010). In the joint venture, Enterprise shall obtain a minimum of 20 percent of the equity participation.

Half of the equity participation is obtained without payment, either directly or indirectly, to the contractor and will be treated *pari passu* (on par) with the rest of the equity participation. The remainder of the equity participation will be treated *pari passu* with the contractor's equity interest, except that the Enterprise will not receive profit-sharing until the contractor recovers its total equity participation in the joint venture.

Although it is only stipulated that the Enterprise holds a minimum of 20 percent of the equity participation, the contractor must offer the Enterprise the opportunity to purchase additional equity participation in the joint venture up to 50 percent, or a lower percentage desired by the Enterprise on an equal treatment basis (*pari passu*) (International Seabed Authority, 2010). Unless specifically agreed in the agreement between the contractor and the Enterprise, based on its equity participation, the Enterprise shall not be required to provide funding or issue guarantee or assume financial liability for or on behalf of the joint venture, nor shall the Enterprise be required to purchase additional equity participation to maintain its participation in the joint venture (International Seabed Authority, 2010, 2012). The equity interest that the Enterprise will own is fixed, at least 20 percent, regardless of the issuance of new shares in the joint venture operation (no equity dilution).

In UNCLOS 1982 and Agreement1994, there are no exceptions to the obligation to submit reserved areas. UNCLOS 1982 applies an obligation to submit reserved areas for all types of minerals (PMN, PMS, and CFC). The exception is a decision taken by the ISA (through the Mining Code instrument), which means that the provision was made after UNCLOS 1982 entered into force. Currently, reserved areas are almost only available for PMN minerals. There is only one reserved area for CFC contributed by the Russian Government and none for PMS. Almost all contractors prefer the equity interest scheme over submitting reserved areas. Therefore, if this scheme is also applied to PMN, it is very likely that there will be no more addition to reserved areas. So what was the background for taking a different approach in PMS and CFC exploration activities?

In August 1998, Russian delegation informed the ISA that there were several types of minerals other than PMN in the Area, namely PMS and CFC, and asked the ISA to regulate the exploration for these mineral types (International Seabed Authority, 2001). Based on such a request, the ISA held a workshop in June 2000 on minerals in the Area to obtain information regarding the economic, technical, and potential prospects of minerals other than PMN. One of the topics discussed was related to how the parallel system was applied to the two types of minerals. The negotiation process for Part XI of UNCLOS 1982 was based on the assumption that the scope of seabed mining operations is to achieve sufficient investment returns (Van Nijen et al., 2019). These assumptions result in an operating

model in which each mine should produce three million tonnes of dry nodules annually for 20 years. The problem is that these assumptions are not relevant for PMS and CFC mineral mining operations. The provisions for regulating activities in the Area in the negotiation of UNCLOS 1982 were only based on the projection of mining operations for PMN mineral types. At that time, there was very little information about PMS and CFC minerals.

Participants in the workshop asserted that it is challenging to compare PMS and CFC with PMN minerals because they have different properties. In short, the reason for the exception is based on consideration of the technical difficulties of dividing a site into two with an estimated economic value of equal value (International Seabed Authority, 2001). The mineral properties of PMS and CFC are different from PMN because they are three-dimensional mineral deposits, making it more challenging to determine the size and economic value contained in them during the prospecting stage (Jaeckel, Ardron, & Gjerde, 2016). This is due to the varying quality of the sediment, even within a single seamount region (International Seabed Authority, 2001). The contractor must carry out activities equivalent to 'exploration' to identify and measure the mineral contents. In the context of PMN, which is two-dimensional, it is easier to divide a site into two with equal economic value.

The workshop participants argued that for PMS and CFC, it is not possible to apply site-banking mechanisms as implemented and envisioned by the UNCLOS 1982 to apply to PMN. Based on the consideration of these technical difficulties, an idea emerged to require contractors to offer joint venture operations to Enterprise. The alternative of equity participation by the ISA (through Enterprise) in the joint venture was seen as an appropriate mechanism to prevent monopolies and ensure international community's participation (Jaeckel et al., 2016).

There was also a consideration that PMS and CFC minerals are more abundant within state jurisdiction (International Seabed Authority, 2001). This fact has resulted in the utilization regulation in the Area having to compete with national regulation. Investors will be more interested in investing to carry out mining operations within national jurisdictions regulated by national laws, which are more profitable than UNCLOS 1982 regime. Efforts to attract investors to carry out utilization activities in the Area, rather than within national jurisdiction, were an important aspect that needed to be considered by the ISA.

UNCLOS 1982 Article 150 (a) stipulates a provision to promote the development of the resources in the Area. Therefore, the regime that applies to PMS and CFC must encourage investment interest to realize utilization activities in the Area. The implementation of the obligation to submit reserved area was expected to have an impact on lowering the interest of investors because they have to carry out costly prospecting operations to be able to determine two sites that

have equal economic value, without any guarantee that they will be able to carry out exploration or exploitation (Jaeckel, 2020).

The equity interest scheme option for the contractor is another form of implementing a parallel system in Area utilization activities. The decision was taken to adjust to the characteristics of PMS and CFC minerals. On the contrary, it would be somewhat unreasonable to enforce the implementation according to UNCLOS 1982, which is not in accordance with the technical aspects in the field discovered due to the development of science and technology related to the Area.

An idea emerged to incorporate the equity interest scheme in PMN exploration. The idea first emerged in 2013 when the ISA Council asked LTC to review PMN exploration provisions to incorporate joint-venture options as already stipulated for PMS and CFC (International Seabed Authority, 2013). However, LTC chose to postpone the considerations related to implementing the equity interest option in the implementation of PMN exploration (International Seabed Authority, 2018a). To date, there has been no amendment to the Mining Code Exploration for PMN with regard to incorporating the equity interest option. Contractors who want to conduct PMN exploration are still required to submit a reserved area without having other alternatives.

Considering that the reason for providing options for PMS and CFC contractors was related to technical considerations, it appears that these considerations are unique, so that the same considerations should not apply to PMN. This is considering the obligation to submit reserved areas in the context of PMN mineral exploration has been in place since 2000 (under PMN exploration mining code) (International Seabed Authority, 2000), and it appears that the implementation of these obligations is still reasonable. In addition, considering that the obligation is regulated in Annex III Article 8 of UNCLOS 1982 (with the context of PMN minerals), the drafters at that time had projected that the imposition of this obligation was reasonable.

We may conclude that the ISA's decision to exclude the obligation to submit reserved areas (to become optional) in PMS and CFC exploration activities was based on technical considerations. There was no attempt to intentionally degrade the application of parallel systems or the application of the CHM principle. Although there was no intention to degrade the application of the CHM principle, we still need to analyze how the equity interest scheme is still compatible with the spirit of the CHM principle, especially with regard to guaranteeing access for developing countries.

2. Assessing the Impacts of the Equity Interest Scheme to the Stakeholders

The emergence of the equity interest scheme, apart from being based on technical considerations, is also based on the advantages offered by the scheme. These advantages

overcome the technical barriers that exist and may solve the problems in the practice of the reserved area scheme. It is necessary to identify the strengths and weaknesses of each equity interest and reserved area scheme to provide an overview of the compatibility of the equity interest scheme with the CHM principle, particularly with regard to the fulfillment of EBS aspects under the CHM principle. UNCLOS 1982 recognizes two types of benefits in the application of EBS, namely 'financial' and 'other economic benefits' (Noyes, 2012). In this case, the advantages and disadvantages of implementing the equity interest scheme will be identified compared to the submission of reserved areas to assess whether the scheme is in accordance with the CHM principle.

The identification of the advantages and disadvantages of implementing the equity interest scheme compared to the submission of reserved areas in this analysis is based on the fulfillment of EBS aspects to provide optimal benefits for all mankind. The identification is not intended to determine which scheme is better than others but to assess whether the implementation of the equity interest scheme as an alternative to reserved areas is still comparable in the effort to fulfill the EBS aspects under the CHM principle. The results of the identification are described as follows:

a. Advantages

The choice of the equity interest scheme as an alternative to the submission of the reserved area was surely based on the advantages it had, both when compared to the reserved area scheme and to other schemes that may be applied. The advantages identified by the authors are as follows.

(1) A more tangible benefit to all mankind

Reserved areas are intended to 'secure' a place for the Enterprise and developing countries to carry out activities in the Area (Jaeckel, 2020). Utilization by the Enterprise and developing countries is also expected to provide greater benefits for all mankind or for developing countries specifically (if managed by developing countries themselves). Such assumptions are based on the common practice, where the contractor will get a sizable share of the utilization proceeds. For reference, Article 82 UNCLOS 1982 governs the obligation to pay a revenue share of a maximum of seven percent for states conducting exploitation of natural resources in the extended continental shelf. Furthermore, these benefits can only be felt if the reserved area has been utilized. These economic benefits can only begin to benefit all mankind when exploitation activities are carried out.

Based on the above understanding, it is crucial to ensure that the Enterprise and developing countries as beneficiaries of the reserved area can carry out exploration and exploitation activities for PMS and CFC minerals. However, the different characteristics of PMS and CFC minerals from PMN minerals, including their exploitation activities, can be an obstacle for

developing countries to utilize them. The report from LTC explains that the exploration and exploitation activities for PMS and CFC minerals in the Area will be more complex than for PMN minerals (Jaeckel et al., 2016). LTC explained that PMS exploration activities are highly dependent on the availability of 'state of the art multi-purpose research vessels' to efficiently conduct exploration activities of large areas and require advanced technology that can map the seafloor to a depth of several thousand meters.

Similar technical challenges also apply to CFC mineral utilization activities. LTC explained that sophisticated technology is needed to map underwater mountains to find locations that contain large amounts of cobalt in high quality (International Seabed Authority, 2001). CFC mineral exploitation activities are also technologically more complex than PMN minerals. The ferromanganese crust containing cobalt is attached to the rock, so technology is required to remove the crust without taking the rock, which will reduce the quality of the cobalt obtained. CFC mining requires five separate operations stages: fragmentation, crushing, removal, retrieval, and separation.

The demands of sophisticated technology will also impact the need for greater financing compared to PMN minerals utilization. Therefore, it is feared that the Enterprise or developed countries cannot meet these demands. Thus, even the existence of reserved areas in this sense does not guarantee that the Enterprise and developing countries will benefit from them. Therefore, the implementation of the obligation to submit reserved areas for PMS and CFC exploration contractors, in this case, may not provide optimal benefits for all mankind.

Considering all the above, the equity interest scheme may be a proper solution. On the one hand, the scheme allows exploration contractors to be more efficient in financing, thus increasing investors' interest. This aspect is crucial to ensure that mining PMS and CFC minerals in the Area is not less-lucrative in investors' perspective than mining them within state jurisdictions. After all, the fruition of benefits for all mankind requires the utilization activities to happen first.

The equity interest scheme may better guarantee tangible economic benefits for all mankind. More and more exploration and exploitation activities for PMS minerals and CFCs, even if only by developed countries, will increase the economic benefits to be distributed to all mankind. The equity interest scheme that guarantees that the Enterprise (as the mining arm of the ISA, which represents the interests of all mankind) gets a profit share of at least 20 percent of the exploitation results may be a better choice from an economic point of view. Moreover, to get this profit, the Enterprise or ISA does not need to contribute to financing the joint venture operations or taking risks.

In addition to financial benefits, the Enterprise's participation in joint ventures also

provides opportunities to improve its capacity. The Enterprise can obtain knowledge transfers from joint venture partners regarding the operation of deep seabed mining. This will have a positive impact in the long term for the Enterprise to have the ability to carry out mining activities independently. This participation also opens up opportunities for developing countries to obtain transfer of knowledge through the Enterprise.

In comparison, in the utilization of reserved areas, The Enterprise and developing countries are still required to carry out exploration and exploitation activities with their investment and take risks. Thus, to be able to benefit from it, they must spend large amounts of capital. If both are unable, then the reserved area will not generate benefits for mankind. Considering the Enterprise has not been established (independently), exploration and exploitation activities for PMS and CFC reserved areas will be dependent on developing countries, which may possess even less capacity to conduct such activities. Therefore, the equity scheme option may be a superior choice in PMS and CFC minerals utilization.

(2) Minimizing the barrier to entry for developing countries

Although the obligation to submit reserved areas can guarantee access for developing countries, it can also backfire and become a barrier to access. This obligation to exploration contractors is indiscriminately (except for the Enterprise), which means this will be given to all contractors, both developing and developed country contractors. If the obligation to submit a reserved area is deemed burdensome even for developed country's contractors, then this obligation will become a greater barrier to the participation of developing countries as contractors in non-reserved areas.

Although developing countries can benefit from the existence of reserved areas, they are also highly dependent on the willingness of developed countries to become contractors for the exploration of PMS and CFC. If the developed countries refuse to become PMS and CFC exploration contractors due to the obligation to submit reserved areas, the access for developing countries will also be non-existent. The equity interest scheme allows PMS and CFC exploration contractors to save costs, which means these activities become more affordable. Out of 12 exploration contracts for PMS (seven contractors) and CFC (five contractors), only one CFC contractor chose the option of submitting a reserved area (International Seabed Authority, 2019). From this finding, it can be ascertained that the contractor feels the equity interest is a better choice for them.

Avoiding the obligation to submit reserved areas may not mean that developing countries can access PMS and CFC exploration activities. The demand for the mastery of sophisticated technology may still be a barrier in itself. However, these options can still create easier access for

developing countries to participate as contractors in non-reserved areas.

(3) Avoiding the issue of implementing reserved area

The equity interest scheme may avoid the issues in implementing the reserved area scheme. In practice, the utilization of the reserved areas is not carried out as intended. UNCLOS 1982 Annex III Article 9 (4) regulated that the Enterprise is given the first opportunity to determine whether it will carry out the activities in the reserved area. If the Enterprise chooses not to manage a reserved area (or part thereof), developing countries may propose a plan of work in that reserved area. However, there have been several exploration activities in the reserved area, even though the Enterprise has yet to be established. This condition raises the question of how to access the reserved area when the Enterprise is still absent, which automatically results in the failure to fulfill the requirements for the 'rejection' of the Enterprise.

As of 2021, seven countries hold exploration contracts in reserved areas: Tonga, Nauru, Kiribati, Singapore, Cook Islands, China, and Jamaica (International Seabed Authority, 2019). This finding shows that the priority right of access to the reserved area for the Enterprise has been 'bypassed' and immediate access to developing countries has been granted (Oyarce, 2018). With the absence of the Enterprise, developing countries that possess the capacity to utilize the Area will benefit from guaranteed direct access to the reserved area.

Another issue is the question as to why 'developing' countries such as China and Singapore are still given access to reserved areas, even though they have strong financial and technological capabilities. The status of whether a country is 'developing' or 'developed' is not regulated in the UNCLOS 1982. Although Nauru and Tonga are developing countries and deserve access to the reserved areas, they only act as the sponsoring states for contractors affiliated with a company based in a developed country (*i.e.*, Nautilus Minerals Inc) (Jaeckel, Ardron, & Gjerde, 2016). Therefore, contractors from developed countries could easily access the reserved area by establishing a subsidiary company in a developing country.

These problems can be attributed to the tendency of developing and developed countries to secure benefits for themselves. In this case, developing countries acting as state sponsors are only used as a 'cloak' for companies based in developed countries to gain access to the reserved areas. Although those developing countries get the benefits as per their contracts with the sponsored mining companies, these benefits (besides the payment of royalties to ISA) are only enjoyed by those particular developing countries.

Furthermore, such contracts may be confidential. Hence, it may not be possible to know the proportion of profit-sharing between the two

parties or whether the developing country is getting a fair profit share at all. We should not rule out the possibility that the developing countries are 'racing to the bottom' to attract foreign contractors (Olney, 2013). Such practices are not in line with the objective of implementing reserved areas, which seeks to maximize the benefits for all mankind through utilization by the Enterprise as a contractor (hence, it is prioritized overutilization by developing countries).

The equity interest scheme can avoid these issues. This is considering the Enterprise is the one acting as the equity holder in the joint venture arrangements. Therefore, no countries can secure profits for themselves under this scheme. The equity interest scheme is also more transparent in terms of profit sharing. The minimum of 20 percent equity participation owned by the Enterprise will translate into the portion of benefits shared with all mankind.

b. Disadvantages

The equity interest scheme also has its drawbacks. This weakness can mainly be attributed to the differences in the timelines for implementing the obligation. In the reserved area scheme, exploration contractors are required to submit a reserved area together with the submission of an exploration work plan. Meanwhile, the joint venture's obligation will only take effect when entering the exploitation phase in the equity interest scheme. A series of exploration activities can take up to 15 years and can be extended. These differences have an impact on several aspects that make the reserved area scheme superior. The results of the identification are described as follows:

(1) Oriented only on direct financial benefits

The equity interest scheme only takes place in exploitation activities, which means that mankind is not guaranteed any benefit during the exploration phase that can take up to 15 years. The existence of guaranteed sites, especially for developing countries, either directly or indirectly through the Enterprise, is expected to help develop their capacity (capacity building) (Egede, 2009), including in the utilization of marine resources other than in the Area. The technological development of developing countries is certainly not as fast as in developed countries. Transferring technology from developed countries to developing countries will require some time to allow independent participation by developing countries. Therefore, the guaranteed participation of developing countries in exploration activities can bring benefits.

The existence of reserved areas provides the time and opportunity for developing countries to increase their capital and technological capacity and prevents the monopoly of utilization by developed countries. The participation of developing countries in the exploration stage brings 'other economic' benefits, although it does not directly bring 'financial' benefits. These other economic benefits are in the form of technology and information transfer to increase their capacity in utilizing marine resources, including those

outside the Area (Feichtner, 2019; Snoussi, & Awosika, 1998). The technology and information (including personnel training) that developing countries gain through their involvement in the Area utilization activities also brings benefits in increasing their capacity in other marine utilization sectors, for example, for the activities of utilizing the seabed of the continental shelf (Egede, 2009).

Implementing the equity interest scheme can effectively minimize access for developing countries. However, it must be acknowledged that the loss of guaranteed access is only for mineral exploration of PMS and CFC minerals. Developing countries still have guaranteed access to PMN minerals exploration, in which the contractors are still required to submit reserved areas without any alternative options. The availability of the options for exploration contractors to choose reserved area schemes, although they tend to be unpreferred, still allows some degree of access guarantees. However, it will be significantly reduced (depending on the number of contractors who prefer the reserved area schemes).

The reduced access for developing countries in the utilization of PMS and CFC minerals certainly increases the potential for a monopoly on utilization activities by developed countries. One of the aims of the reserved area scheme is to prevent monopolies. In the reserved area scheme, there is a guarantee that the ratio of the Area managed by the Enterprise and developing countries is at least one-to-one (1:1) with the total area of the Area managed by the other contractor. This is different from the equity interest scheme, in which the Enterprise guaranteed participation is manifested in the form of the share ownership in a joint venture operation.

In the equity interest scheme, assuming that all PMS and CFC mining sites in the Area are managed by independent contractors (state/private contractors), then the portion of ownership owned by mankind is at least 20 percent (Enterprise) vs. 80 percent (contractor). In such a scenario where the Enterprise only controls a minimum share (20 percent), then most of the profits will only be enjoyed by developed countries. The 20 percent figure is the minimum number and can be higher (up to 50 percent) if the Enterprise decides to purchase more equity participation in the joint venture.

In the best-case scenario, where Enterprise always purchases the equity participation up to 50 percent of the total equity in each joint venture operation exploiting PMS and CFCs, the share of the resources controlled by mankind is also up to 50 percent. However, to reach that number, the Enterprise must contribute at least to purchase an additional 30 percent of shares in each joint venture. This seems quite doubtful, especially if there are several joint venture operations that the Enterprise must participate in at the same time.

(2) Reducing the Enterprise's role and function

In the equity interest scheme, the Enterprise is not required to participate in exploitation

activities. This is considering that the Enterprise is only involved as an equity shareholder in the joint venture and is entitled to a share of the profits. Thus, the urgency of establishing an independent Enterprise becomes less and less. However, this argument is only correct if the Enterprise only plays a passive role in the joint venture. Otherwise, if the Enterprise takes an active role, it strengthens the reason for supporting the equity interest scheme to provide an opportunity for the Enterprise to increase its capacity (as stated in the advantage points).

Although the PMS and CFC exploration mining code stipulates that the equity interest scheme is carried out by placing the Enterprise as an equity holder in the joint venture arrangement, the question then is why this position should be given to the Enterprise. If the Enterprise is established independently only to act as a passive joint venture partner under the equity interest scheme, it is better off just directly to give the role to the ISA. Although the ISA acts as an administrator (regulator and supervisor), we can modify the scheme by applying a profit-sharing system between the ISA and the contractor instead (to simulate the same amount of profit generated under the joint venture arrangement). These profit-sharing provisions should be exempted to the contractor who chooses to submit a reserved area.

The issue of establishing the Enterprise becomes very relevant in this regard, considering its role has been 'bypassed' in the exploration activities of reserved areas for PMN minerals (Oyarce, 2018). With its role already being bypassed, there is no more urgency to establish the Enterprise to conduct exploration of PMN reserved areas. Therefore, the prospect of establishing an independent Enterprise depends on the prospect of PMS and CFC exploration activities. However, the equity interest scheme also bypasses the role of the Enterprise in this regard, considering there is no involvement of the Enterprise at the exploration stage.

Based on such prospects, the equity interest scheme seems to also contribute to lessening the role and function of the Enterprise, both in the exploration and exploitation stage. This raises the question of why we still need to establish the Enterprise just to play a relatively insignificant role? If we establish Enterprise just to serve as a passive partner in a joint venture arrangement, this might be inefficient in terms of financing. The establishment and daily operation of the Enterprise will require funding. This inefficiency may go against the interest to optimize the number of financial benefits distributed to all mankind.

3. The Compatibility of the *Equity Interest* Scheme with the EBS Aspects of CHM Principle under UNCLOS 1982

We have established that the rationale behind the exclusion (become optional) of the obligation to submit reserved areas for PMS and CFC contractors was a technical consideration. However, this finding is not sufficient to answer the

question regarding the scheme's compatibility with the application of the CHM principle in the Area. This question becomes critical to answer, considering that the equity interest scheme was never envisioned in the negotiation of UNCLOS 1982, particularly regarding its conformity to the CHM principle. Moreover, the implementation was not preceded by changes (adjustments) to the provisions of UNCLOS 1982 or Agreement 1994, nor the issuance of a new implementing agreement. The implementation of the equity interest scheme can be regarded as derogation (deviation) from the obligation to submit reserved areas under UNCLOS 1982.

The implementation of the equity interest scheme for PMS and CFC exploration regime, which was carried out without first adjusting the provisions in the UNCLOS 1982, resulted in no justification (at the treaty level) regarding the scheme's compatibility with the scheme and the application of the CHM principle. Therefore, we are forced to accept that the scheme is still consistent with the CHM principle. Although there are technical reasons behind the implementation of the option scheme, this is not sufficient considering that CHM is a principle, and technical aspects should not distort it.

There are four main aspects of the CHM principle, namely: (1) prohibition of appropriation of the Area by states, (2) utilization only for peaceful purposes, (3) equitable sharing of benefits to all mankind (EBS), and (4) common management of the Area (Noyes, 2012; Wang, & Chang, 2020). The imposition of obligations to contractors in carrying activities in the Area is closely related to the EBS aspect. In this case, the obligation for exploration contractors to submit reserved areas is an effort to create a distribution of benefits that fall into the category of 'other economic benefits'.

Although the obligation to submit reserved areas is aimed to create a distribution of benefits, it does not mean it is the only way. There is no limitation in the CHM principle regarding how these benefits are carried out. Therefore, the fulfillment of the EBS aspects of the CHM principle is oriented towards the results and not the methods. However, this issue has been a topic of debate between developed and developing countries in the negotiation of the UNCLOS 1982 (Wang, & Chang, 2020). Developed countries at that time proposed that countries should be able to determine how they fulfill their obligations to provide benefits to all mankind in the utilization of the Area (Taylor, 2019), whereas the developing countries proposed specific forms of benefits to be distributed by the contractors.

In UNCLOS 1982, there are several provisions to create a system of distribution of benefits. These provisions include the obligation to submit reserved areas, technology transfer, and the redistribution of the result of the exploitation (Feichtner, 2019). All of these provisions cumulatively contribute to creating a fair distribution system in utilizing the Area. Therefore, the obligation to submit reserved areas cannot be

said to be the only way to fulfill the EBS aspects of the CHM principle. There is flexibility in the application of the CHM principle, especially the fulfillment of the EBS. Thus, the presence of other schemes for exploration contractors does not mean that the EBS pillars are being compromised.

So long as the implementation of the equity interest scheme can still contribute to the realization of benefits for all mankind, its application remains in accordance with the EBS aspects of the CHM principle. Moreover, the exploration activities for PMS and CFC are faced with significant technical obstacles under the pre-existing scheme. Thus, the equity interest scheme is not only still in accordance with the CHM principle but is also needed to optimize the fulfillment of the EBS aspects. The realization of benefits may be hampered if the PMS and CFC exploration contractors are not given another obligation option. In conclusion, the equity interest scheme in PMS and CFC exploration may be compatible with the EBS aspects, as long as its implementation ensures the benefits to all mankind.

Although the equity interest scheme does not conflict with the fulfillment of the EBS aspects under the CHM principle, there are still questions regarding its compatibility with UNCLOS 1982's provisions as a treaty. In discussing the application of the CHM principle in the Area, we must adhere to the formulation of the CHM principle under UNCLOS 1982. This is because the obligation for exploration contractors to submit reserved areas is not an element of the EBS pillar under the CHM principle itself (Wang, & Chang, 2020). Instead, it is an element under UNCLOS 1982 regime. Despite UNCLOS 1982 specifically applying the CHM principle, the application is nonetheless based on specific interpretations.

The compatibility of the equity interest scheme with the CHM principle does not necessarily make it consistent with UNCLOS 1982. UNCLOS 1982 as a treaty has definitively formulated the operationalization of the CHM principle. Annex III Article 8 expressly governs that exploration contractors in the Area are required to submit a reserved area, with the only exception being only granted to the Enterprise. Thus, the equity interest scheme is contrary to Annex III Article 8 of UNCLOS 1982.

The formulation of the CHM principle operationalization in UNCLOS 1982 is static. When the CHM principle was first formulated in UNCLOS 1982, perhaps the reserved area scheme was considered the best scheme to create a distribution of benefits to all mankind. However, along with the development of practice and knowledge, this assumption is no longer valid based on technical aspects. Therefore, adjustments are needed to be made so that the CHM principle can be applied optimally.

The existence of an equity interest scheme was never regulated in the UNCLOS 1982 and Agreement 1994. However, the emergence of technical obstacles and the existence of certain

advantages brought by implementing the equity interest scheme in the utilization of PMS and CFC indicate the development of a subsequent practice accepted by the international community. The equity interest scheme was agreed upon to be implemented in the mining code exploration for PMS and CFC, which was taken through the decision of the ISA Assembly consisting of all state parties to UNCLOS 1982.

Referring to the general principle of interpretation of an international treaty as regulated in the Vienna Convention on the Law of Treaties 1969 (VCLT 1969), one method of interpretation is based on the subsequent practice. The VCLT 1969 stipulates that the interpretation of an international treaty is carried out in good faith by considering the context and purpose of the treaty. The context of an international agreement can be seen, among others, from the practice of implementing the international agreement (subsequent practice), which shows an agreement between the parties regarding its interpretation.

In this case, the equity interest scheme in mining code exploration for PMS and CFC minerals can be said to be compatible with the context and objectives of UNCLOS 1982, considering that its presence is still an effort to ensure the distribution of benefits to all mankind. Although the scheme may not be ideal as it minimizes access for developing countries, this does not necessarily result in its implementation being contrary to UNCLOS 1982. Moreover, the absolute obligation to submit reserved areas in PMS and CFC exploration may even result in the non-performance of utilization activities.

D. CONCLUSION

The equity interest scheme in the PMS and CFC mineral exploration stage is motivated by technical considerations. Although the scheme is considered the best option that can be applied in the utilization activities for PMS and CFC minerals, there are still some issues we need to consider to ensure optimum implementation. Considering that the Enterprise has yet to be established independently and its establishment is still in doubt, it is crucial to examine how this condition can affect the implementation of the equity interest scheme. At the time, the international community must consider ways to accelerate and ensure the presence of the Enterprise as a joint venture partner in PMS and CFC exploitation activities.

If the establishment of the Enterprise independently is only to occupy the position as a passive player in the joint venture arrangement, then it is deemed inefficient or unnecessary. In that context, another scheme is needed that can achieve equal benefits more efficiently. On the other hand, if the Enterprise takes an active role in the joint venture, this equity interest scheme is appropriate. The implementation of the equity interest scheme has advantages and disadvantages compared to the obligation to submit reserved areas. However, specifically in PMS and CFC exploration, the equity interest scheme seems more suitable to be applied.

The equity interest scheme is not regulated in the 1982 UNCLOS nor the 1994 Agreement. Despite this, the results of the study indicate that the scheme is still compatible with the EBS aspects of the CHM principle in UNCLOS 1982. This is considering that the scheme still provides benefits to mankind. The implementation of the equity interest scheme, even though it is contrary to the provisions of Annex III Article 1982, is a form of subsequent practice accepted by state parties.

Despite its compatibility with the EBS aspects, this study recommends that the relevant stakeholders reconsider the involvement of the Enterprise in the equity interest scheme based on financing efficiency. The ISA may consider applying differentiated exploitation contracts with contractors that choose not to submit a reserved area. Instead of requiring Enterprise to be involved in a joint venture arrangement, it will be more efficient for the ISA to collect the profit sharing directly. The amount of profit-sharing can be adjusted so that it is equivalent to the 20 percent equity participation. However, the proper alternative to this scheme is still a subject for further research.

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