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Substantive Legal Principles for Exploration and Exploitation of Resources in The Area

Enow Godwill Baiye [1]*, Ebako Collins Ngando[2]

[1] Department of English Law, University of Bertoua, Bertoua, Cameroon
[2] Department of English Law, University of Yaoundé II, Yaoundé, Cameroon; ebakocollins340@gmail.com
* Correspondence: enowgodwillbaiyebaiye@gmail.com

Abstract: Interest in exploring and exploiting mineral resources is increasing globally due to exhausting land based mineral resources. Exploring or exploiting land or deep seabed resources leads to diverse uncertainties and several risks to the environment necessitating guiding principles for exploring or exploiting resources. Competence over mineral resources in the sea is conferred to the International Seabed Authority (ISA). This study analyzes the effectiveness of the implementation of the substantive principle for exploring or exploiting resources. Effective implementation of the substantive principles regarding the exploring of and exploiting of deep seabed resources is the main research question. Currently, the substantive prescription and principles for exploring of and exploiting of deep seabed resources is not implemented as it should be. The methodology consists of the empirical approach while content approach and institutional approach is utilized in data analysis. The commitment provided for in the 1994 Agreement and Convention on the Law of the Sea is implemented by ISA. ISA, however is facing challenge in ensuring that financial benefits and economic benefits are shared equitably necessitating the recommendation to create a commission subject to accountability to ISA with a well-defined mechanism on how financial benefits will be shared.

Keywords: substantive legal prescriptions; principles; resource exploration; resource exploitation; area

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1. Introduction

The demand for mineral resources is increasing while these resources are decreasing due to exhaustion. About 2/3 of the earth is covered by oceans, and relatively 70% of these water bodies have an average depth of above four kilometers with diverse mineral resources in it. There is an increasing interest in exploring and exploiting deep seabed mineral resources globally. Many minerals can be found in the deeps seabed area which is also referred to as the area (Xiangxin et al. 2015). The area or deep seabed is made up of the ocean floor, seabed and subsoil thereof beyond national jurisdiction territorial limits in the context of the convention of the Law of the sea (LOSC). The deep seabed boundaries are different from high sea boundaries which start at 200nm (Almuhana, 2016). Many states are speeding up the exploration of the ocean to exploit mineral resources (Xue, 2003).Resources refer to 'all liquid, gaseous or solid minerals found in the area or at beneath the deep seabed for example polymetallic nodules which contain varying amounts of cobalt, manganese, nickel, and copper according to part Part XI of United Nations Convention on the Law of the Sea.[1]

Polymetallic nodules in the Arctic Ocean of Siberia were discovered at the end of the 19th century, from 1872-1877, during scientific expedition. The exploration and extraction of the deep seabed resources is based on core principle of common heritage of mankind and to achieve this, other pertinent principles like protecting of marine environment crop up (Broggiato 2020). There were three different views relating to the status of natural resources in the deep seabed before the drafting of the UNCLOS III. The criteria for exploiting are situated in the Geneva Convention 1958. The deep seabed resources are subject to rights of sovereign state and it is also subject to the freedom of the high sea. Thirdly, states should be competent to appropriate the ocean floor and its subsoil as well as its natural resources.[2] All states in deep Seabed should be capable to

[1] Law of the Sea Convention 1982, part XI.
[2] Article140 of the United Nations Convention on the Law of the Sea.

appropriate the ocean floor and its subsoil as well as its natural resources. Resources in the deep seabed are vested in all of humanity.

2. Methods

Empirical research was used to collect the data from both primary and secondary data sources. Primary data consisted of international legal instrument such as the 1982 UNCLOS and Agreement of 1994 and cases on exploration and exploitation of resources in the Area. Secondary data consisted of books, internet, and journal articles, reports, and dissertations. Content approach and institutional approach was for analysis of the collected data. Content approach entails identifying the legal prescriptions of international instruments and analyzing them.

3. Findings

The 1982 UNCLOS and Agreement of 1982 provide substantive legal prescriptions and principles for exploring the Area and exploiting resources situated in the Area. However, both these substantive prescriptions and principles have deficiencies. For example, LOSC fails to provide the benefit sharing criteria. It only provides for sharing benefits equitably and does not precise whether the equitable sharing is in proportion to state parties' contribution.[3]

Encouraging and promoting marine scientific research in the deep seabed and coordinating, disclosing and sharing the result of such marine research is ISA's core function. ISA has granted over 30 exploration contracts while exploitation of resources yet to commence. Costa Rica's Carlos Alva, in his speech during negotiations in the UN General assembly mentioned that no effective exploitation should be allowed until it is guaranteed that protection of the environment is secured.[4]

ISA, since its creation in 1994, has focused on protecting the environment as one of its top agenda. In 2000, ISA adopted regulations for prospecting and exploring of polymetallic nodules in the deep seabed by establishing a legal regime for protecting and monitoring the marine environment in the deep seabed. On 7th May 2010, a regulation for prospecting and exploration was adopted for polymetallic sulphides in the deep seabed. Another regulation for prospecting and exploration was adopted on 27th July, 2012, for Cobalt-Rich Crusts.[5] All ISA contractors are bound by these regulations.

4. Substantive Legal Principles for Exploring the Area and Resource Exploitation in the Area

4.1 Principle of common Heritage of mankind

Common heritage of mankind principle came into spot light when the principle of sovereignty[6] or freedom of the high seas did not provide a legal framework ensuring the sharing of benefits equitably. The 1970 Declaration provides that the subsoil, ocean floor and seabed thereof above the national jurisdictional limits are the common heritage of mankind.

The principle gained momentum and remains the guiding and leading principle as far as the exploring of and exploiting of resources is concerned in the deep seabed. This principle states that all resources situated in the Area are collective heritage of humans.[7] The principle has three essential elements. Firstly, the non-appropriation by any state of the Area as well as its natural resources indicates that no state or natural or judicial person has exclusive rights or sovereignty over any part of the deep seabed and resources thereof.[8] It vests all rights thereof in mankind as a whole under the management and control of ISA. This does not deprive the state from partaking in the benefit of common heritage and if a state does not possess capacity to explore and exploit these resources, then other means must be provided to the state to enable it to enjoy these resources belonging to mankind collectively.

The next element involves managing the deep seabed for the benefit of all of mankind, and paying attention to the needs and interest of developing states and other self-governing status recognized in the General Assembly resolution 1514(xv) of the U.N, not excluding people who have attained independence. The UNCLOS stipulates that activities in the deep seabed shall be executed for benefit of humans.[9] The benefit here is unexplained whether it is in terms of reduction of prices of minerals affordable to all in the globe or in protecting the environment from devastating effects of exploration and exploitation or in equitable sharing of economic and financial benefits realized from activities in the deep seabed.

However, article 140(2) of UNCLOS provides for sharing of economic and financial benefit. Although sharing of benefit for mankind is at the center of common heritage,[10] neither UNCLOS 1982 nor the 1994 Agreement explains the "common heritage of mankind". Debates on UNCLOS III have focused on meanings of common heritage of mankind. Majority of states, especisely developing ones referred to as "the 77 Group" opined that the common heritage of mankind means "common ownership of the resources of the seabed with the benefits shared primarily to less developed and geographically disadvantaged states". The unfair sharing of the benefits to third world countries and geographically disadvantaged countries has not been debated fully. Does the market approach justify an unfair division of profits in favor advanced states is unanswered yet. If yes, then the UNCLOS fails in the implementation of common heritage principle (Almuhana, 2016).

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3 Ibid.

4 Ibid.

5 https://www.isa.org.jm/mining-code,(Lastly Accessed on 25th November,,2024).

6 The principles of sovereignty stipulates that a state has sovereign right and power over the exploration and exploitation of resources

7 Article 136 of the Law of the Sea Convention.

8 Article 137(1)-(3) of the Law of the sea convention.

9 Article 140(1) of the Law of the sea convention.

10 An early reflection on benefit-sharing negotiations at the International Seabed Authority-Benelex Blog-Word Press.com.https://benelexblog-wordpress-com.cdn.ampproject.org/v/s/benelexblog.wordpress.com/2018/08/30/an.(Lastly Accessed on 25th November,2024).

The third and the last element cover peaceful use of the Area. The UNCLOS provides that the deep seabed shall be accessible to all states for peaceful purposes.[11] It prohibits states activities which may breach exclusive use of the deep seabed for peaceful purpose. Thus, what amounts to peaceful purpose should be streamlined so that its breach may be ascribed punitive measures. It will ensure that states don't take advantage of the lacuna to do things to the extreme because of failure to prescribe "peaceful use" means. It brings us to the next principle which has its root in benefiting all humanity.

4.2 Principle of equitable sharing of benefits

This principle is a bed rock in establishing the principle that benefits all humanity in practice.[12] It obligates the ISA to sharing of economic and financial benefit equitably generated using the right mechanism or approach in a way that is not discriminatory.[13]The principle ensures Impartiality eradicated in sharing benefits accruing from exploring thereof and exploiting of resources in the deep seabed. Interpreting this principle in context of both present and future generation, it is not feasible with future generation. Also looking at equitable sharing of these benefits, does it apply to all nations of the world, or it is simply for the parties of LOSC?

If it is strictly amongst parties to the LOSC then one is bound to say that the principle of common heritage of mankind is the principle that anchors on parties to LOSC not all of humanity. If this principle is followed strictly, problems will likely not crop up as a result of dissatisfaction of different states stemming from discrimination among states. However, if this is not the case then great dissatisfaction will be the end result and this may cause many states to withdraw from the LOSC which possibly would lead to the collapse of ISA.[14] However, mechanisms for distributing these benefits are underdeveloped and may not adequately address inequalities, particularly between developed and developing nations.

It is thus left for the ISA to exercise efficiency in establishing non-discriminatory mechanisms as well as ensuring the strict Implementation of it. In as much as the equitable sharing of benefits is cardinal, another principle which cannot be left out is environmental protection.

4.3 Environmental protection

Exploration and exploitation of resources in the deep seabed may pose serious threat environmentally leading to global environmental problems. Protecting the marine environment requires that activities that may put the entire world in chaos be given prohibition. UNCLOS provides necessary measures for effective marine environmental protection from harmful effects of excavation, dredging, installations, pipelines and drilling. In this regard, the ISA shall adopt appropriate rules, regulations and procedures for the same purpose. The ISA is responsible equally for control and prevention of pollution.[15]

Human existence is the center of attraction. In this respect, necessary measures to ensure effective marine environmental protection from harmful effects proceeding from excavation, dredging, installations, pipelines and drilling would be taken to ensure effective protection of human life.[16] Although all states stress the need for protection of marine environment (P.M.E),[17] the specifics of what constitute "serious harm" or acceptable environmental baselines remains unclear. The lack of binding international standards for assessing and mitigating ecological damage from mining activities leaves a regulatory gap. In the P.M.E, another very important principle namely precautionary principle must be followed.

4.4 Precautionary Principles

This principle is intended to protect the environment from irreparable harm.[18] Seabed activities can cause significantly harm to the environment. The principle is used to limit the effect of unforeseeable danger to the environment. The precautionary principle was included in 1970's to provide decision makers guidelines when scientific evidence about environmental or human health hazard was uncertain. The precautionary principle became enshrined at the global level and has been incorporated into the Rio Declaration 1992.

The ISA code of mining regulating the prospection, exploitation and exploration of minerals clearly requires all actors including ISA to follow the principle of precaution. In 2011, the seabed dispute chamber (SDC) expressly supported the precautionary principle in its land mark advisory opinion and identified it as a general obligation of sponsoring states to exercise due diligence. A similar view was shared in the Southern Bluefin Tuna by Judge Treves. Support for the precautionary principle is reiterated in the recent Whaling in the Antarctic case by the ICC. The same support was expressed in Pulp Mills case and Gabcikovo-Nagymaros case by Judge Charles worth who opined that treaties on environment ought to be interpreted wherever possible to mirror the precautionary principle immaterial of the adopted date (Jaeckel, 2015).

This principle has three components with threat to the environment being the primary one. The main concern is to prevent and reduce environmental harm from uncertainty arising from scientific methods and knowledge. It recognizes that evidence-first approach success is limited and establishes a proactive tool for environmental management. This principle necessitates prior action in the absence of facts or evidence to ascertain the exact harm. There are two situations of uncertainty namely epistemic uncertainties and ontological uncertainties. The first one is derived from incomplete or insufficient or limited facts which can be ameliorated in due time with

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11 Article 141 of the Law of the Sea convention.

12 Article 140(2) of the Law of the Sea convention

13 Article 160(2) (f)(i) of the Law of the Sea convention.

14 Article 145 of the United Nations Convention on the Law of the Sea.

15 Accordions to Article 1(4) of the United Nations convention on the Law of the Sea, it defines pollution of the marine environment as the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the, impairment of quality for use of sea water and reduction of amenities.

16 Article 145 of the United Nations Convention on the Law of the Sea.

17 https://www.isa.org.jm/our-work/Protection-Marine-Environment Lastly Accessed on 25th November, 2025).

18 Republic of Nauru International Seabed Minerals Act; an Act to govern Nauru's engagement in Seabed Mineral Activities in the Area beyond national jurisdiction and the associated administrative functions of the Republic: page 3. Certified 23 October 2015.

improvement in scientific research. Ontological uncertainties involve studying complex and variable systems. The third important component of remedial action at the prime stage is also present in the Rio Declaration (Christiansen et al. 2020).

The precaution principle must be effective and adaptive in acquiring the required level of protection. Understanding deep-sea ecosystems and their role in global environmental processes is still limited, making the precautionary principle unrealistic. UNCLOS emphasizes the use of "best available science," but in several cases, the "best available" is inadequate, leading to challenges in balancing development with environmental preservation.

4.5 Use for peaceful purpose Principle

The use for peaceful purpose principle is covered in Article 141LOSC. It stipulates that the deep seabed shall be accessible for use to all states without discrimination for peaceful purposes.[19] Consequently, military activity which can harm the resources is prohibited. Resources of genetic nature in the Area are to be used mainly for peaceful purposes void of discrimination.

Article 141 of LOSC does not define or state what amounts to peaceful purposes. As a result of this lacuna, there is room for discussion on 'what would not fall under 'peaceful purposes', 'do only military activities constitute non-peaceful use of the Area'? Antarctica shall be used for peaceful purpose only in accordance with Treaty of Antarctic. It restricts testing of any type of weapon, carrying out of military maneuvers and the establishment of military bases.The absence of a concise definition of "peaceful purposes" or "list of activities which are related to non-peaceful" in the LOSC makes it difficulties for states wishing to exercise activities in the Area to do so freely.

4.6 Governance and Transparency

Good and transparent governance is necessary so that resources in the deep seabed are used for the interest of the current generation and the generations yet unborn. The LOSC entrusts governance to ISA as the main institution that governs these common resources for all mankind. All states parties to the LOSC are ISA members by default.[20] ISA has legislative jurisdiction and enforcement jurisdiction.[21] ISA has responsibility to adopt and apply uniformly regulations, principles, rules, and procedures. Financial matters, procedures of administrative nature relating to prospection, resource exploration and resource exploitation in the Area, and decision implementation taken pursuant to Article 151(10), fall within the competence of ISA.

Three operational modes are available to ISA for deep seabed mining (DSM) by LOSC. ISA caries out operations directly via its operational organ called the enterprise. Enterprise did not take off actively as it was suspended. The next mode is via joint ventures between other actors and the ISA.[22] The 3rd mode operation is carried out in association with ISA, specified in article 153(2) (b). Operators are supposed to submit, in a contract form together with a work plan to ISA according to article 3 of Annex III. The plan is approved by the council after review by the technical and legal commission.

ISA is made up of three principal organs: the secretariat, a council and the assembly. It also has two subsidiary organs, namely technical and legal commission [23]and a finance committee,[24] according to article 163 of the LOSC.[25] Transparency is very crucial for the management of joint property; otherwise, there will be discrimination, fraud, and a feeling of insecurity. Neither the 1994 Agreement nor LOSC has express provisions for transparency, something very essential in governance within the ISA.

4.7 Settlement of Disputes

The deep seabed regime of mining has the settlement dispute mechanisms under Part XI and Annex VI of LOSC, with a seabed dispute chamber (SDC). Intentionally established as an organ of ISA, SDC became an independent legal body based within the international tribunal for the law of the sea (ITLOS) in Hamburg, a 'tribunal within a tribunal". SDC delivered its first advisory opinion in 2011.

SDC has obligation to implement the LOSC, regulations, rules and procedures adopted by the ISA including other rules of international law and mining contract. SDC contributes to the development of the seabed mining regime by proper interpretation of the instrument. SDC however can't review the discretionary powers of ISA. It therefore cannot pronounce whether any regulations, rules, and procedures of ISA are not in conformity

with the LOSC, nor declare any such regulations, rules, and procedures invalid. This means that SDC is unable to control or interfere through judicial review, the law-making function of the ISA. The SDC jurisdiction is limited to deciding cases, which is often criticized.[26]

5. Conclusions

Resource exploration of and resource exploitation in the deep seabed is governed by several important principles enshrined in the LOSC and the Agreement of 1994. These include the principle of the common heritage according to article 136 of the LOSC; the principle of the equitable sharing of benefit for all, recently incorporated principle of precaution, governance and transparency in the ISA strategic plan, use for peaceful purposes principle and the principle of environmental protection. Article 145 provides that measures

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19 Article 141 of UNCLOS.

20 Article 156(2) of the UNCLOS.

21 Article 17(1) of the UNCLOS.

22 Implementation Agreement section 2(2)

23 The legal and technical commission is responsible for various activities concerning the deep seabed area such as supervising the 'mining activities, assessment of the environmental impact of such activities and provide advice to the International Seabed Authority's Assembly and Council on matters relating to exploration and exploitation of non-living marine resources.

24 The Finance Committee is the organ created to oversee the financing and financial management of the Authority; it has as responsibility to assist in financial activities of the Authority.

25 Article 163 of the Law of the Sea convention.

26 Ibid.

taken will comply with the LOSC for effective protection of the marine environment. However, gaps exist in the substantive legal principles that need to be redressed. The law commission of the UNO is recommended to amend the law of the sea convention including substantive legal provision of the principle of transparency. The absence of the transparency provision may lead to political gains. For instance, ISA concealing its engagement gives state parties, other organization and the environment at large the impression of the unreliable nature of ISA. Transparency will increase the accountability and involvement of other state parties in resource exploration and resource exploitation. Substantive legal provision explaining explicitly the equitable sharing of financial benefits and the criteria to be used to distribute these benefits should be included. Activities that do not fall within the use for peaceful purposes should be well elaborated. Transparency within ISA should be increased by providing access to information. This will foster the development of external accountability mechanisms for ISA.

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