

THE ROLE OF THE COASTAL STATES TO THE PROTECTION OF MARINE ENVIRONMENT IN JOINT DEVELOPMENT AGREEMENT

Sri Wartini

Faculty of Law, Universitas Islam Indonesia
Correspondence: sri.wartini@uii.ac.id

Abstract

Maritime boundary disputes with neighboring states, especially in continental shelf driven by potentially large hydrocarbon deposits lying in overlapping continental shelf. Presently, there are many states remain in the hydrocarbon extraction and exploration in the form of joint development Agreement. The impacts of the joint development in conducting exploitation in the offshore which become the disputing continental shelf may potentially cause pollution or environmental damage in the adjacent area. The paper undertakes a critical examination of the issues relating to the role of coastal states to protect the marine environment in Joint Development Agreement. The research finds that the protection of the marine environment in joint development agreement in the joint development zone needs has not carried out optimally particularly in developing countries.

Keywords: *joint development agreement, damage, environmental pollution, hydrocarbon, and offshore*

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I. INTRODUCTION

States are outstandingly dependent on oil for many activities whether industrial activities or transportation activities. The states conduct oil exploitation both on onshore and offshore. Indeed, there are many state have continental dispute in the offshore activities that have not been settled. There are many states have dispute with neighboring states, driven by potentially large hydrocarbon deposits lying in overlapping continental shelf and territorial sea borders. The dispute is accustomed to the situation for coastal states in Europe, Africa as well as in in Southeast Asia. For instance, in the past decade, the Ambalat Block has become a major focus of conflict between Malaysia and Indonesia, as each state respectively stakes legal claims over the prospectively hydrocarbon rich, deep sea block. At the present, the states remain in the preliminary stages of

negotiation with slight progress being made toward delimitation.¹

In order to take advantage in the disputing border, it is better if the disputing state can adopt joint development Agreement (hereinafter JDA). The Joint Development Agreement is a mechanism to cooperate between states to enjoy resources in the disputing place in the absent of boundary delimitation. Thus, boundary delimitation between Malaysia and Indonesia could be successfully circumventing favor of mutual cooperation.² Exploratory drilling and offshore production happening in the overlapping continental shelf may caused environmental damage and pollution between contiguous states and as an apparent source of potential transboundary pollution which may be resolved through bilateral agreement. For example, joint development agreement along the maritime borders between Malaysia and Brunei, and Malaysia with Thailand.³

While waiting for the process of dispute settlement upon the overlapping claim in the continental shelf, states often choose to cooperate to develop the resources in the disputing area and pending delimitation of their boundaries. The instruments used by states to facilitate exploration and development of offshore petroleum and other resources in the zones subject to dispute are commonly known as joint development Agreement (hereinafter JDA). In practice, when the JDA has been established, states determine a joint development zone (hereinafter JDZ) to make sure that the area has been defined as the place of resources to be exploited together. However, the exploration and the exploitation in the JDZs may cause environmental pollution and environmental deg-

* Senior Lecturer Faculty of Law, Universitas Islam Indonesia, Email : sri.wartini@uui.ac.id

¹ Resistensia Kesumawardhani, "Dispute between Indonesia – Malaysia over Ambalat Block", <http://journal.unair.ac.id/downloadfull/JAHI5730-da82942ddcfullabstract.pdf>, Accessed on 17 September 2016.

² Colin Brown, "Sidestepping Maritime Border Delimitation: Potential Joint Development of Deep Sea Hydrocarbons in the Ambalat Block", *Asian Journal of Climate Change and Sustainable Development*, October 2013 Vol. 2 No. 2 (Oktober, 2013), at 64.

³ Youna Lyons, "Transboundary Pollution From Offshore Oil and Gas Activities in the Seas of Southeast Asia", http://cil.nus.edu.sg/wp/wp-content/uploads/2010/10/OOG_SCS-YounaLyons-Part1.pdf. Accessed on 19 September 2016.

radation in the marine environment. Pollution from many of offshore activities may cause transboundary pollution, which encompass more than two states. Pollution from production sites in the Gulf of Thailand could for instance involve more than two coastal States due to the geographical characteristics of the respective borders.⁴ It is common, that the extractive industries in the JDA lack of concern to protect the marine environment and ignore sustainable development principle and precautionary principle which have been adopted in United Nations Convention on the Law of the Sea (hereinafter UNCLOS) to protect marine environment properly.

Indeed, the JDA in the offshore exploitation may destroy habitats and damage biodiversity. Oil spills at sea have damaged mangrove forests, coral reefs and fisheries, both through major accidents and regular leakage from tankers, loading buoys and drilling rigs and platforms. Thus, it is necessary the involvement of the coastal states as the parties of the JDA to actively prevent, mitigate and preserve the environment in the JDA, since the impacts of offshore exploitation range from temporary, to long-term harm resulting from the accidental or operational release into the marine environment of oil, chemicals used in the drilling process, heat or waste streams. It can be said that not all the JDAs take measures to protect or the marine environment. Some JDAs include provisions that elaborate on the requirement for environmental protection to different ranks. The obligation to protect and to preserve the marine environment and the obligation not to cause injury or serious damage to other states has been accepted as customary international law. Based on UNCLOS Article 74 (3) states have an obligation to cooperate during the period of determining the border in the disputing continental shelf.

Therefore, the article analyses comprehensively what are the role of the coastal states to protect the marine environment in the JDAs particularly in the overlapping claim of continental shelf. First, it discusses the Joint development agreement and the legal basis. Second, it examines the impacts of offshore exploitation in the JDAs. Thirdly, it analyses the legal instruments to protect the marine environment in the JDAs.

⁴ Cecilia A Low, "Marine Environmental Protection in Joint Development Agreements", Vol. 30 No. 1, *J. Energy & Nat. Resources L*, (March, 2012), at 49.

Fourth, it examines comprehensively the role of the coastal state as the parties of JDAs to protect the marine environment.

Based on the explanation above, this paper tries to answer questions of: (1) What is Joint Development Agreement?; (2) What are the impacts of exploitation in the offshore to the marine environment?; (3) How are the international instruments regulate the protection of marine environment in the joint development Agreement; and (4) How are the role of the coastal states to protect the marine environment in the joint development Agreement. In addition, this paper has aim to: (1) examine the joint development agreement; (2) analyze comprehensively the impacts of exploitation in the offshore to the marine environment; (3) examine the international instruments and national instrument in regulating the protection of marine environment in the joint development agreement; and (4) analyze the role of the coastal state in protecting the marine environment in the Joint Development agreement.

II. JOINT DEVELOPMENT AGREEMENT IN DISPUTING CONTINENTAL SHELF

UNCLOS ascertains a legal framework to govern all uses of the oceans. It regulates the overlapping claim whether in territorial sea, economic exclusive zone and continental shelf. However, it has no provisions on how to resolve sovereignty disputes over offshore features.⁵The coastal States have sovereign rights to explore and exploit the natural resources of the continental shelf. According to Article 81 “The coastal State shall have the exclusive right to authorize and regulate drilling on the continental shelf for all purposes”. It means that when a coastal state adopts the JDA, it has the right to determine what kind of policy those have to be carried out in the Joint Development Zone.

The JDA is one of the alternative solutions to utilize overlapping claim in the disputing continental shelf, while the dispute has not yet settled by the disputing parties. In practice there are some states that

⁵ Robert Beckman & Leonardo Bernard, “Framework For The Joint Development of Hydrocarbon Resources”, <http://cil.nus.edu.sg/wp/wp-content/uploads/2010/08/beckman-and-bernard-framework-for-the-joint-development-of-hydrocarbon-resources.pdf>, Accessed on 19 September 2016.

have already adopted the JDA, such as Kuwait Saudi Arabia,⁶ Malaysia and Thailand. States carry out maritime cooperation to conduct exploitation in the disputing area. In fact, the JDA has been started before UNCLOS comes into force, such the Bahrain-Saudi Arabia joint arrangement.⁷ The JDA become more common since the initiation of UNCLOS. However, before states agree to adopt JDA, the states have to determine joint development zones (hereinafter JDZ). By determining the JDZ, so states have the exact location of their cooperation. Based on UNCLOS, the coastal states have obligation to do the conservation to the marine resources including in the disputing continental shelf.

A. THE LEGAL BASIS OF JOINT DEVELOPMENT AGREEMENT BASED ON UNCLOS

JDA is not new legal mechanism beyond the UNCLOS. It is presented in UNCLOS. There is an article that can be used as the legal basis for establishing Joint Development Agreement in the continental shelf, namely Article 83(3). It provides a clear legal basis for maritime joint development Agreement. It states, that:

Pending agreement as provided for in paragraph 1, the States concerned, in a spirit of understanding and cooperation, shall make every effort to enter into provisional arrangements of a practical nature and, during this transitional period, not to jeopardize hamper the reaching of the final agreement. Such arrangements shall be without prejudice to the final delimitation.

Based on Article 83(3) can be submitted that State has an obligation cooperate and to make every effort to establish an agreement in the absence of a boundary line, while the border line dispute in the process of settlement.

The concept of joint development in the continental shelf particularly of hydrocarbon resources appears to have emerged in the 1950s.⁸It

⁶ Cecilia A Low, *op.cit.*, at 52.

⁷ Clive Schofield, "Blurring the Lines? Maritime Joint Development and the Cooperative Management of Ocean Resources", <http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1373&context=lawpapers>. Accessed on 19 September 2016.

⁸ Yücel Acer, "A Proposal for a Joint Maritime Development Regime in the Aegean Sea", Vol. 37.*J. Mar. L. & Com.* (January, 2006)

is usually extent from *unitization* of a shared resource where boundary delimitation is not feasible to reach agreement on a boundary at the time being.⁹It is obvious that JDA is a type of provisional arrangement of a practical nature. The legal basis stems from Article 83(3) of UNCLOS. Indeed, it seems to be the most frequently used arrangements for overlapping claim areas. However, International courts and tribunals have recommended joint development agreements as an alternative to maritime delimitation. For instance, in the *North Sea Continental Shelf Cases*, and *Tunisia and Libya*.¹⁰

B. FORMS OF JOINT DEVELOPMENT AGREEMENTS

According to Beckman and Bernard,¹¹ there are three kinds of Joint Developments Agreements, which are popular among the scholars, namely: ***The First model is the Single-State Model.*** The model is the simplest one, since the parties of the agreement do not have any obligations to perform any formal cooperation or to conduct harmonization of the institutions. Based on this model one of the states conducts exploitation on behalf of the two states, while all the cost and benefit are shared between them. Previously there are some states adopt the model, however, at the present the model is rarely used anymore. Since the model causes the other party lost of authority and become the authority of other state. Many states do not want to have such kind of situation, as look like the states do not have any control of the disputing zone which have a lot of resources in overlapping claims, for instance the JDA between Brunei-Malaysia arrangements established by the bilateral Exchange of Letters in 2009.¹²

The Second model is the Joint-Venture Model. Most states like the models, since the model does not affect the right of each party to participate in the management of the resources in the overlapping claims. Based on the model each party has the obligation to establish joint ventures with the national company or transnational company to conduct

⁹ David M. Ong, "Joint Development of Common Offshore Oil and Gas Deposits: "Mere" State Practice or Customary International Law?, Vol. 93, *Am. J. Int'l L.*, (October 1999), at 781-782

¹⁰ *Ibid.*

¹¹ Robert Beckman & Leonardo Bernard, *op.cit.*, at 19-21.

¹² *Ibid.*, at 21.

exploitation in the overlapping claims, which is recognized as a unitized deposit on behalf of all the interested operators.¹³ There are two kinds of JDAs models. The first model is agreements that designate specific joint development zones in which compulsory joint ventures are established in respect of unitized deposits. The second model is transboundary unitization agreements that provide for a single operator to exploit a „straddling“ deposit lying across a previously agreed maritime boundary. The second type is mainly found in the North Sea region.¹⁴

The Third model is the Joint Authority Model. It is the most complicated type. The model needs more comprehensive cooperation rather than the two previous models. This model consists of an agreement between the interested States establishing an international joint authority or commission with legal personality, licensing and regulatory powers, and a comprehensive mandate to manage the development of the designated zone on behalf of the States. According to the model, the joint authority has the authority to determine the rule with is applicable to both parties. The position of the international Joint authority is very strong, even the international Joint authority has a capacity to perform licensing agreement, such as the 1979 and 1990 Malaysian-Thailand agreements are good examples of this third joint development model.¹⁵ In the model, both parties have already mandated the joint authority to manage and to develop the exploitation including the policy. Indeed, only a few states which adopt the model.

C. THE IMPACTS OF OFFSHORE ACTIVITIES IN THE JOINT DEVELOPMENT AGREEMENT

Offshore petroleum resource development encompasses two phases. First is the upstream process, comprising the exploration, development and production of the petroleum. This is followed by the downstream phase, which includes transport, refining, distribution and sale of the petroleum products. It cannot be ignored that the offshore production of oil and gas are tremendous. It contributes a lot to the needs of the world energy, since the onshore production is not sufficient to fulfill the

¹³ David M. Ong, op.cit, at 782-783.

¹⁴ Robert Beckman & Leonardo Bernard, at 21.

¹⁵ *Ibid.*

needs of the world energy. However, the offshore exploitation of oil and gas are potentially cause marine pollution, because it is recognized that the activities often cause serious accident such as the blow out of the platform. For example, the Ekofisk well blowout in 1977 an offshore rig just on the Norwegian side of the established boundary between the Norwegian and British sectors of the North Sea needs the attention and the enforcement of international law and national law to deal with the case. The next incident was the Macondo blowouts in the Gulf of Mexico encourage states to be more watchful to the offshore activities and establish more safety standard and continuously monitoring the offshore exploitation. Both the Macondo blowout and the August 2011 oil leak from a North Sea pipeline in the United Kingdom zone near the boundary with Norway highlight the difficulties states have in acquiring accurate information about the potential environmental impacts of accidents that occur in the offshore environment.¹⁶

Furthermore, on April 20, 2010, the Deepwater Horizon offshore oilrig caught fire and exploded fifty-two miles off the coast of Louisiana. Soon after, the rig platform sank into the Gulf of Mexico, and the uncompleted Macondo exploratory well began releasing crude oil into Gulf waters at a rate of 5000 barrels--or 200,000 gallons--per day.¹⁷The incident caused marine pollution and damages the habitat of the fish and other living creatures. This kind of incident needs long time to recover, thus it can disturb the domestic economic which depend on the resources. Thus, the exploitation of the offshore potentially very dangerous to the marine environment, if it not well regulated both in international and national level.

The offshore exploitation, which consists upstream, phase and down stream phase¹⁸ are not only potentially causes accident but it also continuously causes pollution of the adjacent area. A variety of adverse environmental impacts are associated with offshore oil and gas exploration and production activities, particularly in the form of marine pollu-

¹⁶ Cecilia A Low, *op.cit.*, 46.

¹⁷ Lauren Hunt Brogdon, "A New Horizon?: The Need For Improved Regulation of Deep Water Drilling", *Colum. J. Envntl. L.*, Vol.37, (2012), at 291-292.

¹⁸ Tina Hunter, Sustainable Socio-Economic Extraction of Australian Offshore Petroleum Resources through Legal Regulation: Is It Possible?", Vol.20, *J. Energy & Nat. Resources L.*, (May,2011), at209.

tion. There are three forms of pollution, which come from the offshore activities, namely intentional pollution, which is less common because any loss of hydrocarbons contravenes commercial interests. The second form is accidental pollution, derives from blowouts, pipeline ruptures, tanker spillages and collisions when ships are docking the platforms. This form of pollution can have substantial impacts on both the environment and the oil and gas industry. Thirdly, there is operational pollution, that is pollution arising as a result of the normal operation of offshore installations.¹⁹

Furthermore, oil offshore exploitation is potentially cause environmental pollution and environmental degradation, which affect the marine environment especially the living resources and their habitat. Thus, it can cause a significant threat to the marine environment and ecosystem, which affect the marine biodiversity. In the end, after the oil has dried up, there is another challenge of what to do with abandoned platforms, i.e., decommissioning. The issue of decommissioning becomes important issue that has to be overcome, because if the platforms do not have any function anymore, they become new source of pollutant in the marine environment. Thus, it needs to be mitigated to prevent the bad impacts. Most of developing countries, such as Guinea lacks of regulations to clean up the abandoned platforms. However, if there is no policy and regulations to deal with the decommissioning, it may cause harmful impact to the marine environment. Thus, there is a loophole regarding the environmental protection in the offshore related to offshore exploitation.

D. LEGAL INSTRUMENT TO PROTECT MARINE ENVIRONMENT IN THE JOINT DEVELOPMENT AGREEMENT

Protection of the marine environment in the exploration and the exploitation of petroleum in the joint development zones (hereinafter JDZs) is necessary to enhance, since the existent legal protection still lack of protection. However, states are required to take ‘all measures

¹⁹ Emmanuel Kofi Owusu, “Regulation of Operational Pollution from Offshore Oil and Gas Activities: A Comparative Analysis of the Norwegian and Ghanaian Regimes”, Vol 15, *Asper Rev. Int’l Bus. & Trade L.*, (2015), at 354.

necessary to ensure that activities under their jurisdiction or control' are carried out so as not to 'cause damage by pollution to other states and their environment. Since the obligations in this provision are triggered by state control and are not limited to areas of exclusive sovereignty, and since they include all sources of pollution including offshore drilling platforms, they do apply to JDZs. As a result, states are required to take positive action to establish marine environmental protection regimes applicable to their JDZs.²⁰

The environmental impacts of the offshore activities has encourages states to apply more stringent regulations in order to protect the marine environment. Besides that, there are many regional protocols have been adopted including the Protocol for the Protection of the Marine Environment Against Pollution from Land-Based Sources of February 21, 1990. Specifically, and as regards off-shore installations, the Protocol Concerning Marine Pollution Resulting from the Exploration and Exploitation of the Continental Shelf ("the Continental Shelf Protocol"). It is significant that the latter Protocol is expressly stated to have been prepared pursuant to the provisions of UNCLOS 1982, Articles 197 and 208. Those provisions encourage coastal states to adopt laws and regulations to prevent and control pollution of the marine environment and enjoin such states to take measures either by themselves or jointly with other states in their region of the world.²¹

1. International Instruments to Protect the Marine Environment in JDZs

International environmental law relevant to petroleum exploration and production in JDZs is primarily found in treaties and customary international law. The development of treaty-based international law dealing with protection of the marine environment was originally driven by concerns about pollution of the oceans from ships as well as from land-based sources. Indeed, the pollution from the offshore activities has not yet specifically addressed. There are many bad impacts of

²⁰ Cecilia A Low, *op.cit*, at 47.

²¹ David M. Ong, "Joint Development of Common Offshore Oil and Gas Deposits: "Mere" State Practice or Customary International Law? Vol. 99, *Am. J. Int'l L.* (October 1999), at 777

the joint development zone, which often occur in the disputing zone. International environmental law has evolved to include more holistic concerns such as conservation and protection of biodiversity. Since the principle of sustainable development²² defined by the World Commission on Environment and Development (hereinafter WCED), much of international environmental law has been shaped to some degree by the principle of sustainable development. It is now widely belief that the planet faces diverse and growing range of environmental challenges which can only be addressed through international cooperation²³ by integrating environmental concern in the national policy of a state. In fact, there are some international Agreements that can be used to protect the JDZs, such as:

a. *Law of the Sea Convention on the Law of the Sea*

The United Nations Convention on the Law of the Sea (UNCLOS) is regarded as establishing the primary international legal framework for protection of the marine environment. Under the UNCLOS, all state parties have the obligation to protect and preserve the marine environment.²⁴ That obligation is the legal consequences as the contracting Parties of UNCLOS. Continental Shelf recognizes the rights over the continental shelf of a coastal state, and determines the measurement of the continental shelf where exceeding the 200 nautical miles included in the EEZ. The Convention provides that the coastal state may exercise over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources. The rights are exclusive and do not depend on occupation or any express proclamation. The coastal state has exclusive rights to authorize and regulate drilling on the shelf for all purposes.²⁵

²² Christina Voigt, *Sustainable Development as Principle of International Law*, 2009, Leiden-Boston, Martinus Nijhoff Publishers, at 13-14

²³ Philippe Sands, *Principles of International Environmental Law I Framework, Standards and Implementation*, 1995, Manchester University Press, Manchester and New York, at 9.

²⁴ Patricia Birnie, et all, *International Law and the Environment*, Oxford University Press, 2009, at 719.-718.

²⁵ Kenneth Palmer, "Environmental Management of Oil and Gas Activities in the Exclusive Economic Zone and Continental Shelf of New Zealand" Vol. 31, No. 2, *J.*

Pollution from installations and devices used in exploration or exploitation of the natural resources of the seabed and subsoil, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, and operation of such installations or devices. UNCLOS encourages states to cooperate on a global and regional basis to develop and implement any instruments and protocols necessary to carry out its marine protection requirements. Article 208, entitled Pollution from Seabed Activities Subject to National Jurisdiction of the coastal. It states:

- i. Coastal States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction and from artificial islands, installations and structures under their jurisdiction, pursuant to articles 60 and 80.
- ii. States shall take other measures as may be necessary to prevent, reduce and control such pollution.
- iii. Such laws, regulations and measures shall be no less effective than international rules, standards and recommended practices and procedures.

States shall endeavor to harmonize their policies in this connection at the appropriate regional level.

- iv. States, acting especially through competent international organizations or diplomatic conference, shall establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment referred to in paragraph 1. Such rules, standards and recommended practices and procedures shall be re-examined from time to time as necessary.

Basically, UNCLOS establishes a framework to protect the marine environment, but UNCLOS does not regulate exactly how to regulate marine protection in the JDAs. However, it should be bear in mind that UNCLOS requires regional harmonization and standards, as well as assigning and allocating responsibility among states.

When the offshore activities have already finished. The Contracting

Energy & Nat. Resources L.(May, 2013), at 24.

Parties in the JDAs have obligations to remove the platforms which is stipulated in Article 60(3) UNCLOS. The Article provides that the coastal state should commence removal “to ensure safety of navigation” and to the extent that it takes into account “any generally accepted international standards” which are relevant. Article 60(3) requires that the removal by a coastal state of abandon platform protection of the marine environment together with due regard for fishing and the interest of other states. Article 60(3) UNCLOS can be used as a legal basis to remove the abandon platform from the continental shelf.

In addition to the UNCLOS there is an extensive array of treaty-based law intended to protect the marine environment from pollution and to establish state responsibility and liability when pollution occurs.²⁶ However, much of it developed through the efforts of the International Maritime Organization (hereinafter IMO regime) based on UNCLOS, states have the ‘sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment. Consequently, regardless of whether or how states establish environmental policies for a JDZ, they have a duty to protect and preserve the marine environment while exploiting natural resources within the zone.

Accordingly, in giving substance to states’ general obligations, the UNCLOS requires that all measures taken be consistent with the Convention ‘to prevent, reduce and control pollution of the marine environment,²⁷ States have to take such action individually or jointly as appropriate and in accordance with their capabilities. States are required to take all measures necessary to ensure that activities under their jurisdiction or control’ are carried out so as not to ‘cause damage by pollution to other States and their environment which is stipulated in Article 194(2) and Article 21 Stockholm Declaration²⁸ and Article 2 Rio

²⁶ Carlos J. Moreno, “Oil and Gas Exploration and Production in the Gulf Of Guinea: Can The New Gulf Be Green? Vol. 31, *Hous. J. Int’l L.* (Spring 2009), at 424.

²⁷ Article 194 (1) UNCLOS states: “States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and they shall endeavour to harmonize their policies in this connection.

²⁸ Article 21 Stockholm Declaration, it states: “States have, in accordance with the

Declaration.²⁹ Since the obligations in this provision are triggered by state control and are not limited to areas of exclusive sovereignty, and since they include all sources of pollution including offshore drilling platforms, they do apply to JDZs. As a result, states are required to take positive action to establish marine environmental protection regimes applicable to their JDZs.

Furthermore, the UNCLOS requires that, in the event pollution results from incidents or activities under states' jurisdiction or control, they are required to take measures to ensure that such pollution does not spread beyond areas where they exercise sovereign rights pursuant to the UNCLOS, which is stipulated in Article 194 (2). When UNCLOS does not have any specific provisions to deal with obligation to protect environment in the JDZ directly matter, based on customary international law still require states to exercise due diligence in carrying out the management and control of activities within their territory or control to avoid causing significant impacts in or to the territory of other states. Likewise, the obligations created under Part XII of the UNCLOS establish due diligence. Cooperation is another principle in the UNCLOS relevant to JDZs. Under Article 197 UNCLOS, states are required to cooperate on a regional basis to develop rules, standards, practices and procedures to protect and preserve the marine environment that also take into account distinguishing characteristics of the region. This obligation is manifest in the development of the Regional Seas Conventions. Indeed, the duty to cooperate in the prevention of pollution of the marine environment has been recognized as a customary norm of international law. States bordering enclosed or semi-enclosed seas are

Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction”.

²⁹ Article 2 Rio Declaration. It states: “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction”.

required to cooperate to establish environmental protection provisions for those waters. While the UNCLOS does not explicitly require states to carry out environmental impact assessments of proposed offshore exploration and production activities, Articles 204 and 205 require states to carry out some form of assessment for the purpose of determining whether such activities are likely to pollute the marine environment. Furthermore Article 206 UNCLOS mentioned that “States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practicable, assess the potential effects of such activities on the marine environment and shall communicate reports of the results of such assessments in the manner provided in article 205”.

According to Article 208 UNCLOS requires states to ‘adopt laws and regulations to prevent, reduce and control pollution of the marine environment’ in respect of seabed activities and structures ‘subject to their jurisdiction’ and also requires states to enforce such laws. These provisions may be applied to JDZs since JDZs are created specifically to enable the conduct of such activities subject to the exercise of state jurisdiction as specified in the JDA. These provisions would apply to dumping from offshore platforms or from ships carrying out petroleum exploration and production activities in a JDZ. Another UNCLOS requirement relevant to environmental protection in JDZs requires states to work to harmonize their policies in respect of preventing, reducing and controlling pollution of the marine environment at the appropriate regional level.

b. London Dumping Convention 1972

The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter regulates, inter alia, the intentional dumping at sea of offshore platforms. The intentional disposal at sea of these structures is only allowed by permit from the contracting state having jurisdiction over the installation. The 1996 Protocol supersedes the 1972 Convention and entered into force on March 24, 2006.³⁰ Under the

³⁰ Carlos J. Moreno, *op.cit.*, at 423.

Protocol, all dumping is prohibited unless it falls under the Annex 1 list, or under the force majeure exceptions in Article 8. Annex 1 wastes need to be permitted before dumping offshore platforms being decommissioned are included in Annex 1. The Protocol also prohibits incineration of wastes or other matter at sea. “Wastes or other matter” is defined broadly as “material and substance of any kind, form or description. “Incineration at sea” means deliberate disposal of wastes by thermal destruction, but does not include wastes generated during the normal operation of the platform. However, Article 1.4.3 indicates that “[t]he disposal or storage of wastes or other matter directly arising from or related to the exploration, exploitation and associated off-shore processing of seabed mineral resources is not covered by the provisions of this Protocol.” Thus, application of this Protocol to wastes from offshore activities is limited.

c. MARPOL Convention

The Convention for the Prevention of Pollution from ships 1973/78 (MARPOL) mainly addresses operational and accidental discharges from ships. Annex I also applies to fixed and floating drilling rigs and platforms. The main requirement for these offshore facilities is the prohibition against discharging oil or oily mixtures, with a few exceptions. However, this arguably only applies to discharges that are similar and analogous to discharges from ships. MARPOL Article 2 (b) (ii) itself indicates that the term “discharge” does not include “[r]elease of harmful substances directly arising from the exploration, exploitation and associated off-shore processing of sea-bed mineral resources . . .”

However, Annex IV MARPOL, which regulates the discharge of sewage, applies to offshore platforms with more than ten persons. Annex V, which regulates the discharge of garbage, applies to all offshore platforms. Annex V specifically prohibits the disposal of garbage from “fixed or floating platforms engaged in the exploration, exploitation and associated offshore processing of seabed mineral resources, and from all other ships when alongside or within 500 meters of such platforms. Annex VI was promulgated in 1997 and addresses air pollution. Although platforms and drilling rigs are included as ships, the Annex does not apply to emissions solely related to its drilling, production, or

processing functions. Thus, the Annex does not cover broadening of produced gas.

d. The Convention on Biological Biodiversity

In order to protect the marine environment, the Contracting Parties of the JDAs should refer to the Biodiversity Convention, since the Biodiversity Convention is not only regulate the biodiversity in the land but it also regulates the marine biodiversity. The Biodiversity Convention states that “biological diversity” refers to “the variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems.”³¹ The living and non-living resources which exist in the JDZ can be classified as the marine. It comply with the definition in Article 2 the Biodiversity Convention. Marine ecosystems are marine geographical areas in which populations of various species evolve and adapt to their environment and to each other.³² Oceanic ecosystems are not simply the organisms themselves. They also include nonliving elements in the marine geographic area. The oceans are, in fact, the earth’s greatest reservoir of biological diversity.

All of the world’s ocean space clearly falls within the jurisdictional ambit of the Biodiversity Convention. According to its jurisdictional statement, the Biodiversity Convention applies to a contracting party:

- i. In the case of components of biological diversity, in areas within the limits of its national jurisdiction; and
- ii. In the case of processes and activities, regardless of where their effects occur, carried out under its jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction.

Consequently, waters offshore of a coastal state are brought under the Biodiversity Convention, as are the high seas regions.³³

The preamble of the Biodiversity Convention asserts that states are

³¹ Article 2 Biodiversity Convention.

³² Christopher C. Joyner, “Biodiversity in the Marine Environment: Resource Implications for the Law of the Sea”, Vol. 28, *Vand. J. Transnat’l L*, (October, 1995), at 641-642.

³³ Christopher C. Joyner, *op.cit.* at 641-642.

“responsible for conserving their biological diversity and for using their biological resources in a sustainable manner.” States, therefore, have the fundamental duty to conserve the diversity of living resources in their offshore marine environments. These concomitant duties of conservation and sustainable use, however, obtain not only in territorial seas and contiguous zones that are immediately seaward of states.³⁴ Since the coastal state has sovereign right in the economic exclusive zone and in the continental shelf based on UNCLOS, thus a state has also obligation to make conservation in the economic exclusive zone and in the continental shelf which consist of living and nonliving natural resources.

The main objectives of the Biodiversity Convention that can be applicable to the preservation of biodiversity in the oceans, namely: (1) to promote the conservation of biological diversity; (2) to foster the sustainable use of biological resources; and (3) to effect the fair and equitable sharing of resulting benefits.³⁵ Based on Article 5 of the Biodiversity Convention, in order to achieve these goals, parties are encouraged to “cooperate . . . through competent international organizations for the conservation and sustainable use of biological diversity.” In the case of global marine ecosystems, the International Maritime Organization, the International Whaling Commission, the Commission on the Conservation of Antarctic Marine Living Resources, as well as various international and regional fishery management associations, exemplify maritime organizations that might serve as conduits for cooperation aimed at the protection.

E. NATIONAL INSTRUMENT

The legal Instrument that can be used to protect the marine environment in the JDAs is the national regulation of the Coastal states which become the Parties of the JDAs. There are some states which has regulated the offshore activities based on the national law of the States, such as Norway, Australia, United States and New Guinea. Indeed, there are different characters of the regulations in each state. For instance, Australia has already established a legislative framework that exists to control, direct and manage the extraction of the offshore activities.

³⁴ *Ibid.*

³⁵ Article 1 Biodiversity Convention.

This framework adopted the sustainable development principle, since the objective of the legal framework is to sustain the petroleum resources in the offshore and also to sustain other living creatures in the offshore area. Thus, the implementation of the legal framework has significant influence in the exploitation of petroleum in the offshore. The legal framework generates an imperative for the State to encourage the sustainable extraction of the petroleum resources in order to provide enduring social and economic benefits for the State and its community. Emphasizing the notions of fairness and intergenerational equity, the sustainable development principle provides the future generation to enjoy the resources not only man-made wealth but also natural wealth in adequate amounts to ensure continuing improvements in the quality of life'. The World Commission recommended sustainable development as a guiding principle to governments and private enterprises in conducting exploitation of the resources.³⁶

F. THE ROLE OF THE COASTAL STATE TO THE PROTECTION OF MARINE ENVIRONMENT IN THE JOINT DEVELOPMENT AGREEMENT

The lack of law enforcement and mechanism under international instruments need to be overcome. How to enforce the law needs the willingness of the coastal state government to participate in the law enforcement. The exploration and exploitations that have been carried out by states contribute to the economic development of the coastal states, so, if the states would like to conduct exploitation continuously, states have to make exploitation in sustainable manner. States have to implement the principles of international environmental law in the exploitation of hydrocarbon in the JDZs. The principles of International Environmental law that have been implemented, such as precautionary principle, sustainable development principle, state responsibility principle, inter generational equity and common concern. In the case of petroleum exploitation in the JDZs, it is very significant the role of the coastal state to protect the marine environment. There are some state practices that can be presented as evidence that they have the important role.

³⁶ Tina Hunter, *op.cit.*, at 211.

First, the coastal state has already issued national policy and national regulations to protect marine environment in the JDZs. The national policy and national regulations are designed to address the problems which caused by the exploitation in the offshore which become the JDZs. It is recognized that the JDZs become the responsibility of the state parties how to protect the marine environment. However, based on the agreement between the contracting states, they have to perform all the obligations based on the international instruments to protect the marine environment.

Secondly, the coastal states have already carried out decommissioning in order to protect and to reduce the bad impacts of exploitation in the JDZs. Once an offshore oilfield reaches the end of its productive life, many options exist for the decommissioning or abandonment of disused installations. The installations may be wholly dismantled and the scraps and parts completely removed and brought on-shore for disposal, or the platform could be partially dismantled and significant segments left in place. Alternatively, the installations could be converted to other useful purposes; for example, of particular interest has been the option of conversion to artificial reefs to stimulate marine life forms.³⁷ **Thirdly**, the effort of the coastal states to participate in the monitoring system of offshore activities may affect the behavior of the states parties. When all the state parties of the Joint development agreements have the same political will to protect the marine environment in the JDZs, it will be more effective if the coastal state also encourage the public participation to have access of the monitoring system of the activities, although community-based development and management might be viewed as an over-arching principle including the notions of public participation and indigenous peoples' management claims and rights,³⁸ the Rio Declaration on Environment and Development does treat the issue of public participation in a separate principle which is stipulated in Principle 10.

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³⁷ Patricia Park and Mark Osa Igiehon, "Evolution of international law on the decommissioning of oil and gas installations", Vol. 9, *I.E.L.T.R.*(2001), at 200-201.

³⁸ David Vander Zwaag, "The Concept and Principles of Sustainable Development: "Rioformulating" Common Law Doctrines and Environmental Laws", Vol.13, *Windsor Y.B. Access to Just*, (1993), at 45.

³⁹ Principle 19 Rio Declaration states : "Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level,

III. CONCLUSION

The coastal states have an obligation to make every effort to enter into provisional arrangements of a practical nature pending a final agreement on their maritime boundary. Thus, the coastal states may conduct JDA in order to make joint exploitation and determine the JDZs in the area of overlapping claims. A JDA enables coastal states to share the hydrocarbon resources without prejudicing their position on the final maritime boundary. On the other hand, based on UNCLOS coastal states have an obligation to protect the marine environment including in the JDZs from the bad impacts of exploitation in the JDZ, because the exploitation of hydrocarbon cause negative impacts to the marine environment. Based on the state sovereignty, the coastal states have the authority to issue regulations in accordance with the international instruments in order to protect the marine environment in the JDZ. The International instruments and national instruments to protect the marine environment especially in the offshore activities that has been recognized as JDZ have not yet implemented properly. However, it can be submitted that the role of the Coastal states are important to protect the marine environment in the JDZ. The exploitation in the JDZ has already contribute to the economic development of the coastal states, so states would like to maintain the sustainability of the exploitation in the JDZ by implementing sustainable development principle in the exploitation of the JDZ. Thus, the role of the Coastal states to the protection of marine environment in the JDZ need to be enhanced.

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each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided".

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