

Joint Development Agreements: Towards Protecting the Marine Environment under International Law

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Abstract

Utilization of the marine natural resources without protecting the marine environment may disseminate hazardous effects on the marine life. Under the United Nations Convention on Law of the Sea (UNCLOS), state parties bear general obligation to protect and preserve the marine environment. Responsibility of protecting the marine environment has also been imposed by a number of international environmental and human rights conventions, mandated by the United Nations. Therefore, states are collectively responsible to safeguard the marine environment. Inclusion of environmental protection provisions, into the Joint Development Agreements (JDAs), was previously being neglected by the states, but as to the up-to-date practice, various states have been showing their commitments to protect and preserve the marine environment by including environmental protection provisions into the Joint Development Agreements. However, some states are still reluctant to include environmental protection provisions into their JDAs. This paper tries to examine the efforts made by different state parties regarding the protection and preservation of marine environment under the scope of joint development agreements. Moreover, this paper draws the attention of coastal states towards the best practices set by various countries in their joint development cooperation mechanisms aimed at protecting aquatic environment in disputed waters.

Keywords: Joint Development, environmental protection, marine.

1. Introduction

Marine natural resources cannot be utilized fruitfully without the protection and preservation of ecological environment. In this perspective and without distinction between coastal or non-coastal states, United Nations Convention on Law of Sea entrusts every state with the obligation of protecting and preserving the marine environment, which provides as “*States have the obligation to protect and preserve the marine environment*”¹ and states are required to “*prevent, reduce and control pollution of the marine environment*”². Furthermore, The Convention on the Continental Shelf, 1958 requires the states to prevent interference with living resources in these words “*The exploration of the continental shelf and the exploitation of its natural resources must not result in any unjustifiable interference with navigation, fishing or the conservation of the living resources of the sea*”³ and “*The coastal State is obliged to undertake, in the safety zones, all appropriate measures for the protection of the living resources of the sea from harmful agents*”⁴.

Moreover, Article 24 of the Convention on the High Seas, 1958 has also clearly entrusted states with the responsibility to draw up regulations to “*prevent pollution of the seas by the discharge of oil from ships or pipelines or resulting from the exploitation and exploration of the seabed and its subsoil*”⁵, moreover, Article 25 of the said convention requires every state “*to take measures to prevent pollution of the seas from the dumping of*

¹ See Article 192 of UNCLOS available at http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf (last visited on Oct. 25, 2017).

² See Article 194 Ibid.

³ See Article 5(1) of the 1958 Convention on the Continental Shelf available at http://legal.un.org/ilc/texts/instruments/english/conventions/8_1_1958_continental_shelf.pdf (last visited on Oct. 25, 2017).

⁴ See Article 5(7) Ibid.

⁵ See Article 24 of the 1958 Convention on the High Seas, available at http://www.gc.noaa.gov/documents/8_1_1958_high_seas.pdf (last visited on Oct. 25, 2017).

radioactive waste”¹. In addition to these binding instruments, several non-binding provisions calling states to preserve and protect the marine environment have emerged around the world. For instance, Principle 21 of Declaration of UN Conference on the Human Environment, 1972, invites the states to adopt their own environmental policies in order to enjoy their sovereign rights to “exploit their own resources” and requires the states to prevent “damage to the environment of other states or of areas beyond the limits of national jurisdiction”.² The inclusion of environmental provisions within joint development agreements (JDAs) has become an imperative and this obligation was previously ignored by the states while concluding their JDAs. Some states have merely touched environmental issues in their JDAs since the provisions relating to these issues are not well detailed. However, some states have showed great determination by including detailed and strong provisions within their JDAs.

This paper tries to examine how do states manage or try to address environmental protection issues in their joint development agreements? Moreover, this paper tries to identify the best practices developed by different states, pursuant to joint development agreements, for the preservation and protection of the marine environment, which may be quoted as good examples for other states.

2. From Mere Environmental Provisions towards Environmental Provisions within JDAs

Previously, states focused more their cooperation on the exploration and exploitation of natural resources found on disputed zones and neglected or ignored the damage caused by these activities to the marine environment. Some examples can demonstrate such a practice from different states. In the Memorandum of Understanding (MOU) between Sharjah and Iran,³ the parties ignored to protect the environment while concluding the MOU, intended to undertake exploitation and exploration of offshore natural resources. The MOU concluded by the parties contained no provisions related to the protection of marine environment.

Likewise, Saudi Arabia and Kuwait concluded a JDA⁴ in 1965, and neglected environmental protection issues, though a private arrangement on pollution control, establishing a joint monitoring system, devised amongst the companies, granted concessions by Bahrain, Kuwait, Saudi Arabia and Iraq, was developed. Meanwhile, in 1969 an unclear consideration regarding environment protection was remarked in Qatar- Abu Dhabi Agreement, when the two states agreed for consultation on all matters concerning exploitation of the designated field, which might include any disputes between parties over environmental issues.⁵

A decade later, states started to consider environmental issues while concluding their JDAs by including clearer and detailed provisions regarding environmental issues. In this perspective, France and Spain can be identified as the pioneers of this change. In fact, these states agreed that they would make every effort to “prevent the explorations of the continental shelf of the Bay of Biscay and the exploitation of its natural resources from threatening the ecological balance and legitimate uses of the marine environment, and shall consult with each other to this end”.⁶ Such a change and progressive approach adopted by these states in their agreement does explain their recognition and awareness of the threats that natural resources development activities may cause to the natural ecosystem. This consciousness does bring these two states to demarcate themselves from previous states’ practice on environmental concerns while developing natural resources. One may think that states will follow the path of France and Spain by including clear and detailed provisions relating

¹ See Article 25 Ibid.

² See Principle 21 Declaration of the United Nations Conference on the Human Environment, available at <http://www.un-documents.net/unchedec.htm> (last visited on Oct. 25, 2017).

³ Memorandum of Understanding (MOU) between Iran and Sharjah, adopted by exchange of letters between Parties and the Concession-holder: Buttes Co. in November 1971, available at http://www.parstimes.com/history/iran_sharjah.html (last visited on Oct. 25, 2017).

⁴ See Al-Baharna, H.M., 1968. A Note on the Kuwait-Saudi Arabia Neutral Zone Agreement of July 7, 1965, Relating to the Partition of the Zone. *International and Comparative Law Quarterly*, pp.730-735.

⁵ See Terr, L.B., 1973. The Distance Plus Joint Development Zone Formula: A Proposal for the Speedy and Practical Resolution of the East China and Yellow Seas Continental Shelf Oil Controversy. *Cornell Int'l LJ*, 7, p.49.

⁶ See Article 7 of the Convention between the Government of the French Republic and the Government of the Spanish State on the Delimitation of the Two States in the Bay of Biscay, signed on 29 January 1974 and entered into force on 5 April 1975, available at <https://www.state.gov/documents/organization/59579.pdf> (last visited on Oct. 25, 2017).

to environmental protection in their JDAs. But, the joint development agreement between the Republic of Korea and Japan demonstrates that it is too early to include strict environmental protection provisions into JDA, however, confirms a positive change. In fact, concluded just after the conclusion of France-Spain Agreement i.e. on 29 January 1974, Japan and Korea concluded a joint development agreement on 5 February 1974 where environmental issues were addressed less clearly than that of France-Spain. Narrowly, Japan and Korea just stated that they would agree on measures for the removal and prevention of marine pollution from activities in the joint development zone and prevent collisions at sea.¹ Worse, the 1981 Iceland-Norway JDA contains no specific provisions regarding environmental protection in the joint development zone. It simply states that the parties will share jurisdiction over environmental protection between them according to the sectors allocated to them within the joint development zone under 1980 Agreement.² Worst, the 1992 Malaysia-Vietnam Memorandum of Understanding does not mention or make reference to any provisions regarding environmental protection. Seemingly or trying to comply with modern JDAs, the parties have agreed to ensure that petroleum development in the defined area in their arrangement shall be conducted with due regard to the marine environmental protection.³

Meanwhile, some agreements, notably the 1976 Frigg Field Agreement which tied up again with France-Spain progressive approach by providing broad and detailed measures on environmental protection in the unitization agreement. Norway and United Kingdom (UK) agreed to “*make every endeavour, jointly and severally, after consultations, to ensure that the exploitation of Frigg Gas or the operation of any installation or pipeline involved in that exploitation shall not cause pollution of the marine environment or damage by pollution to the coast-line, shore facilities or amenities, or vessels or fishing gear of any country*”.⁴ Though this provision is much better detailed and broader than the one of Japan-Korea, its implementation might lack a sense of coordination since each state retains jurisdiction over the offshore installations located on its own sector of the continental shelf. Through the discussion above, it has been realized that the progressive approach, in taking account environmental protection while concluding JDAs, is not absolute. This approach has no temporal connection; it is jagged and will continue to evolve according to states’ sovereign will and feelings regarding environmental issues. However, we do believe that some good examples of JDAs in which states express their deep concerns and lay down detailed provisions regarding environmental protection, need to be mentioned.

3. JDAs with Unambiguous and Detailed Environmental Protection Provisions

In 1989 Timor-Leste and Australia, under the supervision of United Nation Transitional Administration of East Timor have concluded the Timor Gap Treaty which provides to create a supranational institution and confers the supervision of natural resources activities within the joint development zone to this institution. In fact the joint development zone has been subdivided into 3 Areas (A, B and C) with Area A resorting to a real joint development arrangement between two Parties. The Parties have created a Ministerial Council (MC) as well as a Joint Development Authority (JA) in order to manage petroleum activities in Area A. In addition to its other responsibilities, the MC has to ensure the optimum commercial utilization of the petroleum resources consistent

¹ See Article XX of the Agreement between Japan and the Republic of Korea concerning the Joint Development of the Southern Part of the Continental Shelf Adjacent to the Two Countries, signed on 5 February 1974 and entered into force on 22 June 1978, available at <http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/jap-kor1974south.pdf> (last visited on Oct. 25, 2017).

² See Articles 5 and 6 of the Agreement on the Continental shelf between Iceland and Jan Mayen, signed on 22 October 1981 and entered into force on 2 June 1982, available at <https://www.jstor.org/stable/pdf/20692523.pdf> (last visited on Oct. 25, 2017).

³ See 1992 MEMORANDUM OF UNDERSTANDING BETWEEN MALAYSIA AND THE SOCIALIST REPUBLIC OF VIETNAM, available at <https://cil.nus.edu.sg/rp/il/pdf/1992%20MOU%20between%20Malaysia%20and%20Vietnam%20for%20the%20Exploration%20and%20Exploitation%20of%20Petroleum-pdf.pdf>, (last visited on Oct. 25, 2017).

⁴ See Article 23 of the Agreement between the Government of the United Kingdom of Great Britain and the Northern Ireland and the Government of the Kingdom of Norway Relating to the Exploitation of the Frigg Field Reservoir and the Transmission of Gas therefrom to the UK, signed on 10 May 1976 and entered into force on 22 July 1977, available at <https://cil.nus.edu.sg/wp-content/uploads/formidable/18/1976-Frigg-Field-Unitisation-Treaty.pdf> (last visited on Oct. 25, 2017).

with good oilfield practice.¹ While emphasizing ‘optimum commercial utilization’ and ‘good oilfield practice’, one could understand that the parties do make reference to the marine environmental protection. Furthermore, the parties have clearly empowered the functions of the two institutions regarding environmental protection. For example, two parties have committed to cooperate by providing assistance to the JA in order to minimize or prevent pollution of the maritime environment which may result from petroleum exploration activities within Area A, and where this pollution could be spread beyond this Area. In this regard, the JA is charged with providing regulations for the marine environment protection as well as establishing an oil spill contingency plan.² Importantly, Timor-Leste and Australia JDA have clearly stipulated the responsibilities, in the case, environmental provisions are violated. For instance, this JDA states that Contractors shall be liable for damage or expenses incurred as a result of the marine environmental pollution from the petroleum operation within the Area A. Accordingly, this should be done through the contractual arrangement with the JA and the law of the state in which the claim in respect of such damage or expenses is brought.³ Similarly, the 2001 Timor Sea Arrangement which superseded the 1989 Treaty has reiterated and even prioritized environmental protection provisions in the Joint Petroleum Development Agreement (JPDA) as the parties acknowledge that environmental damage can occur despite even if there is no pollution resulting from petroleum activities in the JPDA.⁴ Thus, unlike to other JDAs that simply provide for the creation of management institutions without powering them with clear missions regarding the marine environmental protection, we could understand that Australia-Timor-Leste JDA has entrusted this mission to the two institutions (Ministerial Council and Joint Authority), the parties have created.

Modern joint development agreements do attest that lack of power of joint development’s management institutions cannot be an obstacle for states regarding their obligation to safeguard the marine environment. Regardless of the power or the quality of these institutions, states do understand that the growing awareness of the risks to mankind, oblige them to comply with new environmental standards and norms in a clear and detailed manner. In this regard the Nigeria – Sao Tome and Principe JDA can be cited as another decent specimen.

In the early stages of the Nigeria – Sao Tome and Principe’s Joint Development Treaty, the consciousness regarding the marine environmental protection of these states can be read through Article 3(4) where these states have clearly mentioned that petroleum and other resources of the Joint Development Zone (JDZ) have to be developed efficiently “*having due regard to the protection of the marine environment, and consistently with generally accepted good oil field and fisheries practices*”. However, knowing that the pollution itself has no standard definition or generally accepted definition⁵, can we have clear idea about what ‘good oil field and fisheries practices may include? Nigeria – Sao Tome and Principe have expressed out in the 2001 joint development Treaty what they mean by pollution. According to them and under Article 1(21) “Pollution” means “*the introduction of substances or energy into the marine environment, including estuaries, which results or is likely to result in deleterious effects such as harm to living resources and marine life, hazards to human health, impairment of quality for use of sea water or reduction of amenity*”. Despite the lack of consensus on the definition of pollution, we could see the commitment expressed by both states to protect environment. Thus, this article could be understood as their engagement to apply preventive and precautionary principle while carrying petroleum activities in the JDZ. In this regard, the parties require the Authority to inspect “*petroleum activities, related installations and pipelines situated*” in the JDZ and even “*order the immediate cessation of any or all petroleum operations in the zone*” when such a measure appears necessary.⁶ In addition, under Article 30, in order to devoid the JDZ of risks of causing pollution or any other harm to the marine environment, the parties have empowered the Authority to “*take all reasonable steps to ensure that development activities in the Zone do*

¹ See Article 6(2) of the Timor Sea Treaty between the Government of Australia and the Government of the Democratic Republic of East Timor, signed at Dili on 20 May 2002 and entered into force on 2 April 2003, available at http://timor-leste.gov.tl/wp-content/uploads/2010/03/R_2003_2-Timor-Treaty.pdf (last visited on Oct. 25, 2017).

² Ibid, Article 18.

³ Ibid, Article 19.

⁴ See Article 10 of Memorandum of Understanding between Australia and the UNTAET, 2001 incorporating the Timor Sea Arrangement as Attachment ‘A’, adopted on 5 July 2001, available at www.aphref.aph.gov.au/committee-jsct-timor-treaties-xtimornia.pdf (last visited on Oct. 25, 2017).

⁵ See Boyle, A.E., 1985. Marine pollution under the Law of the Sea Convention. *American Journal of International Law*, 79(2), pp.347-372.

⁶ See Article 30 of the 2001 Treaty between Nigeria and Sao Tome and Principe, available at http://www.juristep.com/legis/jdz_treaty.pdf (last visited on Oct. 25, 2017).

not cause or create any appreciable risk of causing pollution or other harm to the marine environment” and the parties *“shall agree upon necessary measures and procedures to prevent and remedy pollution of the marine environment”*.¹ Moreover, the state parties shall regularly provide the Authority with relevant information relating to levels of petroleum discharge and contamination in order to facilitate the effective monitoring of the environmental impact of petroleum activities in the JDZ.²

Thus, states are not only making great efforts to include clear and detailed environmental protection provisions in modern JDAs, but they are trying also to achieve this task under the definition given to ‘pollution’ by UNCLOS and even beyond this definition.³ Meanwhile, the way, the 2001 Timor Sea Treaty and the 2001 Nigeria – Sao Tome and Principe Treaty handled the issues of environmental protection does demonstrate that states need to go beyond UNCLOS’s definition of ‘pollution’ in order to achieve efficient care of the marine environment. Therefore, since there is no standard definition of ‘pollution’, modern JDAs should embrace the marine environmental protection by focusing on measures like prevention, reporting of spill and follow up environmental impact assessment (before, during and after the joint petroleum development activities in the zone), operational discharges contingency plans, marine support, fisheries aspects, clean up strategies and compensation regime.⁴ Presumably, while wishing that the forthcoming joint development treaties will follow this attitude, we fortunately find out that, two African states, namely Seychelles and Mauritius have adopted this attitude in their Joint Development Treaty.

In 2012, after having delimited a Joint Management Area (JMA), Seychelles and Mauritius have addressed the environmental protection issues in their joint development agreement⁵ in a clear and unambiguous manner which embraces almost all the elements of a modern joint development agreement. For example, Article 12(a) refers to the will of the two states to *“protect natural resources in the JMA so as to secure seabed biodiversity and prevent pollution and other risks of harm to the environment arising from, or connected with, natural resource activities in the JMA”*⁶. Unlike other JDAs which just express such a view without clearly mentioning how this could be achieved, Seychelles and Mauritius have mentioned the application of *precautionary principle* in order to achieve their goal of environmental protection.⁷ Under Article 12(c), the parties focus on marine biodiversity and ecological community protection by agreeing to identify environmental benchmarks and marine protected areas. This could be regarded as *environment impact assessment* and *fisheries aspects* since these identifications should be done having regard to several parameters such as *“geographical distribution of seabed marine species and biological communities, the structure of these communities, their relationship with the physical and the chemical environment, the natural ecological and genetic variability and finally the nature and the effect of the anthropogenic influences including fishing and natural resource activities on these ecosystem components”*⁸. Moreover, while *marine support* and *clean up strategy* can be found under the wordings of Article 12(d)⁹, Article 12(e) calls for the *“establishment of a contingency plan for combating pollution from*

¹ Ibid, Article 38.

² Ibid

³ UNCLOS Article 1(4) can be read as followed: *“pollution of the marine environment”* means *“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 sea, impairment of quality for use of sea water and reduction of amenities”*

⁴ A.D. Reid, 1989. “Protection of the Marine Environment: A View from Industry” in Hazel Fox, et al. eds Joint Development of Offshore Oil and Gas, Vol. II (The British Institute of International and Comparative Law, London) 223-232 at p. 223.

⁵ Treaty Concerning the Joint Management of the Continental Shelf in the Mascarene Plateau Region between Seychelles and Mauritius signed on 13 March 2012.

⁶ See Article 12(A) of Treaty Concerning the Joint Management of the Continental Shelf in the Mascarene Plateau Region, available at <http://mdr.govmu.org/English/defence/Documents/treaties/Treaty%20Concerning%20the%20Joint%20Management%20of%20the%20Continental%20Shelf%20in%20the%20Mascarene%20Plateau%20Region.pdf> (last visited on Oct. 25, 2017).

⁷ Ibid, Article 12(b) can be read as follow: *“The Contracting Parties shall apply the precautionary principle in cooperating to conserve and protect the environment and biodiversity of the seabed in the JMA. [...]”*

⁸ See Article 12(c) of Seychelles and Mauritius 2012 Treaty

⁹ Ibid, Article 12(d) can be read as follow *“Where pollution of the marine environment occurring in the JMA spreads beyond the JMA, the Contracting Parties shall cooperate in taking prompt and effective action to*

*natural resource activities in the JMA*¹. The parties have further agreed to hold responsible the Contractors for damages or expenses incurred as a result of pollution of the marine environment arising out of natural resource activities in the JMA under certain circumstances according to Article 12(f). This can be regarded as a *compensation regime* in the joint development agreement of these two states. Likely, it should be noted that Senegal and Guinea Bissau have tried their best to protect environment while carrying out fisheries activities and eventual petroleum activities in their joint exploitation zone.²

4. China-ASEAN and the Marine Environmental Protection

In order to highlight the efforts of Asian states, arrangements existing in the South China Sea are relevant to mention here. For historical reasons, disputes in the South China Sea among various States, have been escalating but still we can find the cooperative attitude of the nations involved towards the marine environmental protection. China is playing a positive role in terms of cooperation in disputed areas of the sea. Former Chinese President, Deng Xiaoping advanced the concept “*Setting aside dispute and pursuing joint development*”. He advanced a new approach for cooperation in the disputed region paving the way for peaceful collaboration for environmental protection.³ Following the policy of Deng Xiaoping, China has been engaged in the promotion of joint development and cooperation, including cooperation regarding the marine environmental protection in South China Sea, despite having territorial disputes in the region.

China and ASEAN⁴ signed the Declaration on the Conduct of Parties in South China Sea in 2002. Article 6 of the 2002 Declaration specifies that cooperation may include the marine environmental protection.⁵ Although the said Declaration is not binding legally, but it still shows the political commitment of China and ASEAN countries with respect to the cooperation for environmental protection in the sea. China has made a constructive development in the area for the marine environmental protection. In October 2011, Vietnam and China signed the Agreement on Basic Principles Guiding the Resolution of Maritime Issues. In the agreement, Parties visibly mentioned their commitment to vigorously advance marine cooperation for joint development including the promotion for the marine environmental protection.⁶ Since the conclusion of the agreement, Vietnam and China have been developing good cooperation in the disputed waters. In 2013 parties further agreed to establish a Sino-Vietnamese Maritime Development joint working group for the purpose of cooperation and joint development in the area of marine environmental protection.⁷ Joint survey of the area was started in 2013 and a working group for marine environmental management was formed to strengthen the collaboration between China and Vietnam.⁸

Furthermore, China has also developed good cooperation with Indonesia in terms of environmental protection. Indonesia and China signed a Memorandum of Understanding on Marine Cooperation in 2007 to establish a technical committee for maritime cooperation. Areas of marine scientific research and environmental protection were also encircled for the cooperation. In 2012, China and Indonesia again signed a new MOU on

prevent, mitigate and eliminate such pollution in accordance with international best practices standards and procedures.”

¹ See Article 12(e) of Seychelles and Mauritius 2012 Treaty

² See Article 23 of the Protocol to the Agreement between the Republic of Guinea-Bissau and the Republic of Senegal Concerning the Organization and Operation of the Management and Cooperation Agency Established by the Agreement of 14 October 1993, available at <https://treaties.un.org/doc/publication/UNTS/Volume%201903/v1903.pdf>, (last visited on Oct. 25, 2017).

⁴ ASEAN stands for Association of Southeast Asian Nations

⁵ See Article 6 of 2002 DECLARATION ON THE CONDUCT OF PARTIES IN THE SOUTH CHINA SEA, available at <https://cil.nus.edu.sg/rp/pdf/2002%20Declaration%20on%20the%20Conduct%20of%20Parties%20in%20the%20South%20China%20Sea-pdf.pdf> (last visited on Oct. 25, 2017).

⁶ See Vietnam China Agreement on Basic Principles Guiding the Settlement of Maritime Issues, available at <https://www.scribd.com/document/68830683/Thayer-Vietnam-China-Agree-on-Basic-Principles-to-Settle-Maritime-Issues#> (last visited on Oct. 25, 2017).

⁷ See Premier Li Keqiang Holds Talks with Prime Minister Nguyen Tan Dung of Vietnam, available at http://www.fmprc.gov.cn/mfa_eng/topics_665678/lkqzlcxdyldrxyhy_665684/t1089863.shtml, (last visited on Oct. 25, 2017).

⁸ See Denoon, D.B. ed., 2017. China, The United States, and the Future of Southeast Asia: US-China Relations (Vol. 2). NYU Press.

Marine Cooperation and set up a fund for maritime cooperation. In 2012, they signed the agreement on the Development of Indonesia-China Centre under the authority of Marine Affairs and Fisheries of Indonesia and State Oceanic Administration of China.¹ This was first ever agreement by China for the establishment of overseas platform for the marine cooperation.

On October 20, 2016 China and Philippines released a joint statement in which parties took into consideration the environmental concerns and pledged to enhance cooperation for “*the promotion and protection of the marine environment, in accordance with universally recognized principles of international law including the 1982 UNCLOS*”.²

Moreover, China signed an agreement for Marine Science and Technology Cooperation with Malaysia in 2009. In the agreement both states, along with other commitments, pledged to develop scientific cooperation for the marine environmental protection. Since after the establishment of 2009 agreement, both the countries have been engaged in cooperative projects for ecological protection and scientific research.³

Furthermore, China signed an MOU with Thailand in 2011 on the marine cooperation between Thai Ministry of Natural Resources and Environment and China State Ocean Administration.⁴ This was another millstone by China to safeguard the marine environment in joint development areas. Two nations moved further to establish joint cooperation mechanisms, correspondingly, in June 2013 a joint laboratory was inaugurated at Phuket marine Biological Centre in Thailand to conduct research in the areas including ecological and biodiversity protection, ocean observation, and disaster prevention and reduction etc.⁵ More recently, on March 30, 2017 China and Thailand jointly held Third Round of China-Thailand Strategic Dialogue on the marine cooperation, and environmental protection in joint development area was enlisted on the agenda. Both the parties agreed to enhance cooperation for the marine environmental protection.⁶

Hence, Chinese conduct in South China Sea shows that China is playing an active role in protecting the marine environment in joint development areas of the Sea. It is important to mention here that China has not only been striving to develop cooperation with different states in the area, but also investing billions of dollars for the development of practical cooperation mechanisms.⁷ Examples set by China can be cited as good references with respect to the environmental protection in joint development zones. In pursuant to 21st Century Belt and Road Initiative, China has accelerated its efforts to intensify marine cooperation also. Vision document for Maritime Cooperation under the Belt and Road Initiative released on 20 June, 2017, evidently mentions the Chinese commitments to promote sustainable joint development and protect the marine environment.⁸ China aims to set up an “international maritime judicial center” to assist in resolving its maritime disputes.⁹ Moreover, The Supreme People's Court of China plans to set up a dispute resolution center for cases related to One Belt One Road Initiative in order to promote and maintain rule of law along the One Belt One Road.¹⁰ These Chinese efforts will somehow strengthen the cooperation in environmental

¹ See 2012 Joint Statement between the People's Republic of China and the Republic of Indonesia, available at <http://www.kemlu.go.id/beijing/Picture/Tahun%202012/joint%20statement%20presiden%20ri-%20presiden%20rrt-final-clean%20text.pdf> (last visited on Oct. 25, 2017).

² See FULL TEXT: Joint statement of the Philippines and China, available at <http://www.philstar.com/headlines/2016/10/21/1635919/full-text-joint-statement-philippines-and-china> (last visited on Oct. 25, 2017)

³ See Fravel, M.T., 2011. China's strategy in the South China Sea. *Contemporary Southeast Asia: A Journal of International and Strategic Affairs*, 33(3), pp.292-319.

⁴ See Scientific cooperation in the South China Sea, available at https://www.files.ethz.ch/isn/194169/Scientific%20cooperation%20in%20the%20South%20China%20Sea_%20another%20lever%20for%20China.pdf (last visited on Oct. 25, 2017).

⁵ See Du Rocher, S.B., 2016. Scientific Cooperation in the South China Sea.

⁶ See Joint Press Release for the Third Round of China-Thailand Strategic Dialogue, available at http://www.fmprc.gov.cn/mfa_eng/wjbxw/t1452467.shtml (last visited on Oct. 25, 2017).

⁷ See Steadily Promote Cooperation among South China Sea Coastal States, available at http://www.fmprc.gov.cn/mfa_eng/wjbxw/t1448860.shtml (last visited on Oct. 25, 2017).

⁸ Full text: Vision for Maritime Cooperation under the Belt and Road Initiative, available at http://news.xinhuanet.com/english/2017-06/20/c_136380414.htm, (last visited on Oct. 25, 2017).

⁹ See China to set up maritime 'judicial centre', available at <http://www.reuters.com/article/us-china-parliament-southchinesea/amid-sea-disputes-china-to-set-up-maritime-judicial-center-idUSKCN0WF03D> (last visited on Oct. 25, 2017).

¹⁰ See Opinion of the SPC on Providing Judicial Services and Guarantees for One Belt One Road (OBOR

protection under joint development.

5. Conclusion

The discussion in this paper demonstrates how states engaging in the marine natural resources development activities, take care of the marine environment and the marine ecosystem. The states have been taking positive measures though some have been clearer in their joint development agreements than others. In this respect, we can see that Australia and Timor-Leste, Nigeria – Sao Tome and Principe and more prominently Seychelles and Mauritius have found out nice formulae to fulfil their responsibility to preserve and protect the marine environment under UNCLOS while enjoying their sovereign rights of exploiting the natural resources.¹ China and ASEAN countries have also set up good examples for the protection and preservation of the marine environment. China has enhanced its joint development cooperation efforts in the South China Sea, in order to make ‘One Belt One Road’ Initiative a successful project. Regardless whether states are engaging in the exploitation of the natural resources or not, coastal states have to understand that environmental protection is a conventional duty upon them under Article 194 of UNCLOS which requires coastal states to adopt measures to “prevent, reduce and control pollution of the marine environment”. Above all, we may notice that inclusion of environmental provisions in JDAs has considerably evolved. So the main problem is still the implementation of these provisions or their efficient application which requires more commitment and consideration by the states.

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Opinion)最高人民法院关于人民法院为“一带一路”建设提供司法服务和保障的若干意见, available at <http://www.court.gov.cn/fabu-xiangqing-14900.html> (last visited on Oct. 25, 2017).

¹ See UNCLOS, Articles 192 and 193 available at available at http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf (last visited on Oct. 25, 2017).