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WORLD MARITIME UNIVERSITY

Malmö, Sweden

THE IMPLEMENTATION OF THE JOINT DEVELOPMENT OF GREATER SUNRISE SPECIAL REGIME UNDER THE 2018 TIMOR SEA MARITIME BOUNDARIES TREATY BETWEEN TIMOR-LESTE AND AUSTRALIA

By

MELKIADES LAOT

Timor-Leste

A dissertation submitted to the World Maritime University in partial fulfilment of the requirement for the award of the degree of

MASTER OF SCIENCE

In

MARITIME AFFAIRS

(MARITIME LAW AND POLICY)

2019

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Declaration

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

(Signature): **.....**

(Date): **.....**

Supervised by: **Associate Professor Dr. Henning Jessen, LL.M.**

Supervisor's affiliation: **Maritime Law and Policy Specialization**

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Melkiades Laot

24 September 2019

Abstract

Title of Dissertation: **The Implementation of the Joint Development of Greater Sunrise Special Regime Under the 2018 Timor Sea Maritime Boundaries Treaty Between Timor-Leste and Australia**

Degree: **Master of Science**

This dissertation examines the legal framework of the Joint Development Agreement on the Greater Sunrise fields agreed by Timor-Leste and Australia after establishing the 2018 Treaty of permanent maritime boundaries in the Timor Sea.

In analyzing the treaty, the author conducted a study of the provisions of international law, UNCLOS 1982, as well as state practices in resolving disputes over claims to hydrocarbon resources located in overlapping areas. The problem is complex, considering that the disputing states use different approaches in preserving their territorial boundaries. The Joint Development Agreement has become a solution that is commonly applied to manage hydrocarbon deposits that extend across borders.

The saga of maritime boundary disputes in the Timor Sea has been contested by Timor-Leste and Australia in a battle to determine who has the rights over hydrocarbon deposits found on the seabed. A series of Joint Development agreements was carried out until finally a consensus was reached to end the delays in determining the permanent maritime delimitation. In addition, an analysis of the Greater Sunrise Special Regime was carried out to reveal the important elements employed in developing Greater Sunrise fields. Recommendations are proposed to the Government of Timor-Leste to carry out its responsibilities as the operating body in the management of the Greater Sunrise fields.

KEYWORDS: Joint Development, Maritime Boundaries, Timor Sea, Greater Sunrise

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List of Abbreviations

BIICL	British Institute of International and Comparative Law
CMATS	Certain Maritime Arrangements in the Timor Sea
CS	Continental Shelf
DA	Designated Authority
E.P.	Public Company [Empresa Pública]
EEZ	Exclusive Economic Zone
FDI	Foreign Direct Investment
GB	Governance Board
GSSR	Greater Sunrise Special Regime
ICJ	International Court of Justice
IMO	International Maritime Organization
IOC	International Oil Company
ITLOS	International Tribunal for the Law of the Sea
IUA	International Unitization Agreement
JD	Joint Development
JDA	Joint Development Area
JDZ	Joint Development Zone
LOSC	Law of the Sea Convention

MARPOL	International Convention for the Prevention of Pollution from Ships
MoU	Memorandum of Understanding
NPA	National Petroleum Authority
OPEC	Organization of the Petroleum Exporting Countries
PCA	Permanent Court of Arbitration
PMC	Petroleum Mining Code
PSA	Production Sharing Agreements
PSC	Production Sharing Contracts
TSDA	Timor Sea Designated Authority
TST	Timor Sea Treaty
UN	United Nations
UNCLOS	United Nations Convention for the Law of the Sea
UNTAET	United Nations Transitional Administration in East Timor

Chapter One

Introduction

1.1. Background

The dispute on the Timor Sea by neighboring states is not merely to define maritime boundaries between them, there are also claims to obtain control of the natural resources contained by the sea. The struggles occurred in three periods, when Timor-Leste was under Portuguese colonization, then Indonesian occupation (from 1975 to 1999) and when Timor-Leste freed itself from Indonesia at the end of 1999. The Timor Sea is a shallow water located in the eastern part of the Indian Ocean. It is rich in hydrocarbon resources (Timor Sea-Wikipedia, 2019). Most of the oil and gas deposits lie in the Bonaparte Basin, an extension of the sedimentary basin from Australia to the fringe of Timor Trough. From the north of this basin there are a number of oil fields near Timor-Leste, for instance Greater Sunrise, Bayu-Undan, Kitan, Laminaria, Corallina and Buffalo. These seabed resources and overlapping claims have been the factors triggering complexities in the determination of maritime boundaries between Timor-Leste and Australia (Council for the Final Delimitation of Maritime Boundaries, 2018).

In retaining its claims over the Timor Sea, Australia argued that the determination of maritime boundaries should be based on the concept of natural prolongation. However, Portugal and Indonesia preferred to use the method of equidistance or median line since the Timor Sea's width is less than 400 miles or overlapping. Therefore, Portugal and Australia did not reach a maritime boundary agreement in the Timor Sea (Lowe, Carleton, & Ward, 2002). On the other hand, Australia and Indonesia reached an agreement in 1972 and established continental shelf boundaries in the area of the Timor and Arafura Seas (Agreement between the Government of the Commonwealth of Australia and the Government of the Republic of Indonesia establishing Certain Seabed Boundaries in the Area of the Timor and

Arafura Seas, 1972). The agreement did not cover the eastern part of Timor island, which was still under Portuguese colonization. This unresolved gap was later known as the Timor Gap (Lowe, Carleton, & Ward, 2002).

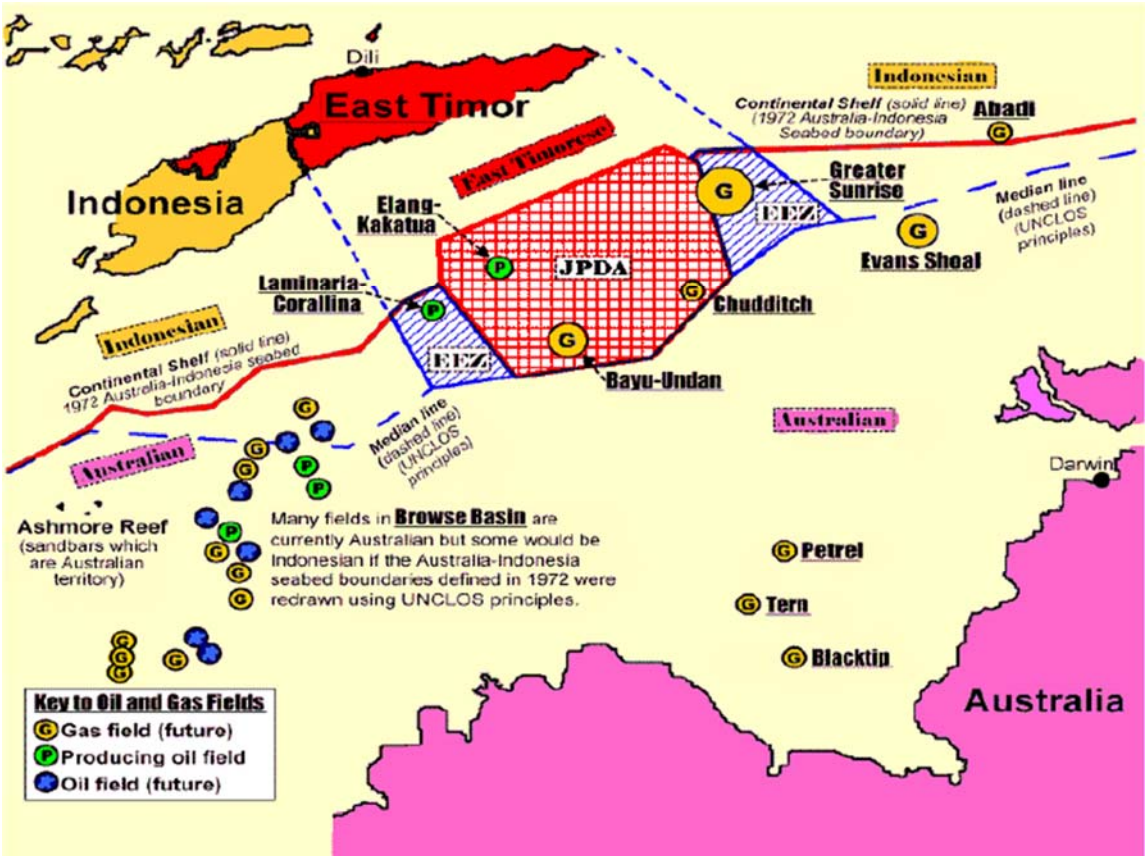

Figure 1: Map of oil fields in Timor Sea

Retrieved from *https://www.laohamutuk.org/OilWeb/Company/FieldIdx.htm*

Claims for hydrocarbon resources in maritime jurisdictions are tightly associated with sovereign rights and maritime boundaries between states. Hydrocarbon deposits that are subject to claims by two or more states will challenge adjacent states to agree on a solution because each state struggles to exercise sovereign rights within its territory. It will be more intricate since the mineral liquid of hydrocarbon deposit cannot be physically separated. Therefore, it is impossible for adjacent states to separately exploit a certain amount of that inseparable liquid (Lagoni, 1979).

Hydrocarbon deposits put states in an economically strategic position for the reason that they are promising resources that will increase the states' revenues. Nevertheless, the exploration and exploitation activities of hydrocarbon resources in the disputed areas cannot be realized. To that end, adjacent states are directed to engage in joint development agreements to carry out activities in the disputed area. The agreements will allow the disputed states to accomplish their interests in terms of exploring and exploiting without disturbance from the other states during the pending delimitation of maritime boundaries (Shitata & Onorato, 1996).

During the Indonesian occupation, in 1989 Australia and Indonesia signed an agreement known as the Timor Gap Treaty. The agreement was not to define continental shelf boundaries but rather a provisional arrangement to create a Joint Development in the Timor gap which was not included in the 1972 treaty between Australia and Indonesia (Hendrapati, 2015).

After the independence of Timor-Leste, precisely in the restoration of Timor-Leste's independence in 2002, Timor-Leste and Australia signed an agreement to continue the management of the Kitan and Bayu-Undan fields in the JPDA area that had been agreed beforehand by Indonesia and Australia. On the other hand, the Greater Sunrise field has been in the spotlight for Australia to start negotiations with Timor-Leste in order to initiate the process of exploration and exploitation. Therefore, in 2003, the two states agreed to unitize the Sunrise and Troubadour oil fields, which are known as Greater Sunrise. Accordingly, 20.1% is apportioned to the JPDA and 79.9% to Australia (Agreement between the government of Australia and the government of the Democratic Republic of Timor-Leste relating to the unitisation of the Sunrise and Troubadour fields, 2003). In addition, in 2006 an agreement was signed with the aim of extending the duration of oil field management in the JPDA and Greater Sunrise Unitization to 50 years (Treaty between the Government of Australia and the Government of the Democratic Republic of Timor-Leste on Certain Maritime Arrangements in the Timor Sea, 2006). However, these agreements did not yield results and the Greater Sunrise fields have yet to be exploited by either state (Strating, 2018).

With the treaty on permanent maritime boundaries signed in 2018, Timor-Leste and Australia have agreed to allow the activities of exploitation of the Greater Sunrise

fields which has been disputed during the last decade. The two states agreed to establish a special regime for Greater Sunrise, which is specifically stipulated in annex B of the Treaty (Treaty between the Democratic Republic of Timor-Leste and Australia establishing their maritime boundaries in the Timor Sea, 2018).

1.2. Aims and objectives

The treaty on maritime boundaries in the Timor Sea, which was signed by Timor-Leste and Australia in March 6, 2018, exposes opportunities for Timor-Leste and Australia to develop hydrocarbon resources in the Greater Sunrise fields under the GSSR. Timor-Leste is optimistic that this project will improve the national economy and bring more benefits to the people of Timor-Leste. This research aims to analyze the implementation of the Greater Sunrise Special Regime under the 2018 Maritime Boundaries Treaty between Timor-Leste and Australia according to the principles of international laws.

There are objectives of this research on obtaining the aim above:

a) To analyze the model of Joint Development of the GSSR.

b) To identify the states obligations related to the development of the GSSR.

c) To identify the applicable law in the JD of the Greater Sunrise fields.

d) To critically evaluate the roles of private investors in developing the GSSR.

e) To evaluate state participation in the development of the GSSR.

1.3. Research questions

To achieve these objectives, this following research questions will be answered:

- What is the applied model of joint development of the GSSR according to the provisions of the 2018 Treaty on maritime boundaries between Timor-Leste and Australia?
- What are the obligations of both states in the implementation of the GSSR?

- Which law will be applied in the JDA and the dispute settlement?
- How important is the role of foreign investors in conducting joint ventures with the state company to manage the GSSR?

1.4. Methodology

This research will employ a legal research approach in order to investigate and analyze relevant legal concepts and approaches to achieving the overall aim of the research project which is to analyze the implementation of the Greater Sunrise Special Regime under the 2018 Maritime Boundaries Treaty between Timor-Leste and Australia according to the principles of international law. The research will use relevant legal materials such as the sources of law, parliamentary archives, or pieces of academic writing in order to create a pool of feasible options needed in order to develop an efficient and appropriate regulatory framework for the exploration and exploitation of the Greater Sunrise field.

In order to translate the required methodological requirements into operational and workable methods for this research to fully achieve its aims and objectives, the following steps will be implemented:

Firstly, international regulatory frameworks and other national relevant legal sources will be reviewed in order to identify the gaps in the regulations related to the implementation of Joint development agreements for Greater Sunrise fields. Furthermore, a study case of other states joint development will be taken as an assessment of the importance of a legal framework in providing standards to the implementation of the joint development project. Secondly, legal frameworks will be developed to address the existing gaps. Finally, the results obtained from this research will be used to propose recommendations to the government for the further development of national policies related to the establishment of developing the Greater Sunrise fields.

1.5. Dissertation Outline

In discussing the topic of this dissertation, it will be divided into 5 chapters. The first chapter provides an overview of the background and objectives of the dissertation. Chapter two provides an analysis of the importance of JDA in a disputed area in accordance with international legal principles. Chapter three describes the history of disputes in the Timor Sea, before and after Timor-Leste became an independent state. Chapter four analyzes important aspects that are generally listed in a JDA. The dissertation will conclude with conclusions and recommendations relating to the gaps found prior to the implementation of the GSSR.

Chapter Two

Joint development agreements under International Law

2.1. Sovereignty, Sovereign rights and jurisdiction of coastal states

The concept of sovereign rights grants every state the right to exercise jurisdiction within its territory. With regard to hydrocarbon matters, it becomes more significant considering that coastal states use the sovereign rights to undertake their interests to explore and exploit marine resources in the EEZ and Continental shelf. However, in its implementation may be challenging and can lead to conflicts with adjacent states, notably in overlapping maritime zones.

In principle, sovereign rights are different from sovereignty. The United Nations Convention on the Law of the Sea (UNCLOS) 1982 differentiates these two rights by emphasizing the rights of a state to use and control the maritime zones. Sovereignty is related to the jurisdiction of a state to fully apply its authority over certain maritime zones, namely in internal waters and territorial waters. Whereas sovereign right is a privilege for a state to carry out activities over its maritime waters, the rights are less than sovereignty. Hereinafter, the matter of sovereign rights over the Economic Exclusive Zone (EEZ) and Continental Shelf will be discussed (Strating, 2018).

The United Nations Convention on the Law of the Sea (UNCLOS) 1982 is the international legal basis that defines maritime territorialization and certain rights of every state to utilize the ocean. With regard to sovereign rights, a coastal state has the benefit of performing activities such as exploration and exploitation of living and non-living marine resources of the seabed and subsoil in the EEZ, 200 nm from the coastline and continental shelf, up to 350 nm from the coastline (Beckman & Bernard, 2010).

Timor-Leste legalizes the state authority in carrying out its functions as a sovereign state in the constitution, which is the scope of the authority limited by the territory of the state. According to article 4, paragraph 1 of the Constitution, the territory of the country in question is the land surface, the maritime zone and the air space demarcated by the national boundaries. Moreover, “The extent and limits of territorial waters and the exclusive economic zone, and the rights of East Timor to the adjacent seabed and continental shelf shall be laid down in the law” (The Constituent Assembly, 2002).

Based on the provision of article 4 of the Constitution, the parliament of Timor-Leste issued Law number 7/2002 on Maritime Boundaries of the Territory of the Democratic Republic of Timor-Leste. Accordingly, articles 7 and 8 of this law stipulate that the area of the EEZ and continental shelf shall not exceed 200 nm (National Parliament, 2002). In addition, article 12 of this Law strictly express a recommendation to the Government to ratify UNCLOS 1982 and to incorporate the concepts of the territorial water, contiguous zone, EEZ and continental shelf into Law number 7/2002 (Constituição Anotada da República Democrática de Timor-Leste [Annotated Constitution of the Democratic Republic of Timor-Leste], 2011).

2.1.1. Exclusive Economic Zones (EEZ)

Based on the provisions of Part V of UNCLOS 1982, the EEZ is an area located beyond and adjacent to the territorial sea and its breath shall not exceed 200 nm which is measured from the baseline. Article 56 (1) of UNCLOS 1982 underlines the sovereign rights of states to carry out such activities in the EEZ:

> *sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds.*

As mentioned before, coastal states are entitled to sovereign rights in the EEZ and therefore this area cannot be proscribed for use by other states. According to the provisions of article 58 of UNCLOS 1982, other states including land-locked states

enjoy the right to effectuate navigation and overflight, install submarine cables and pipelines, construct artificial islands, fish and conduct scientific research. Even so, in using this area, other states are obliged to respect the rights and duties of the coastal states and are also subjected to the regulations applied by the coastal state as adopted from UNCLOS and other international laws that do not clash with UNCLOS.

One can also say, a coastal state has two basic rights over the EEZ: First, economic rights that are intended by article 56 (a) of UNCLOS 1982 “the coastal State has sovereign rights, for the purpose of exploring, exploiting, conserving and managing the living and non-living resources of the water column, sea-bed and subsea strata and other activities of economic exploitation”; Second, jurisdictional rights that are intended by article 56 (b) of the convention “the coastal State has jurisdiction over artificial structures, marine research and marine environmental protection” (LeGresley, 1993).

On the other hand, there are limitations for coastal states in exercising their sovereign rights and jurisdiction over the EEZ in respect of other states’ rights. According to article 56 (2) of UNCLOS 1982 “the coastal State shall have due regard to the rights and duties of other States” and then article 58 (1) provides the rights and duties of other states as follows:

> *In the exclusive economic zone, all States, whether coastal or land-locked, enjoy, subject to the relevant provisions of this Convention, the freedoms referred to in article 87 of navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships, aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention.*

In due regard rule there is no priority whether for coastal state to exercise its rights or the rights of other states in the EEZ. Consequently, both states have an obligation to respect each other’s rights and make every effort in good faith to allow both states to exercise their rights. It is also included in disputes referred by article 297 paragraph 1 (a) and (b) of UNCLOS 1982 to which the reciprocal due regard rule prevailed (Treves, 2015).

In the dispute of the Timor Sea between Timor-Leste and Australia, the breadth of the sea is less than 400 nm. In that case, both states encounter overlapping EEZs. This can cause struggles for both states in defining the maritime boundaries. According to UNCLOS 1982, coastal states have the right to claim EEZ up to 200 nm. In principle, the EEZ concept is only based on the maritime distance, which is taken from the surface. The settlement of the EEZ boundary, does not take into account the physical features of the seabed or the concept of natural prolongation as applied to the continental shelf (Pereira, n.d.).

In the process of resolving its maritime boundary disputes with Australia, Timor-Leste put forward the principles of UNCLOS 1982 to reach an agreement of equitable solution in accordance with the principles of international law. Thus, when neighboring states claim a maritime zone that is less than 400 nm, the starting point is to draw a median line. Moreover, the boundary line needs to be adjusted to the relevant circumstances so that it can achieve the equitable solution (Council for the final delimitation of maritime boundaries , 2016).

According to article 74 of UNCLOS 1982, the coastal states in dispute are recommended to seek an agreement in order to achieve an equitable solution. Otherwise, it will be proceeded to the settlement of disputes in accordance with the provisions of Part XV. “For the EEZ and CS specifically, LOSC does not specify that maritime boundaries should be delimited according to a particular method. The only requirement is that such delimitation should achieve an “equitable solution” accepted by the parties” (Jamine, 2007, p. 23).

In The Black Sea case (Romania v. Ukraine), Romania proposed to the ICJ to establish a single maritime boundary for the EEZ and the continental shelf (ICJ, 2009). There were three stages in defining the method of equidistance and relevant circumstances: firstly, to define a provisional equidistance line; secondly, adjust the line to the relevant circumstances; lastly, verify that the line has been drawn equally. The decision of the case was used as a reference by ITLOS in the case of Bangladesh v. Myanmar (2012), by ICJ in the case of Nicaragua v. Columbia (2012) and Peru v Chile (2014), and by the Permanent Court of Arbitration in 2014 in the case of Bangladesh v. India (Council for the final delimitation of maritime boundaries, 2018).

2.1.2. Continental shelf

The term continental shelf was not commonly used by legal practitioners, particularly in discussions on maritime zones. A legal challenge related to the continental shelf was about the right of ownership of a coastal state to enjoy its sovereign rights to sea-beds and subsoil. There is a legal principle that is applied at high seas, res nullius, where there is no ownership status of the seas and continental shelf. Nevertheless, anyone who carries out activities in the area must not interfere with the principle of freedom of the seas. The continental shelf has become a topic to be discussed since the advancement of science and technology in exploiting marine resources found in sea-beds. Thus, there is a need for provisions regarding the use of coastal state rights on the continental shelf (Gutteridge, 1959).

The history of the legal concept of the continental shelf is inseparable from the statement of the 33rd president of the United States, which is known as the Truman Proclamation. In his statement, Truman put emphasis on the importance of emerging the country's economy through the use of marine resources such as petroleum and minerals (Khan, 1985). In the preamble of the proclamation, it was stated that the continental shelf is a natural extension of the land and the resources contained in it are still part of the territory. Therefore, the control of the coastal state is necessary to oversee all activities related to the use of these resources. Thus, Truman stated in his proclamation (Truman Proclamation, 2009):

> *… the Government of the United States regards the natural resources of the subsoil and sea bed of the continental shelf beneath the high seas but contiguous to the coasts of the United States as appertaining to the United states, subject to its jurisdiction and control. In cases where the continental shelf extends to the shores of another States, or is shared with an adjacent State, the boundary shall be determined by the United States and the State concerned in accordance with equitable principles.*

However, the concept of the continental shelf from the proclamation was still unclear since there was not any specification regarding the extent of the continental shelf. The statement was solely based on the geographical features of the United States, while natural features have diverse phenomena around the world (Khan, 1985).

The Convention on the Continental Shelf 1958 (Geneva Convention) presents a definition of the term continental shelf. Article 1 of the convention defines continental shelf as:

> *(a) to the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas;*
>
> *(b) to the seabed and subsoil of similar submarine areas adjacent to the coasts of islands.*

On the other hand, the convention does not define clearly the breadth of the continental shelf to a certain range. It only defines that the extension of the continental shelf will not exceed 200 metres to the depth of the sea. The definition of continental shelf according to the convention is still murky due to the measurement solely based on the geographical features, which are naturally different from one place to another.

UNCLOS 1982 complements all deficiencies regarding the definition of the continental shelf and provides a more complete understanding, giving the coastal state the rights to extend the continental shelf up to 300 nm. In general, there is no significant different in the rights and duties of coastal states from the provisions contained in the Convention on the Continental Shelf 1958. There is a difference from UNCLOS 1982, whereby this convention stipulates that the extent of the continental shelf is 200 nm measured from the baseline (Becker-Weinberg, 2014).

Article 76 of UNCLOS 1982 defines continental shelf as the submerged natural prolongation of the land mass that consists of the seabed and subsoil of the shelf, the slope and the rise, with a breadth of 200 nautical miles and with the possibility of extension to 350 nautical miles measured from the baseline. Regarding the provisions of the delimitation between adjacent coastal states, article 83 of the convention encourages coastal states to establish an agreement for an equitable solution in accordance with international conventions, international customs and the general principles of law, which is referred to also in article 38 of the Statute of the International Court of Justice.

In the case of determining the continental shelf in the Timor Sea, Australia adheres to the provisions of article 76 of the UNCLOS 1982 as a legal basis for submitting its claim against Timor-Leste. Thus, Australia is of the opinion that the establishment of the continental shelf must consider the natural prolongation as referred to in the 1982 UNCLOS, as used by ICJ in resolving the North Sea Continental Shelf boundaries case between Germany versus Denmark and the Netherlands (Lumb, n.d.).

This principle of natural prolongation has been used by Australia in negotiating with Indonesia to determine the maritime boundary in Timor Sea while Timor-Leste was still in Indonesian occupation. In 1989 the two states failed to establish sea boundaries. From that failure, the two states established an agreement known as the Timor Gap Treaty 1989, in which both states agreed to undertake a Zone of Cooperation based on the principle of Joint Development with the aim of carrying out exploitation of hydrocarbon resources in the dispute area (Antunes, n.d.).

In the agreement between Timor-Leste and Australia on the determination of permanent maritime boundaries signed in March 2018, it was determined that the method used in determining maritime boundaries was median line (Rothwell, 2018). Thus, the determination of the sea boundary is a single maritime boundary that has annexed the EEZ and continental shelf such as the decision determined by the ICJ in resolving the Black Sea case between Romania v. Ukraine in 2009.

2.2. Maritime delimitation agreement

Maritime delimitation is associated with the concept of statehood because only an independent state that is recognized by the international community has the ability to set the boundaries of the sovereignty of the territory with the neighboring states. According to article 1 of the Montevideo Convention on the Rights and Duties of States, a state is defined as the subject of international law which has a permanent population, a defined territory, government and also the capability to enter into relations with other states.

Another significant aspect of a state as a society is characterized by delimitation of territory, rights to exercise powers within its territory, officers authority to apply and enforce regulations and state's officers title of ultimate legal authority (Marume,

Jubenkanda, Namusi, & Madziyire, 2006). Therefore, the delimitation of the territory of a state is to confine the execution of power within its jurisdiction as a sovereignty and using its sovereign rights. In the absence of determination of a boundary, it will trigger conflict with other states.

According to UNCLOS 1982, the territory of the sea consists of internal water, territorial sea, contiguous zone, EEZ, and continental shelf. This section discusses the delimitation of EEZ and continental shelf only, considering that marine resources such as hydrocarbons are generally found there and they represent the outermost parts of a state's maritime area. These zones also often cause problems for neighboring states when the EEZ area is less than 200 nm and when hydrocarbons straddle beyond the boundaries of two states.

Determination of the maritime boundary is related to the fundamental principle of sovereignty and exclusive sovereign rights, in which each state only has legal jurisdiction to enjoy these rights within its territory. On the contrary, it will lead to violations of the rights of other states if the state uses these rights over its territorial borders. The phenomenon of hydrocarbon deposits is often found straddling beyond national borders. It will be an obstacle for the state to exploit it, whether part of the portion located within the national boundary or the entire portion of hydrocarbons that stretch into area of another state. Of course, it will involve two or more sovereign states that will have different legal regimes in determining procedures for the exploration and exploitation of hydrocarbon deposits. Therefore, agreements between adjacent states are very important to establish cooperation in managing hydrocarbon deposits according to the principles of international law and customary law (Bastida, Okoye, Mahmud, Ross, & Wälde, 2007).

Articles 74 and 83 of UNCLOS 1982 indicate three important elements in determining the boundaries of the EEZ and continental shelf between adjacent states. First, the determination of the boundary should be made through an agreement; second, the agreement must be based on international law; third, the agreement should find an equitable solution (Office for ocean affairs and law of the sea, 1987). International law places agreements between states in determining maritime boundaries as an approach that must be prioritized. To reach this agreement, it is very important for adjacent states to be engaged in a negotiation process in good faith, or as intended

by UNCLOS 1982 to resolve disputes amicably (Dundua, 2007). International law referred to here is mentioned in article 38 of the Statute of the International Court of Justice, namely international conventions which at the time of submission of dispute resolution, are recognized by both parties in dispute; International customs which have been practiced by public and recognized as law and general principles of law recognized by civilized nations.

The International Court of Justice and arbitral tribunals appreciate equitable principle as the fundamental norm of customary international law. Equitable solution means that in reaching a decision in a maritime boundaries dispute requires consideration of all relevant circumstances in order to achieve an agreement for the parties to the dispute in accordance with the principle of *ex aequo et bono* (Kwiatkowska, 1988).

In relation to transboundary hydrocarbons, one of the main problems of maritime boundary disputes is the determination of the boundary line between adjacent states. This matter causes controversy for each state to have a wider EEZ and continental shelf, which is driven by economic factors and energy security advantages over the hydrocarbon deposits that are found in the ocean and seabed (Okwesa, 2019). In this situation, JDA is an alternative that can be used by the disputing states for the interest of utilizing the existing hydrocarbon resources. Thus, JDA can be made as an addition to the maritime boundary agreement. Or JDA can be used in lieu of a maritime boundary agreement. An example of the first situation, the agreement between Bahrain and Saudi Arabia in 1958, in which the two states agreed to carry out a JDA on the Fasht Abu-Sa'fah field. Exploitation is managed by Saudi Arabia and the net revenue would be shared 50:50 with Bahrain. The second situation is exemplified by, the agreement between Japan and Korea in 1974 that created a maritime joint development zone to explore and exploit hydrocarbon resources on the seabed. Thus, the sea boundary in the southern part of the East China Sea has not yet been resolved. Another example is the agreement between Australia and Indonesia in 1989 in the Timor Sea which then created the Zone of Cooperation (Schofield, 2009).

Since the restoration of Timor-Leste's independence in 2002, maritime boundaries with neighboring states in the Timor Sea have been prioritized in the government's agenda. Initiatives to negotiate with Australia did not lead to any results because Australia refused to negotiate on this matter and withdrew itself from the binding

dispute resolution. Therefore, in April 2016 Timor-Leste initiated compulsory negotiation based on part XV UNCLOS and as a result, both states reached an agreement on permanent maritime delimitation which was signed in New York on March 6, 2018 (Council for the final delimitation of maritime boundaries, 2018). In that regard, Timor-Leste and Australia agreed to establish a permanent maritime boundary, set the distribution of upstream profits from the Greater Sunrise field and established the mechanism for developing the oilfield (Strating, 2018).

2.3. Obligation to negotiate and enter into joint development agreements

Transboundary hydrocarbon deposits will encompass two or more authorities since the deposits stretch to the border of other states, and the problem is that it will trigger conflicts of interest among states to govern the deposits. Therefore, a country cannot exploit transboundary hydrocarbons individually; an agreement of cooperation must be created between the states concerned. It is necessary to conduct negotiations in order to reach such agreements (Onorato, 1968).

The negotiation among states to enter into joint development agreements remains a crucial aspect to become law and internationally bind the parties. It is also considered as subject to international law. This agreement can only be attained by states that obtain legal legitimacy and have been recognized as the holder of the title prior to negotiating and establishing legal regimes for the exploration and exploitation of non-living marine resources. The negotiation is carried out to reach an agreement on the disputed area and identify the location of hydrocarbon resources that will be jointly developed (Becker-Weinberg, 2014).

The importance of agreements in exploring and exploiting transboundary hydrocarbon resources is to define the rights and duties of states. Several legal problems may arise when there is no agreement on transboundary deposits. First, states may exercise the doctrine of the rule of capture, in which any state that has found a hydrocarbon deposit will undertake extraction of the whole deposit. As a result, it will trigger states to engage in competitive drilling that may cause wasteful and uneconomic exploitation of transboundary hydrocarbon deposits. Second, in the absence of the agreements it may lead to violations of sovereign rights of other states. Third, states may misconduct the use of their sovereign rights by damaging the territory of other states and neglecting their obligations to exchange information and

consult with other states in relation to transboundary hydrocarbon deposits (Lagoni, 1979).

2.4. International agreements on joint development of transboundary hydrocarbon resources

2.4.1. Japan - South Korea agreement of 30 January 1974

Japan and Korea succeeded in fixing a continental shelf boundary in the Sea of Japan and Tsushima/Korea Strait in 1974; however, due to overlapping in the southern part of the continental shelf in the East China Sea, the two states failed to establish a boundary in this area (Dehghani, 2009). For the purpose of exploration and exploitation of hydrocarbon deposits in the overlapping area, both states agreed to sign the Agreement concerning joint development of the southern part of the continental shelf adjacent to the two countries, which was signed in Seoul on 30 January 1974. The agreement itself came into force on 22 June 1978 by the exchange of the instruments of ratification (Agreement between Japan and Republic of Korea concerning joint development of southern part of the continental shelf adjacent to the two countries, 1974).

In the agreement, both states agreed to divide the Joint Development Zone into subzones[1] and create terms of conditions for each state to authorize concessionaires in order to carry out exploration and exploitation in the subzones[2]. In addition, concessionaires of both states share the same portion of natural resources that acquired from JDZ and expenses incurred from activities in JDZ[3]. The duration of the

[1] Article 3 (1) of the agreement "The Joint Development Zone may be divided into subzones, each of which shall be explored and exploited by concessionaires of both Parties".

[2] Article 4 (1) of the agreement "Each Party shall authorize one or more concessionaires with respect to each subzone within three months after the date of entry into force of this Agreement. When one Party authorizes more than one concessionaire with respect to one subzone, all such concessionaires shall have an undivided interest and shall be represented, for the purposes of this Agreement, by one concessionaire. In case of any change in concessionaire or in subzone, the Party concerned shall authorize one or more new concessionaires as soon as possible".

[3] Article 9 of the agreement, "(1) Concessionaires of both Parties shall be respectively entitled to an equal share of natural resources extracted in the Joint Development Zone. (2) Expenses reasonably attributable to exploration and exploitation of such natural resources shall be shared in equal proportions between concessionaires of both Parties".

agreement is fifty years with the condition to terminate or extend depending on the existence of hydrocarbon deposits in the JDZ[4]. The agreement is a form of agreement that acts as substitution to the agreement of maritime boundaries among two states.

2.4.2. Malaysia – Vietnam MoU of 5 June 1992

The continental shelf boundary dispute between Malaysia and Vietnam in the Malay basin was triggered by the arguments of each country to define the border line. Vietnam claimed to determine boundaries using the median line method measured from coastal islands of Malaysia and Vietnam. On the other hand, Malaysia claimed the median line should be drawn between the Malaysian island of Redang and the Vietnamese cape of Ca Mau. The overlapping area has a space of 2,500 km^2 and contains hydrocarbon deposits. Protests by Vietnam in 1991 argued that neither of the two states could carry out exploration and exploitation activities unilaterally in the overlapping territory. Thus, on June 5, 1992 the two states successfully approved an MoU by establishing the overlapping area as a Defined Area. In this area both states agreed to undertake joint development of seabed resources with a spirit of understanding and cooperation without affecting the achievement of the final decision on continental shelf boundaries (Thao, 1999).

In the MoU, both states define the status of the overlapping area, called the Defined Area, which is still in the pending final delimitation and this MoU was agreed for the sake of exploration and exploitation of existing hydrocarbon deposits[5]. The duration of the Joint Development will be determined by the exchange of diplomatic notes between the two states[6]. Both states also specifically nominated PETRONAS and PETROVIETNAM as the companies that would carry out exploration and exploitation

[4] Article 31 of the agreement "(2) This Agreement shall remain in force for a period of fifty years… (4) … when either Party recognizes that natural resources are no longer economically exploitable in the Joint Development Zone…'.

[5] Article 2 (1) of MoU "…pending final delimitation of the boundary lines of their continental shelves pertaining to the Defined Area, through mutual cooperation, to explore and exploit petroleum in that area".

[6] Article 5 of MoU "This Memorandum of Understanding shall continue for a period to be specified by an exchange of Diplomatic Note between the two parties".

in the Defined Area[7] (Memorandum of Understanding between Malaysia and the Socialist Republic of Vietnam for the exploration and exploitation of petroleum in a defined area of the continental shelf involving the two countries, 1992).

2.4.3. Bahrain – Saudi Arabia agreement of 22 February 1958

The delimitation of the maritime boundary between Bahrain and Saudi Arabia in 1958 was the first boundary agreement reached in the Persian Gulf (Dehghani, 2009, p. 106), and was also the first joint development agreement in the world. Something unusual from the agreement is that the joint development zone is located on the Saudi Arabian side (Schofield, 2009, p. 5).

The method used in adjusting the boundary was by drawing a median line[8]. The agreement stipulates that the six defined zones containing the oil field fall into the of Saudi Arabian part. Furthermore, the implementation of oil exploration and exploitation activities will be fully carried out by Saudi Arabia. However, the net revenue will be shared equally with Bahrain[9] (Bahrain-Saudi Arabia boundary agreement, 1958).

2.4.4. Guinea-Bissau – Senegal Agreement of 14 October 1993

In the agreement, the two states not only established cooperation in the management of non-living marine resources, but also of living marine resources along the boundary line that had been defined by Portugal and France through exchanged notes in 1960. Guinea-Bissau was dissatisfied with the validity of the 1960 agreement due to

[7] Article 3 (a) of MoU "…to nominate PETRONAS and PETROVIETNAM, respectively, to undertake, on their respective behalves, the exploration and exploitation of petroleum in the Defined Area".
[8] Bahrain – Saudi Arabia boundary agreement 22 February 1958, first clause (1) "…on the basis of the middle line from point 1,".
[9] Bahrain – Saudi Arabia boundary agreement 22 February 1958, second clause "This area cited and defined above shall be in the part falling to the Kingdom of Saudi Arabia in accordance with the wish of H.H. the Ruler of Bahrain and the agreement of H.M. the King of Saudi Arabia. The exploitation of the oil resources in this area will be carried out in the way chosen by His Majesty on the condition that he grants to the Government of Bahrain one half of the net revenue accruing to the Government of Saudi Arabia and arising from this exploitation, and on the understanding that this does not infringe the right of sovereignty of the Government of Saudi Arabia nor the right of administration over this above-mentioned area".

incomplete delimitation of maritime boundaries. The 1960 agreement was without determination of an EEZ boundary. Accordingly, Guinea-Bissau submitted an application to the ICJ. It was refused and ICJ continued to justify the decision from the arbitral tribunal which considered the existence of legal force from the exchange of notes by the Portuguese and French in determining the territorial sea, contiguous zone and continental shelf. Due to the failure of the arbitration and ICJ to determine the EEZ boundary between the two states, both states engaged in a negotiation which then established the Management and Cooperation Agreement of 14 October 1993 (Miyoshi, 1999).

In the agreement both states agreed to conduct joint development activities between 268^0 and 220^0 azimuths with terms of revenue sharing of 50%:50% for the exploitation of non-living resources and 85% to Senegal and 15% to Guinea-Bissau for the exploitation of hydrocarbon deposits (Management and cooperation agreement between the Government of the Republic of Senegal and the Government of the Republic of Guinea-Bissau, 1993).

Chapter Three

Timor Sea Disputes

3.1. Timor Gap treaty 1989 between Australia and Indonesia

Timor-Leste used to be occupied by Indonesia from 1975 to 1999. During that time, Timor-Leste (Indonesian: Timor-Timur) was the 27th province of Indonesia. On October 9, 1972, prior to Indonesian occupation in Timor-Leste, Indonesia and Australia agreed on the continental shelf under the Geneva Convention 1958. Indonesia claimed to draw the boundary by a median line between south of Timor island and north of Australia, while Australia claimed to draw the boundary by bathymetric axis of Timor Trench. The Agreement in 1972 drew a boundary line situated at the south of Timor Trench. However, the 1972 agreement did not define a boundary to the south area of Timor-Leste wherefore Timor-Leste was under Portuguese Authority. This area was then known as Timor Gap (Kusumaatmadja, 1992).

Following the annexation of Timor-Timur to Indonesia in 1976, there were opportunities to settle the unresolved continental shelf boundary in Timor Gap. Indonesia began negotiating boundaries on Timor Gap with Australia in 1979 by proposing the method of median line. On the other hand, Australia maintained its claim based on the Geneva Convention 1958 to a depth of 200 metres and exploitability and also the theory of natural prolongation. Therefore, Australia demanded that the determination of continental shelf boundaries be established on the bathymetric axis or Axis of the Timor Trench. With this difference of opinion, the states failed to reach an agreement. subsequently, in the second negotiations in 1979, Indonesia proposed to set the Joint Development Zone to the disputed boundary. After several attempts at negotiation on the cooperation zone, finally on October 26, 1989 the two states reached an agreement by dividing the zone of cooperation into three parts. Area A was designated as a Joint Development Zone, wherein revenue from production of oil and gas was agreed to be divided equally. Area B was

designated as regions that had not been claimed by Indonesia and had been explored by Australia, and will continue to be developed by Australia under Australian laws. Area C, designated as the area which is part of Indonesia and has never been claimed by Australia, was also part of the zone of cooperation. However, this area was not included in the joint development zone and was fully enforced by Indonesian law (Kusumaatmadja, 1992).

On December 11, 1989, Australia and Indonesia signed the Treaty on the Zone of Cooperation in Timor Gap. The purpose of the treaty was to facilitate both states to explore and exploit hydrocarbon deposits in the disputed area of Timor Gap, which is located between the Indonesian province of East Timor and northern Australia. The establishment of the Zone of Cooperation was an interim measure of settlement to the dispute in Timor Gap prior to final delimitation of the continental shelf (Treaty between Australia and the Republic of Indonesia on the Zone of Cooperation in an area between the Indonesian Province of East Timor and Northern Australia (Timor Gap Treaty) , 1989). The treaty covered an area of cooperation of approximately 61,000 square kilometers (Bergin, 1990, p. 385).

The treaty consists of eight parts and 34 articles including four annexes. The 1989 Timor Gap Treaty defines the zone of cooperation as the area “designated and described in Annex A and illustrated in the maps forming part of that Annex, which consists of the whole of the area embraced by Areas A, B and C designated in that Annex” [10]. Specifically, area A is located in the midpoint of the Zone of Cooperation, which is also the area that is jointly developed by both states. Within this area, are the Elang-Kakatua and Bayu-Undan fields. Area B is located in the southern end of the zone and Area C is located in the northern end of the zone. (Parliament of Australia, 1999).

[10] Timor Gap Treaty, 1989, article 1 (p) "Zone of Cooperation" refers to the area so designated and described in Annex A and illustrated in the maps forming part of that Annex, which consists of the whole of the area embraced by Areas A, B and C designated in that Annex.

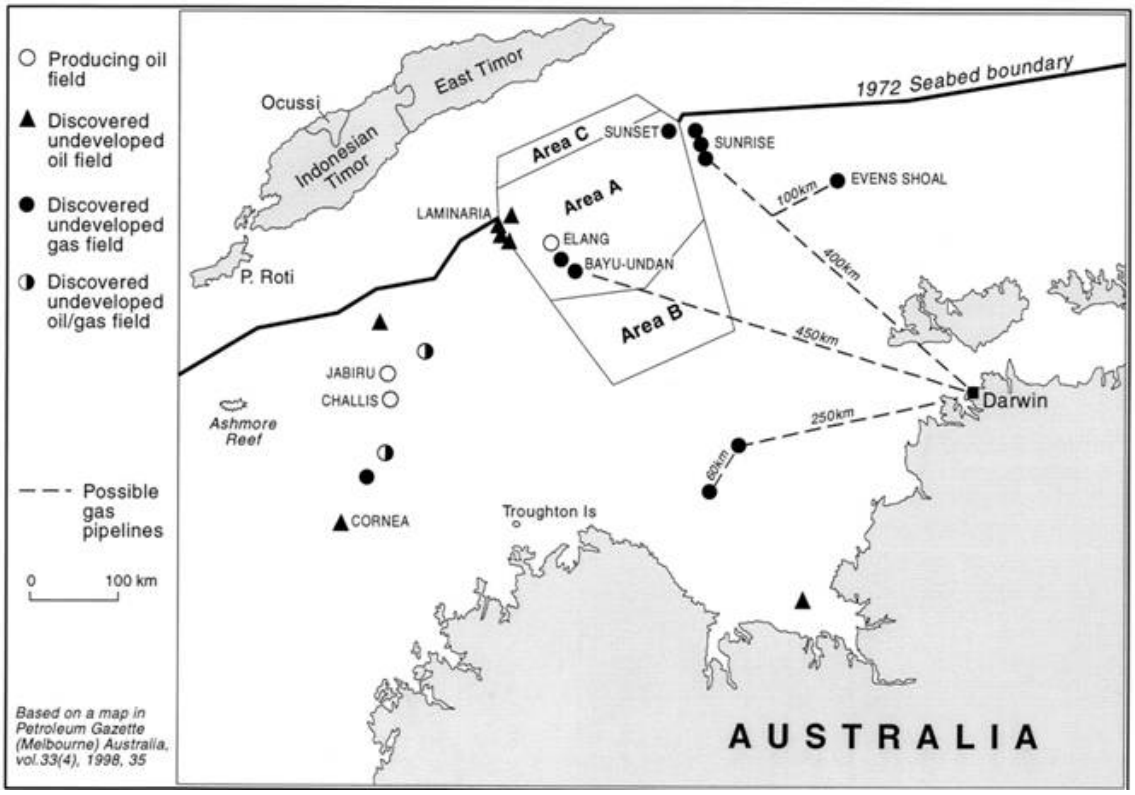

Figure 2: Zone of Cooperation established under the 1989 Timor Gap Treaty.

Retrieved from *https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Foreign_Affairs_Defence_and_Trade/Completed_inquiries/1999-02/east_timor/report/c04*

Regarding activities of exploration and exploitation in the areas, article 3 (1) defines that in Area A "the rights and responsibilities of the two Contracting States shall be exercised by the Ministerial Council and the Joint Authority in accordance with this Treaty". Hence, revenue from activities in this area is executed through production sharing contracts. For Area B, the area within Australian supervision, article 4 (1) defines that Indonesia shall get prior notification from Australia with regards to the activities in the area and Indonesia will obtain 10% of gross Resource Rent Tax or equivalent to 16% of net Resources Rent Tax. For Area C, the Area within Indonesian supervision, article 4 (2) defines that Australia shall have prior notification from Indonesia and will receive 10% of Contractors' Income Tax from the activities in the area.

In the Treaty, both states agreed to establish a Ministerial Council and a Joint Authority with its members taken equally from each state. The Ministerial Council is responsible for all activities related to the exploration and exploitation of hydrocarbon deposits in Area A of the Zone of Cooperation, whereas the Joint Authority is the body that undertakes the management of exploration and exploitation in Area A and is responsible to the Ministerial Council. In addition, the Treaty lasts for forty years from the date of entry into force. When the Treaty reaches the end of its duration and if there is no agreement on a permanent continental shelf delimitation, it will be extended for successive terms of twenty years.

3.2. Agreements on Joint Development Petroleum Area between Timor-Leste and Australia

One month after the announcement of Timor-Leste's independence, the UN Security Council issued the resolution 1272 (1999) of 25 October 1999 and on the same day established UNTAET, a transitional government to the independence of Timor-Leste, in order to carry out all administration including legislative, executive and administration of justice in this new born country (UN Security Council, 1999).

On 10 February 2000, UNTAET, acting on behalf of the government of Timor-Leste, signed an exchange of notes with Australia aiming to establish an agreement for the continuation of the Timor Gap Treaty that had been signed by Australia and Indonesia on 11 December 1989. In its notes to the Australian Mission in Timor-Leste, UNTAET conveyed that the agreement will provide a practical arrangement for the extension of the Timor Gap Treaty 1989 on the Zone of Cooperation and confirmed the position of UNTAET to replace Indonesia in the previous agreement (La'o Hamutuk, 2000).

On the same day of the exchange of notes, UNTAET and Australia signed an MoU on arrangements relating to the Timor Gap Treaty. The MoU legitimized the expression of UNTAET and Australia stated in the letter of Exchange of Notes. The MoU did not change the terms agreed in the 1989 agreement, especially regarding the Zone of Cooperation in Area A. There was only a change in the parties involved in the agreement, namely that Indonesia was no longer in the continuation of the agreement. As such, UNTAET will designate and nominate a representative to the Ministerial Council and the Joint Authority to replace the Indonesian position. The

duration of the extension of this MoU is from 25 October 1999 to the end of the transitional period in Timor-Leste (La'o Hamutuk, 2000).

3.3. Timor Sea Treaty 2002

Timor-Leste restored its independence on 20 May 2002 and since then has received international recognition as a sovereign nation. At the same time, Timor-Leste, for the first time, signed the Timor sea Treaty with Australia to maintain exploration and exploitation of hydrocarbon deposits activities in the Timor Gap (Timor Sea Treaty, 2002). The Timor Sea Treaty will replace MoU that was signed between UNTAET and Australia in 2000 (La'o Hamutuk, 2003). The treaty was signed to continue executing activities in Area A of the Zone of Cooperation of Timor Gap Treaty 1989 between Australia and Indonesia. In the Treaty, Area A is renamed as Joint Petroleum Development Area (Coutinho & Gala, 2015, p. 446).

In accordance with the Timor Sea Treaty 2002, Timor-Leste and Australia agreed to manage the JPDA for 30 years with the possibility to be extended while waiting for an agreement on a permanent maritime boundary. This agreement is also a provisional arrangement in the determination of continental shelf boundaries as referred to in article 83 of UNCLOS 1982. In the agreement, the two states specify that the area of cooperation called the JPDA will be jointly managed in carrying out exploration and exploitation of hydrocarbon deposits by sharing the revenue 90% for Timor-Leste and 10% for Australia (Timor Sea Treaty, 2002).

In the management of the JPDA, the two states agreed to establish a Regulatory Body consisting of a Designated Authority, a Joint Commission and a Ministerial Council, which is defined in article 6 of the Treaty. For the first three years after this treaty came into force, the Designated Authority was chosen from both states. However, after that time the Designated Authority must be submitted to the government of Timor-Leste especially under the auspices of the ministry responsible for petroleum activities. In carrying out its functions, the designated Authority is responsible to the Joint Commission. The functions and authority of the Designated Authority are regulated in detail in Annex C of this agreement (Timor Sea Treaty, 2002).

The Joint Commission consists of commissioners designated from both states with the exception that the number of commissioners from Timor-Leste is one more than Australia. This body will then establish policies and regulations regarding petroleum activities in the JPDA and control the Designated Authority. The functions and authorities of the Joint Commission are set out in detail in Annex D of this agreement. Furthermore, the Ministerial Council consists of Ministers of the same number from each state with their functions to deliver deliberation to all issues relating to the operation of this treaty (Timor Sea Treaty, 2002).

With regard to petroleum reservoirs that stretch across the JPDA boundary, the two states agreed to conduct Unitization in managing and developing them. Based on the provisions of article 9 of the Treaty and Annex E of the Treaty, the two states agreed to unitize the Sunrise and Troubadour oil fields (collectively known as Greater Sunrise) on the basis that 20.1% of Greater Sunrise is located within the JPDA. Thus, 20.1% of the production will be associated to JPDA and 79.9% to Australia (Timor Sea Treaty, 2002). Furthermore, on 6 March 2003 Timor-Leste and Australia signed another unitization agreement on the Greater Sunrise oil fields (La'o Hamutuk, 2003).

3.4. Treaty on Certain Maritime Arrangements in the Timor Sea, 2006, between Timor-Leste and Australia

Although there have been agreements regarding the unitization of oil resources that straddle the JPDA boundary, the two states are still concerned about the states' territory since there has been no determination of maritime boundaries. Apart from the aim to allow exploration and exploitation activities in areas that have not yet been agreed upon, there is also the purpose to increase additional revenue for the two states. Accordingly, on 12 January 2006, Timor-Leste and Australia agreed to sign the Certain Maritime Arrangements in the Timor Sea (CMATS), often called the Sunrise Agreement (La'o Hamutuk, 2006).

The CMATS is not only an agreement to unitize the Greater Sunrise oil field, it also provides amendments to several provisions of the Timor Sea Treaty 2002. Article 3 of the CMATS altered the duration of JPDA in the Timor Sea Treaty 2002 to 50 years in accordance with the duration of the CMATS. In addition, article 4 of the CMATS

expressly delayed the settlement process of maritime boundaries in the Timor Gap between Timor-Leste and Australia (Treaty between the Government of Australia and the Government of the Democratic Republic of Timor-Leste on Certain Maritime Arrangements in the Timor Sea, 2006).

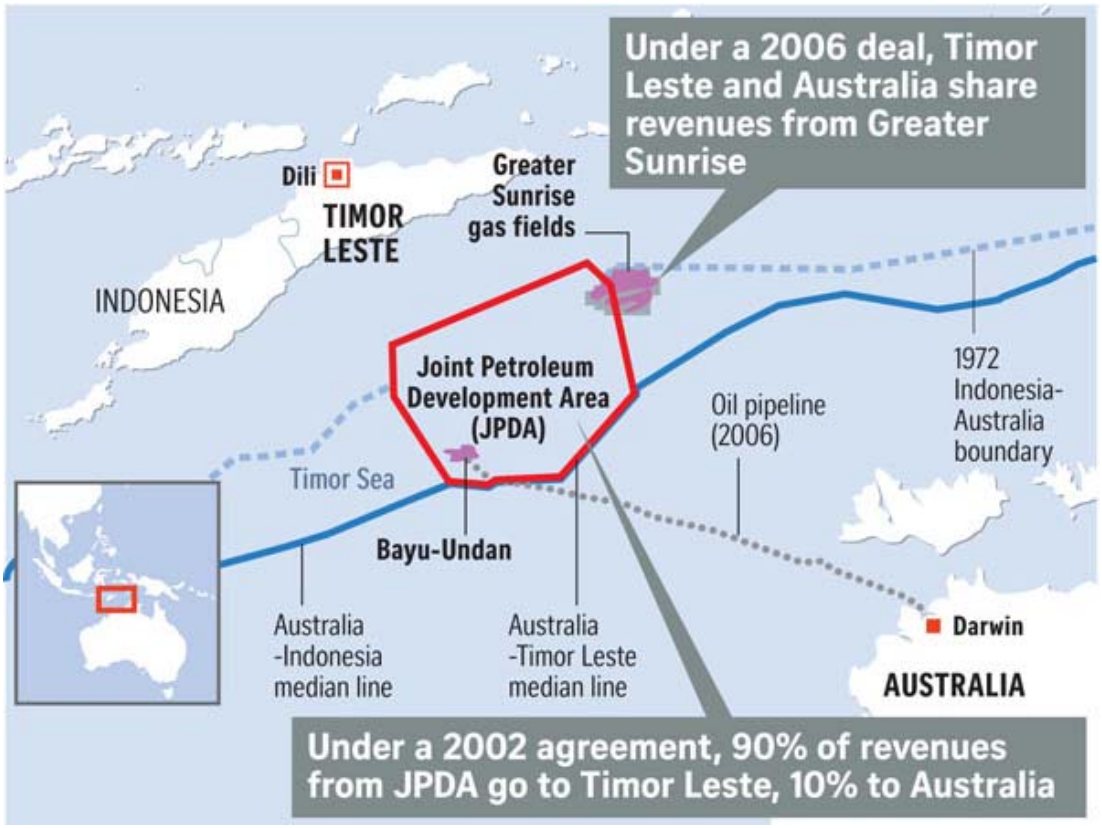

Figure 3: Map of JPDA and unitization of Greater Sunrise fields.

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On the other hand, the duration of CMATS could not be maintained up to 50 years in accordance with what was agreed upon. In 2013, with reference to the Timor Sea Treaty 2002, Timor-Leste sued Australia in the Permanent Court of Arbitration (PCA) to end the CMATS on the grounds that Australia did not show good faith in the CMATS negotiation process (Strating, 2017). In the opening session of conciliation proceeding at PCA on 29 August 2016, Timor-Leste revealed that in providing aid to renovate the Government offices, Australia had installed a spying device in the negotiators' room to obtain information that would benefit the Australian party in the process of

negotiating the CMATS Treaty (Conciliation Proceedings between the Government of the Democratic Republic of Timor-Leste and the Government of the Commonwealth of Australia, 2016). By following the agreement of the two states to negotiate a permanent maritime boundary in the Timor Sea, on 10 January 2017, Timor-Leste unilaterally ended the CMATS Treaty (Parliament of Australia, 2017).

3.5. The 2018 Treaty on maritime boundaries between Timor-Leste and Australia

The delimitation of permanent maritime boundaries has become a priority for the government of Timor-Leste as an independent sovereign state. In addition, the maritime boundary is also one of the important factors in realizing national development and security. The permanent maritime boundary will support Timor-Leste in improving marine resource management and tourism and attracting foreign investment to support the state's development. Income derived from petroleum management can support investments in education, health, infrastructure and other social services (Council for the final delimitation of maritime boundaries , 2016).

Timor-Leste and Australia had established provisional arrangements to the disputes in the Timor Sea through several agreements in order to allow the two states to jointly explore and exploit hydrocarbon deposits in the overlapping area of the Timor Sea. The failure of implementation of the CMATS Treaty between Timor-Leste and Australia changed Timor-Leste's approach to the negotiation of permanent maritime boundaries with Australia. Therefore, based on provisions of Part XV and Annex V of UNCLOS 1982, on 11 April 2016 Timor-Leste brought its claim to the PCA to invite Australia to engage in compulsory conciliation proceedings (Conciliation between the Democratic Republic of Timor-Leste and the Commonwealth of Australia, 2016).

It took a conciliation process for the two states to finally reach an agreement in establishing the maritime boundary in the Timor Gap, which had been disputed from the Indonesian era until Timor-Leste released itself from Indonesia in 1999. A new page in history that ended the dispute in Timor Sea was the signing of the Treaty on a permanent maritime boundary between Timor-Leste and Australia, which took place in the Headquarters of the United Nations in New York on 6 March 2018. The Treaty

established a single maritime boundary for the EEZ and Continental Shelf as well as a special regime for Greater Sunrise and the procedures to develop its resources (Permanent Court of Arbitration, 2018).

Delimitation on the continental shelf is specified in article 2 of this Treaty with conditions that some points are still provisional. According to article 3 of this agreement, those points will be adjusted after Timor-Leste fixes the maritime boundary with Indonesia. Furthermore, delimitation of the EEZ is specified in article 4 of this agreement with the possibility for both states to extend the EEZ boundary. Under the provisions of article 9, this agreement will terminate agreements that have been previously made such as the Timor Sea Treaty in 2002 and International Unitization Agreement in 2003 (Treaty between the Democratic Republic of Timor-Leste and Australia establishing their maritime boundaries in the Timor Sea, 2018).

With regard to Greater Sunrise deposits, article 7 of this Treaty establishes its status as a special regime with detailed provisions specified in Annex B. The Greater Sunrise special regime is created to provide a framework for Timor-Leste and Australia to jointly develop hydrocarbon deposits in the Greater Sunrise fields. According to article 2 of Annex B of the Treaty, Timor-Leste and Australia share the upstream revenue as follows:

> *(a) in the ratio of 30 per cent to Australia and 70 per cent to Timor-Leste in the event that the Greater Sunrise Fields are developed by means of a Pipeline to Timor-Leste; or*
>
> *(b) in the ratio of 20 per cent to Australia and 80 per cent to Timor-Leste in the event that the Greater Sunrise Fields are developed by means of a Pipeline to Australia.*

In addition, for the purpose of regulating and administrating the Greater Sunrise oilfield, both states agreed to establish regulatory bodies which consist of a Designated Authority and a Governance Board. The details of power and functions of the bodies are specified in articles 6 and 7 of Annex B of the Treaty. The Greater Sunrise Special Regime will terminate following the commercial depletion of hydrocarbon deposits from the fields (Treaty between the Democratic Republic of Timor-Leste and Australia establishing their maritime boundaries in the Timor Sea,

2018). According to the Treaty, the Kitan and Bayu-Undan fields contained in the JPDA, fall within the territory of Timor-Leste.

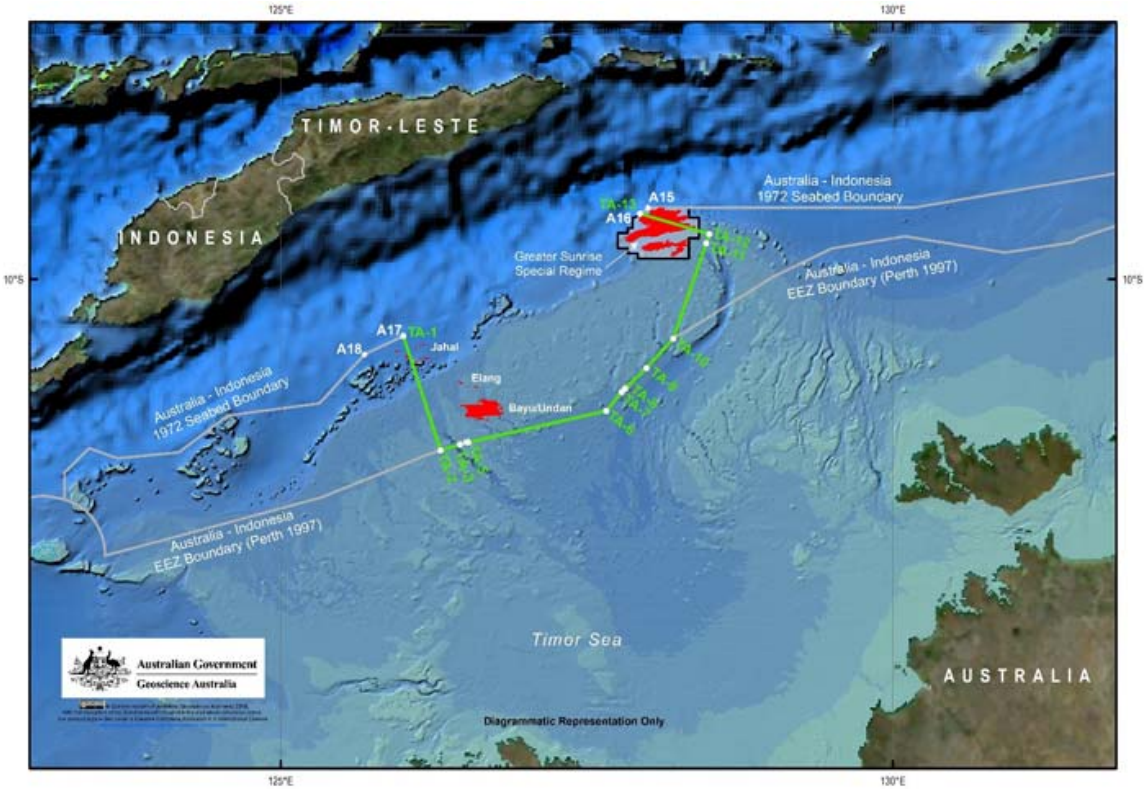

Figure 4: Map of permanent maritime boundaries between Timor-Leste and Australia.

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Chapter Four

Essential legal and functional aspects of joint development of Greater Sunrise

4.1. Model of joint development agreements of the Greater Sunrise

Joint Development is commonly established in disputed areas between two or more states. Therefore, when there is an agreement between states to conduct joint development it should determine a cooperation model that can guarantee the protection of the rights and obligations of each state (Bastida, Okoye, Mahmud, Ross, & Wälde, 2007). Fox et al. (as cited in Weinberg, 2014) explain that the British Institute of International and Comparative Law (BIICL) published a model agreement of Joint Development that aims to provide a conducive solution to the development of hydrocarbon resources in the disputed areas. The model of the agreement is categorized into three types, namely: a joint operating venture, the formation of a joint authority to manage JDA, and permitting one single state to carry out management, sharing the revenue with the other state (Becker-Weinberg, 2014).

4.1.1. Joint operating venture

In this model, states that agree to undertake joint development are required to form a joint venture contract with local or foreign oil companies in joint development zones. There are possibilities to unitize transboundary deposits and nominate a single operator to carry out exploitation of the unitized deposits. A joint operating venture may be of two types. One involves agreeing a specific joint development zone and creating compulsory joint ventures to explore and exploit unitized hydrocarbon deposits. The other involves agreeing on a transboundary unitization and appointing a single operator for the exploitation of transboundary deposits on the maritime boundary that has been delimited (Beckman & Bernard, 2010). An illustration of this model is the 1974 Agreement between Japan and the Republic of Korea Concerning Joint Development of Southern Part of the Continental Shelf Adjacent to the Two

Countries. Accordingly, activities of exploration and exploitation in each subzone of the Joint Development Zone will be carried out by concessionaires of the two states under a joint operating agreement (Ong, 1999). In the agreement between Japan and South Korea, a Joint Commission body consisting of two members from each state was formed. The aim is to serve as a liaison body between the two states, functioning only as a consultative body, not as a powerful joint authority (Miyoshi, 1999).

4.1.2. Joint authority

This is a joint development model created and controlled by governmental institutions, which requires a higher level of cooperation. In doing so, the states involved in a joint development agree to found an international joint authority or commission. It is the states' representative that has a legal personality, issues licensing and acts as regulators and also holds mandates to manage the agreed joint cooperation zone (Beckman & Bernard, 2010). One can also say, in a joint authority, states' interests are delegated to a particular body with responsibilities to supervise overall exploration and exploitation of hydrocarbon deposits in the joint development zone. With regards to exercising its powers, the joint authority may be powerful due to its nature as a separate state or may be less powerful, dealing only with administrative matters (Bastida, Okoye, Mahmud, Ross, & Wälde, 2007). An example of this model is the 1979/1990 Agreement between Malaysia and Thailand concerning the establishment of JDA and Joint Authority (Beckman & Bernard, 2010).

4.1.3. Single state

In the model of joint development, states simply agree to allow one state to manage the joint development zone on behalf of the disputing states. Accordingly, the other state receives a share of revenues from the activities of exploration and exploitation in the joint development zone. However, the implementation of this model has been debated, based on political factors. Specifically, the state represented is burdened by the loss of autonomy and indirectly affirms the other state to administer its sovereign rights. Therefore, lately a number of disputing states have refused to adopt this model of joint development (Beckman & Bernard, 2010). Illustrations of this model are the

1958 Agreement between Bahrain and Saudi Arabia concerning the exploration and exploitation of hydrocarbon deposits in the Fasht Abu-Sa'fah field, and the 2002 Timor Sea Treaty between Australia and Timor-Leste concerning joint development of hydrocarbon deposits of the JPDA in Timor Sea (Bastida, Okoye, Mahmud, Ross, & Wälde, 2007).

Based on the joint development models described above an analysis of the joint development model will be applied to the agreement between Timor-Leste and Australia to jointly develop the Greater Sunrise oil field. The Greater Sunrise Special Regime is agreed and legalized in article 7 of the 2018 Treaty of Maritime Boundaries between the two adjacent states. Annex B is a detailed description that specifically regulates joint development of Greater Sunrise deposits.

Annex B provides a legal framework for joint development of the Sunrise and Troubadour oil fields that straddle over the maritime boundaries between the two states. It establishes the Regulatory Bodies by establishing a two-tiered regulatory structure consisting of a Designated Authority and a Governance Board. Apart from these two bodies, there is also a committee whose function is to solve disputes from the implementation of this joint development. Regarding the management structure, the Governance Board represents the authority of the two states in developing the Greater Sunrise field. The composition of this body consists of two representative members from Timor-Leste and one representative member from Australia. Its main function is to supervise, conduct audits, approve regulations on petroleum activities and intervene with the Designated Authority in relation to issues of development strategy (Treaty between the Democratic Republic of Timor-Leste and Australia establishing their maritime boundaries in the Timor Sea, 2018).

On the other hand, the DA is the representative operating body of the two states formed by Timor-Leste's legal authority and it is responsible for the regulation and management of petroleum activities in the Greater Sunrise Special Regime. Despite this, in carrying out its functions, the DA is required to report to the GB (Treaty between the Democratic Republic of Timor-Leste and Australia establishing their maritime boundaries in the Timor Sea, 2018).

A similar joint development structure has been used by Timor-Leste and Australia in managing JPDA under the 2002 TST, precisely by establishing a three-tiered administrative structure consisting of DA, Joint Commission and Ministerial Council (Timor Sea Treaty, 2002). At that time, the national body of Timor-Leste responsible as the DA was the Timor Sea Designated Authority (TSDA) whose function was to represent the two states in governing the JPDA (Timor Sea Designated Authority, n.d.). However, the TSDA work period ended in 2007 (Timor-Leste position paper - the future of the TSDA, 2007). In 2008, Timor-Leste issued Decree-Law number 2/2008 by establishing the National Petroleum Authority. Article 3 of this law states that one of its functions is to act as DA in implementing the JD with Australia on the JPDA as agreed in the 2002 TST. Furthermore, in article 26 of this law it also stipulates that from 1 July 2008 the NPA will replace TSDA (Decree-Law no 20/2008 of National Petroleum Authority , 2008).

On the other hand, the NPA was appointed as DA by the government of Timor-Leste merely to carry out its functions in the JPDA under TST 2002. With the existence of the Treaty on permanent maritime boundary between Timor-Leste and Australia in 2018, it ended TST 2002 and IUA Greater Sunrise 2003. Thus, the implementation of the Greater Sunrise Special Regime requires the Government of Timor-Leste to appoint a new DA or assign NPA to continue its function as DA in the Greater Sunrise Special Regime. For the last option, it is necessary to issue a new regulation that certifies the NPA's status as DA or amend the Decree-Law no 20/2008.

Thus, from the two regulatory bodies in the Greater Sunrise Special Regime, it can be concluded that in carrying out their functions the two bodies cannot work independently. There is a functional work relationship in order to implement joint development of the Greater Sunrise Special Regime. The joint development model applied in this agreement is a Joint Authority which consists of two levels of authority (Bastida, Okoye, Mahmud, Ross, & Wälde, 2007), the Designated Authority and the Governance Board.

4.2. State's Obligations on the Joint Development Area

4.2.1. Protection and preservation of the marine environment

In principle, coastal states enjoy sovereign rights to manage marine resources, both living and non-living, including exploration and exploitation of hydrocarbon resources on the seabed. Nonetheless, these activities contribute to polluting the marine environment if there are no strict regulations and law enforcement to control them. In this section an assessment of the states' responsibilities will be carried out in relation to the pollution caused by hydrocarbon exploration and exploitation activities on the marine environment. Furthermore, the legal framework, both international and national, will be examined in relation to the protection of the marine environment.

The exploration and exploitation of hydrocarbon resources activities that potentially generate pollution can be broadly categorized into three forms. The first is intentional pollution; nevertheless, this type is infrequent, considering the significant economic value of hydrocarbons to petroleum developing actors. The second form is, accidental pollution, which is pollution resulting from explosions, leaky pipes, spills from tankers and collisions that occur when ships are docking the platform. Third is operational pollution, which is pollution from offshore equipment installation, particularly using chemical liquids that can cause contamination of sea water and carbon dioxide emissions (Vinogradov & Wagner, 1998). In addition, decommissioning also becomes a source of pollution of the marine environment when operators abandon the platforms after the termination of exploitation activities (Wartini, 2017).

Regarding the protection and preservation of the marine environment, UNCLOS is an international legal framework that imposes responsibilities on each state to implement its provisions both within and beyond its jurisdiction from all activities that may endanger the marine environment. It also applies to the exploration and exploitation of marine resources, in which each coastal state assumes the responsibility to implement all measures to mitigate pollution from the intended activities carried out within its jurisdiction (Becker-Weinberg, 2014).

UNCLOS 1982 specifically regulates the protection and preservation of the marine environment in Part XII. In detail, Part XII consists of 11 Sections that provide a legal framework for each state to establish rules, control, enforce the law and regulate the

obligation to compensate for any activities that generate pollution in the marine environment. The state in issuing national regulations must be commensurate with the provisions of international regulations, standards and adjust recommendations regarding practices and procedures for managing marine resources on the seabed (Uited Nations Convention on the Law of the Sea, 1982). UNCLOS 1982 also mentions the roles of competent international organizations in providing regulations relating to the protection and preservation of the marine environment. For instance, IMO, one of the UN specialized agencies responsible for regulating shipping activities, has contributed to protect and preserve the marine environment through its conventions. One of its conventions, MARPOL 1973/78, although it mainly regulates shipping activities, its annexes contain provisions governing pollution related to exploration and exploitation activities of hydrocarbon resources (Wartini, 2017).

Regarding the Greater Sunrise Special Regime agreement, Annex B does not indicate specifically measures for both states to protect the marine environment in the area of joint development. However, Article 16 of Annex B provides a general guidance for both states to implement provisions of UNCLOS 1982 related to marine environmental protection in conducting activities of exploration and exploitation of hydrocarbon resources (Treaty between the Democratic Republic of Timor-Leste and Australia establishing their maritime boundaries in the Timor Sea, 2018). Accordingly, both states have an obligation to implement Part XII of UNCLOS 1982 in regulating the activities in the joint development area. In practice, it will facilitate the two states to achieve a commonality in regulating the protection and conservation of the marine environment in the joint development area, considering that Timor-Leste and Australia are member states of UNCLOS 1982.

4.2.2. Offshore installations and decommissioning

To have a decent understanding of the legal framework of offshore installations, it is necessary to know the meaning of the installation. Article 1 of the 2018 Maritime Boundaries Treaty between Timor-Leste and Australia provides a definition of the Special Regime Installation as *"any installation, structure or facility located within the Special Regime Area for the purposes of engaging in or conducting Petroleum Activities"* (Treaty between the Democratic Republic of Timor-Leste and Australia

establishing their maritime boundaries in the Timor Sea, 2018). Although the definition does not provide a detailed explanation, it can be concluded that 'installation' refers to all petroleum exploitation equipment installed and used in the Greater Sunrise joint development area, both mobile and fixed. A stronger explanation can be drawn from the concept given by The Danish Working Environment Authority, which defines installation as *"a fixed or mobile facility used for offshore oil and gas operations or in connection with such operations, or a combination of such facilities permanently inter-connected by bridges or other structures"*. The definition includes a platform that is used both for exploitation activities and to be used as accommodation for workers as well as a pipeline (The Danish Working Environment Authority, 2016). Accordingly, offshore installations are the facilities utilized to carry out the process of exploitation of hydrocarbon resources on the seabed that are movable from one place to another or are floating and fixed. The installation is a process of introducing a foreign object into the marine environment. Thus the presence of these objects can bring impacts to the marine environment such as generating pollution or can interfere with maritime shipping activities. Therefore, it is necessary to have a legal framework that regulates the matter of the installation so as not to cause harmful impacts to the sea.

UNCLOS 1982 is an international legal framework that specifically regulates the sea. However, the convention does not specifically regulate the legal regime applicable to offshore installations and structures. In contrast, the 1958 Convention on the Continental Shelf, which in article 5 provides a clear framework of the rights and procedures for the installation of equipment to exploit hydrocarbon resources and the obligation of states to keep from disrupting the rights of other states to use the sea and to release the installations that are no longer in use. UNCLOS 1982 granted sovereign rights to states to explore and exploit resources contained in the EEZ and Continental Shelf. Provisions on coastal states' rights over offshore installations and structures in the EEZ are applied to continental shelf. Whereas sovereign rights over non-living resources of the seabed are conducted in accordance with provisions of the continental shelf regime (Becker-Weinberg, 2014).

With regard to the matter, aside from stipulating the coastal states' rights, article 60 of UNCLOS 1982 also obliges the coastal states to regulate the use of these rights, one of which is the installation and structure used to carry out activities of exploration

and exploitation of hydrocarbon resources. Furthermore, this article also regulates that due notice regarding the existence of the installation must be given, creating a safe zone around the installation and also any installation that is no longer in use must be removed so that it does not interfere with safety of navigation (Uited Nations Convention on the Law of the Sea, 1982).

The contents of article 22 of Annex B of the 2018 Treaty on Maritime Boundaries between Timor-Leste and Australia do not reflect all the responsibilities that must be carried out by a coastal state in placing installations in the Joint Development area. The article simply assigns responsibility to the Greater Sunrise Contractors to provide information regarding the existence of installations in the Greater Sunrise Special Regime area (Treaty between the Democratic Republic of Timor-Leste and Australia establishing their maritime boundaries in the Timor Sea, 2018). Some of the provisions by UNCLOS 1982 that have not been regulated in the Greater Sunrise Special Regime become the responsibility of the Designated Authority, so that their implementation can be in line with the standards recommended by international law.

In contrast, decommissioning is a process of disassembling or removing equipment that is unused after reaching the end of operations of exploitation activities. Decommissioning aims to mitigate risks that can be caused by equipment that is no longer in used and restore the condition of the environment after the exploitation activities (Alghuribi, Liew, Zawawi, & Ayoub, 2016). In international law, the concept of decommissioning is still ambiguous. UNCLOS 1982 and the 1958 Convention on the Continental Shelf use the term abandoned or disused in the discussion of offshore installations and structures intended for hydrocarbon exploitation activities. Therefore, the concept of decommissioning is often interpreted as the measures to remove the abandoned offshore installations. Actually decommissioning is a process that is more complex than the term abandonment. Forte (as cited in Hamzah, 2003) describes the two terms as a process carried out by the contractor to dismantle the installation as well as efforts to rehabilitate the exploitation site when the installation is no longer used (Hamzah, 2003). In order to avoid a vague understanding of these two terms, a conclusion will be drawn that the term decommissioning is tantamount to removal of abandoned or disused offshore installations.

Article 60 of UNCLOS 1982 stipulates that installations and structures that are no longer in use should be dismantled so that they do not disturb the safety of navigation. In addition, the process of removing the installations should not cause impacts to the ecosystem and the marine environment, or to rights and duties of other states. Regarding the installations that are not completely removed, there existence is required to be notified to the public (Uited Nations Convention on the Law of the Sea, 1982). Thus, this article provides preference for coastal states to introduce the removal obligations into their regulations (Becker-Weinberg, 2014). In addition, other articles of UNCLOS 1982 relevant to decommissioning can be found in Part XII concerning the protection and conservation of the marine environment, which is specifically governed by the provisions of article 208 concerning the responsibility of coastal states to create regulations regarding pollution caused by seabed activities and also article 210 concerning pollution by dumping (International Association of Oil and Gas Producers, 2017).

From the provisions of Article 60 of UNCLOS 1982, on October 19, 1989, IMO adopted Resolution A.672 in the 16th session which aimed to establish guidelines and standards for coastal states in removing abandoned or disused installations in the EEZ and Continental Shelf, either in whole or non-removal. These guidelines provide directions for coastal states so that if there are installations or structures that cannot be dismantled and are left in the sea, they must conduct an assessment of the criteria listed in these guidelines. While the Standard of the document provides technical instructions for coastal states in removing offshore installations and structures (IMO, 1989), this resolution is a non-binding regulation and serves as a guidance for member states to adopt or not.

In the 2018 Maritime Boundaries Treaty between Timor-Leste and Australia, article 21 of Annex B clearly states the duties and responsibilities of contractors and the DA for decommissioning following the commercial depletion of the Greater Sunrise. In its development plan, contractors are required to submit a plan along with the estimated costs for decommissioning to the DA. Regarding decommissioning costs, the DA and contractors will engage in an agreement on reserving the cost and it will be part of the Production Sharing Contract. Non-removal installations or partial-removal will be governed by the regulations of each states' domestic law (Treaty between the

Democratic Republic of Timor-Leste and Australia establishing their maritime boundaries in the Timor Sea, 2018).

4.3. Applicable law and settlement of disputes with and between operators

As mentioned in Chapter Two, the hydrocarbon deposits straddling the overlapping areas will present challenges for coastal states due to overlapping claims among adjacent states to defend their sovereign rights. Therefore, in establishing a JDA it is necessary to guarantee that the agreement reflects the claims of the disputing states. In general, applicable law is often mentioned in joint development agreements. This is attributable to differences in legal systems between states in regulating petroleum activities and contracts, and other matters relating to exploration and exploitation activities. For that reason, applicable law will define the legal system that will be implemented in JDZ (Bastida, Okoye, Mahmud, Ross, & Wälde, 2007). Applicable law is a consensus of the parties engaged in JDA to decide which law will be applied in regulating related matters such as employment, safety and health, environment, taxation, contracting and disputes between contractors and with the parties (Becker-Weinberg, 2014).

In the agreement of GSSR between Timor-Leste and Australia, there are several regulations that are applied in the JDZ. First, the Petroleum Mining Code, which is based on the provisions of article 11 of Annex B of the 2018 Maritime Boundaries Treaty, will apply the provisional PMC while waiting for the approval from the GB of the final PMC for the GSSR (Treaty between the Democratic Republic of Timor-Leste and Australia establishing their maritime boundaries in the Timor Sea, 2018). The PMC regulates divisions of JDA into blocks and also procedures for implementing employment contracts, initiating from the bidding process until the termination of the contract and the contractual relationship between contractors and the DA. The PMC also regulates decommissioning, which refers to the PMC as removal of property. Further, there are also requirements for establishing safety zones around specified structures for the purpose of the safety of navigation (Interim Petroleum Mining Code, 2003).

Second, regulations on customs and migration, quarantines, vessels and criminal jurisdictions will be governed by the domestic laws of each state. The provisions relating to persons or goods entering and leaving the JDA through one of the states will be subject to the laws of that state. Regulations related to vessels will be governed by the two flag states. Whereas vessels that fly other flags but engage in activities that are part of the GSSR will be subject to the law of the state in which the ship operates. Regarding criminal jurisdiction, it will be enforced by the law of the nationality or permanent residence of the person. Third, there are several other provisions that are not specifically indicated in the legal jurisdiction of the two states, such as provisions relating to environmental protection and marine scientific research; the provisions of UNCLOS 1982 will apply (Treaty between the Democratic Republic of Timor-Leste and Australia establishing their maritime boundaries in the Timor Sea, 2018).

On the other hand, provisions regarding dispute resolution with and between contractors are regulated in article 8 of Annex B. The provisions of this article provide absolute power to the Dispute Resolution Committee to settle disputes relating to the development of GSSR between contractors and the DA and among the contractors. The committee consists of three people, one person appointed from each state and one independent Chairman who is an expert appointed by the two states or by the Secretary-General of the PCA if there are differences of opinion between the two states (Treaty between the Democratic Republic of Timor-Leste and Australia establishing their maritime boundaries in the Timor Sea, 2018).

4.4. Role of foreign investors

Hydrocarbon management is a costly and risky management as it requires investment in developing research and technology to explore and exploit hydrocarbon resources that are located underground and on the seabed as well. The process is begun by a large investment in discovery of hydrocarbon resources without a certainty of its outcomes in the future. In developing countries, it is often challenging for state companies to carry out these activities due to lack of knowledge and finance capacity. Therefore, multinational investment from companies engaged in oil industries is

needed in order to realize the states' interests to explore and exploit hydrocarbon resources (Becker-Weinberg, 2014).

For developing states, involvement of Foreign Direct Investment in national industries might overcome their financial and technological limitations. With regard to hydrocarbon resources, FDI plays an important role in supporting the host state to grow capital inflows, introduce modern technologies, provide experts and facilitate accessibility to international markets (Gawad & Muramalla, 2013). As an actor of FDI, International Oil Companies that invest in the exploration and exploitation of hydrocarbon resources in other states possess large capital and they are generally involved in almost the entire oil production cycle from exploration, production, transport and storage, refinery up to marketing (Al-Fattah, 2013).

King and Spalding (as cited in Tienhaara, 2011) explain that in the upstream process of hydrocarbon resources, FDI penetrates into the host states in three ways: concessions or licenses, production sharing contracts (PSC) or agreements (PSA) and risk-service contracts (Tienhaara, 2011). Concession, also known as Royalty Tax System, is a contract whereby IOCs have the rights to explore and exploit hydrocarbon resources and have the title on the production and pay royalties or taxes to the host state. It is possible for IOCs to own oil and gas fields. In PSC/PSA the IOC is responsible for all costs of exploration and exploitation and, from the production obtained, IOC has the right to take all expenses that have been spent or what is called cost oil. The remaining profits or the profit oil will be shared with the host state in accordance with the agreement. In service-contracts, IOCs are paid a cash fee for their services in producing hydrocarbons and all production results are owned by the host state (Harraz, 2016).

Since the ratification of the 2002 Timor Sea Treaty, the private investors have played a significant role in the production of hydrocarbon resources located in the JPDA, namely the Bayu Undan and Kitan fields. Several international companies have participated in the development of JPDA, for instance Conoco Phillips Pty Ltd, Woodside Petroleum Pty Ltd, Oilex Ltd and Eni Pty Ltd. These four international companies act as operators and also engage in Joint Ventures with several other international companies (Timor-Leste EITI, 2014). Timor-Leste is a Small Island Developed State that in 2018 increased FDI fourfold to $ 48 million from the previous

year (UNCTAD, 2019), and of the total oil and gas gets the most investment (Santander, 2019). It is indubitable that foreign investment plays a significant role in supporting the development prospects of Timor-Leste whose state income is highly dependent on oil and gas production.

GSSR management employs the PSC system which certainly requires the involvement of private investors to carry out hydrocarbon exploitation activities in the joint development area. According to the provisions of article 4 of Annex B, the DA represents the interests of the two states to conduct PSCs with the contractors (Treaty between the Democratic Republic of Timor-Leste and Australia establishing their maritime boundaries in the Timor Sea, 2018). In the 2002 TST for managing hydrocarbon resources in JPDA the same system was applied. Based on the provisions contained in the PMC, contractors have the rights and responsibilities to carry out exploitation activities within the contract area. The contractors are not granted the rights of ownership to oil fields, instead they obtain shares of their services from the DA in accordance with the terms of the contract. In addition, due to the presence of several contractors operating in the JPDA, the companies will appoint their representatives, known as operators, to perform as liaisons between the contractors and the DA (Interim Petroleum Mining Code, 2003).

The companies engaged in exploration and exploitation also play a role in discovery of hydrocarbon resources surrounding the contract areas. A concrete illustration is the Sunrise and Troubadour fields discovered in 1974 during an exploration in the Bonaparte Basin which is located on the north west coast of Australia (Verdict Media Limited, 2019). This issue has become one of the clauses stipulated in the agreement. For instance, in article 15 of the PMC establishing procedures for the discovery of new hydrocarbon resources, the contractors are requested to immediately notify the DA in writing (Interim Petroleum Mining Code, 2003).

4.5. State participation in oil and gas production

The presence of OPEC has changed industrialization of oil and gas from previously controlled by the private sector into the hands of state. A phenomenon that occurred in the late 19th century saw several states in the Middle East, North Africa and South

America begin to participate in joint ventures with private investors to carry out exploration and exploitation activities, which were then fully controlled by state companies. The aim was to stabilize the control of the private sector in supply and demand, which obviously affected oil prices in the market as well (Mitchell, Marcel, & Mitchell, 2012).

In the present day, there are several aims of state participation in the exploration and exploitation of hydrocarbon resources. First, the state establishes its corporations in order to provide chances of capacity building of states' companies in the development of hydrocarbon resources. Thus, it will reduce the states' reliance on international companies. Nevertheless, the participation of international companies is still expected to support states in achieving their objectives. Second, state monitoring of private investors in carrying out exploration and exploitation activities will increase. Third, direct fiscal benefits will be obtained by avoiding private investors in controlling financial management (Natural Resource Governance Institute, 2015).

A number of Timor-Leste's national legislations provide the legal basis for state participation in exploration and exploitation of hydrocarbon resources. Based on the provisions of article 139 of the National Constitution (The Constituent Assembly, 2002), the Government promulgated Law number 13/2005 on Petroleum Activities. In the preamble, this law emphasizes that petroleum is a promising component of the national economy in generating income for the state. Therefore, the establishment of this law aims to provide a legal framework for petroleum corporations to develop petroleum resources that bring benefits to the state and its people. Article 22 of this law provides a legal basis for the establishment of state corporations to participate in activities of hydrocarbon resources development within the territory of Timor-Leste with a system of equity interest of up to 20% (Law No. 13/2005 on Petroleum Activities, 2005).

With regard to the regulations mentioned above, in 2011 the Government issued Decree Law number 31/2011 in order to form a state company that is Timor Gap-Timor Gas and Petroleum E.P. abbreviated as Timor Gap, E.P. under supervision of the Secretariat of State for Natural Resources. This regulation authorizes the state company to carry out economic activities in the petroleum sector to explore and exploit which includes upstream and downstream processes. In accordance with the

provisions of article 4, the state company is authorized to carry out its activities onshore and offshore, both within and outside the state's territory. Furthermore, this article also covers the scope of activities in the JPDA that are not listed in the provisions of the Law on Petroleum activities. In carrying out its activities, Timor Gap E.P. can engage in consortia or joint ventures with national and international companies (Decree Law No. 31/2011 Timor Gap-Timor Gas and Petroleum, 2011).

One year following the signature of the Maritime Boundary Treaty between Timor-Leste and Australia, the Government of Timor-Leste decided to buy shares of two foreign companies that would carry out exploitation activities in the Greater Sunrise. Accordingly, Timor-Leste bought shares of Conoco Phillips (30%) and Shell Australia (26.56%). The shares will be relocated to Timor Gap E.P. in order to participate in Sunrise Joint Ventures to develop the Greater Sunrise fields. Therefore, the total shares owned by Timor-Leste in the Joint Ventures is 56.56%, together with Woodside, 33.44%, and Osaka Gas, 10%. The purchase of the shares by the government is a concrete measure to support its development plan which aims to bring a pipeline to Timor-Leste (Presidency of the Council of Ministers, 2019).

Chapter Five

Conclusion and Recommendations

5.1. Conclusion

The polemic of the sovereignty over the Sunrise and Troubadour fields, collectively known as the Greater Sunrise fields, discovered by Woodside in 1974, began as Indonesia and Australia tried to establish maritime boundaries in the Timor Sea. The two states failed to reach an agreement on a maritime boundary in the Timor Sea due to the differences in contentions in which Indonesia required the determination of boundary lines using the median line, while Australia used the natural prolongation concept according to the 1958 Convention on the Continental Shelf. In order to accomplish their interests to explore and exploit hydrocarbon resources in the Timor Sea, the two states finally signed an agreement and created the JPDA to develop the Kitan and Bayu Undan fields. On the other hand, Australia and Indonesia had not negotiated the development of the Greater Sunrise field.

Since Timor-Leste liberated itself from Indonesia in September 1999, the dispute over the Greater Sunrise field still continues. In 2002, Timor-Leste and Australia signed the Timor Sea Treaty, which merely renewed the cooperation in the JPDA that had been previously agreed by Indonesia and Australia. Regarding the Greater Sunrise fields, in 2003 Timor-Leste and Australia signed an agreement to unitize the Greater Sunrise fields, which stretch through the eastern boundary of the JPDA. Subsequently in 2006, by signing the CMATS Treaty, the contents of the agreement extended the duration of the JPDA and Sunrise IUA to 50 years and also delayed negotiations on the determination of Timor Sea boundaries.

Timor-Leste discovered irregularities in the CMATS Treaty whereby, Australia had installed a recording device in the office of the Prime Minister of Timor-Leste, and urged Australia to start discussing maritime boundaries in the Timor Sea. Thus, in

2016, Timor-Leste initiated compulsory conciliation proceedings against Australia at PCA. In 2017, Timor-Leste unilaterally terminated the CMATS Treaty.

Another new history for both states happened in March 2018, in which both states concluded the final process of compulsory conciliation by signing a treaty on delimitation of maritime boundaries. Accordingly, a permanent maritime boundary in the Timor Sea is concluded. In addition, the treaty also establishes a special regime for the development of the Greater Sunrise fields with the distribution of revenue by 70:30 or 80:20 in favor of Timor-Leste. The difference in percentages depends on the development of the pipeline in Timor-Leste or in Australia.

The GSSR was established simultaneously with the treaty of permanent maritime boundaries in the Timor Sea. Therefore, the GSSR is a joint development agreement based on the consensus of the two states in recognizing their sovereign rights over hydrocarbon resources that lie in the Timor Sea. For the development of GSSR Timor-Leste and Australia have agreed to employ the Joint Authority model with two levels of authority, namely the Governance Board and the Designated Authority. The Governance Board is the representative authorities of both states whose function is to oversee the development of GSSR, whereas the Designated Authority is the operating representative of the two states assigned to Timor-Leste statutory authority. In addition, a dispute resolution committee is formed to resolve disputes relating to the development of GSSR.

The 2018 Treaty on maritime boundaries between Timor-Leste and Australia terminated the disputes on Timor Gap and also provides a clear definition of rights over the hydrocarbon resources in the Timor Sea. Regarding the future development of the pipeline of GSSR, it should be brought to Timor-Leste since the Government is developing production facilities by building an LNG plant and refinery on the south coast of Timor-Leste.

5.2. Recommendation

Annex B of GSSR has provided a clear legal framework for regulating JD of the Greater Sunrise fields. Nevertheless, there are several recommendations delivered

to the Government of Timor-Leste, specifically to the DA in exercising its function in the GSSR:

- It is necessary to amend the Decree Law no. 1/2016, the first amendment to Decree Law no. 20/2008 of NPA in order to legalize the appointment of the NPA as the DA in the GSSR.
- Ratify international conventions related to the protection of the marine environment from seabed activities, such as MARPOL and the London Convention 1972 so that exploitation activities reflect the standards in accordance with those international conventions.
- Conduct research and assessments of the marine environment within and surrounding the GSSR area in order to improve the balance of the activities and their impact on the environment.
- Formulate guidelines regarding good oil field practice for the development of GSSR with the purpose of standardizing the proposed development plan of contractors.

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