No matter how important local and national knowledge is within a specific spatial context, unless it is conveyed in English it has little chance to enter the global marketplace and be reproduced and recirculated. Somewhat ironically, given the desire to give voice to local and Indigenous perspectives, unless that voice can be spoken in English it is likely not to be heard.

(Hall, 2013, p. 608)
ABSTRACT

This doctoral study examines the complexities of integrating Indigenous knowledge and practices into sustainable marine ecotourism development, with a focus on the case study of Misool, Raja Ampat, in West Papua Province, Indonesia. The research addresses the knowledge gaps on integrating Indigenous knowledge into marine ecotourism initiatives. Indigenous knowledge is often neglected as a key source of information, undervalued from the perspective of Western scientific knowledge, even though utilising Indigenous knowledge helps to increase the sustainability of development efforts and contributes to the empowerment of local communities. Literature on marine ecotourism shows an almost total absence of studies that draw from Indigenous knowledge, yet, local community participation is underlined as one of the most important factors in sustainable marine ecotourism development. This thesis thus aims to contribute new insights on how Indigenous knowledge can be optimally integrated or applied in marine ecotourism development.

Misool is one of the islands in Raja Ampat which attracts scuba divers and marine tourists from around the world, due to its abundance marine life. As tourism development in Misool is still in its early stages, it is an excellent location to explore processes of marine ecotourism development and the integration of Indigenous values. This study is qualitative, informed by an awareness of research approaches to Indigenous issues. The method applied was semi structured in-depth interviews, which complements Indigenous methodology approaches. The fieldwork was conducted in five tourism villages in Misool with forty-seven participants, consisting of: Indigenous people who worked in tourism and Misool’s Marine Protected Area, marine ecotourism operators, heads of villages, traditional leaders, government officials, and NGOs. Both field notes and transcriptions were analysed using narrative analysis with a thematic approach to explore participants’ viewpoints around the issues.

This study has identified nine key themes of Indigenous knowledge and practices the local communities in Misool hold, which are: 1) marine sasi (traditional marine resource management), 2) petuanan adat (customary ownership right of land
and/or sea area), 3) *baca alam* (reading the signs of nature), 4) finding and calling the animals, 5) *pamali ikan* (fish taboo), 6) respecting sacred sites, 7) weather shamanism, 8) traditional way of sailing, and 9) traditional ways of building. It was also found that the local Indigenous communities, marine ecotourism operators, NGOs, and some of the local government institutions in Misool have acknowledged and incorporated some aspects of *Misoolese* Indigenous knowledge and practices in existing marine ecotourism development. The local Indigenous communities and marine ecotourism operators have been incorporating *Misoolese* Indigenous knowledge and practices in scuba diving and other marine ecotourism activities, as well as into the establishment of supporting facilities. The research identified that NGOs and a local government institution have been using marine *sasi* and *petuanan adat* to support marine conservation and development programmes, which involve the local communities. Overall, the findings of this study contribute to and also make practical recommendations for understanding the integration of Indigenous knowledge and practices into marine ecotourism development.
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¹ This working paper has been invited to be submitted as a full paper to a special issue of the Journal of Tourism Planning and Development
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>CI</td>
<td>Conservation International</td>
</tr>
<tr>
<td>CRITC-COREMAP</td>
<td>Coral Reef Information and Training Center – Coral Reef Rehabilitation and Management Program Raja Ampat</td>
</tr>
<tr>
<td>DTRAD</td>
<td>Department of Tourism of the Raja Ampat District</td>
</tr>
<tr>
<td>MPA(s)</td>
<td>Marine Protected Area(s)</td>
</tr>
<tr>
<td>MTRI</td>
<td>Ministry of Tourism of the Republic of Indonesia</td>
</tr>
<tr>
<td>NGO(s)</td>
<td>Non-Governmental Organization(s)</td>
</tr>
<tr>
<td>NOAA</td>
<td>National Oceanic and Atmospheric Administration</td>
</tr>
<tr>
<td>NTZ</td>
<td>No-Take-Zone</td>
</tr>
<tr>
<td>NZD</td>
<td>New Zealand Dollar</td>
</tr>
<tr>
<td>OPWALL</td>
<td>Operation Wallacea</td>
</tr>
<tr>
<td>PADI</td>
<td>Professional Association of Diving Instructors</td>
</tr>
<tr>
<td>SBRAD</td>
<td>Statistics Bureau of Raja Ampat District</td>
</tr>
<tr>
<td>SCUBA</td>
<td>Self-Contained Underwater Breathing Apparatus</td>
</tr>
<tr>
<td>SDGs</td>
<td>Sustainable Development Goals</td>
</tr>
<tr>
<td>TEK</td>
<td>Traditional Ecological Knowledge</td>
</tr>
<tr>
<td>TNC</td>
<td>The Nature Conservancy</td>
</tr>
<tr>
<td>UNEP</td>
<td>United Nations Environment Programme</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
</tr>
<tr>
<td>UNWTO</td>
<td>World Tourism Organization</td>
</tr>
<tr>
<td>USA</td>
<td>United States of America</td>
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<tr>
<td>WHC</td>
<td>World Heritage Centre</td>
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<tr>
<td>WWF</td>
<td>World Wildlife Fund</td>
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GLOSSARY OF MISOLESE–INDONESIAN

Area makan bersama a ‘shared resource area’ which is an area of land and/or sea where more than one clan/village can use the area for fishing or planting crops

Baca alam reading the signs of nature

Bapak mister (Mr.)

Bintang tujuh the seven-star

Fenkanan a place where turtles lay eggs

Gelar senat an Indigenous practice where the traditional leaders, religious leaders, and village leaders get together to discuss something concerning their village

Goyang tempurung shaking the coconut shells

Honai Papuan traditional house

Hukum adat customary law

Jojau law maker

Kafopop old name for Usaha Jaya village

Kapitan laut sea captain

Matbat People of the Mountain

Matlou People of the Sea

Molo an Indigenous practice of free diving using goggles that are made from wood and glass to collect sea produce, normally during sasi laut opening

Musyawarah negotiation for consensus

Pamali ikan fish taboo

Pendatang immigrants

Petuanan adat customary ownership right of land and/or sea area

Sangaji rule maker
**Sasi laut**

traditional marine resource management where the local community closes a certain area of the sea, according to a decision made by traditional leaders and religious leaders through a meeting, for certain kinds of fishery over a period of time until the area is opened again.

**Semang**

traditional *Misoolese* outrigger boat

**Sirih-pinang**

betel nut and areca nut

**Solon kamum**

an Indigenous practice of sitting in a small house as a hiding place, which used to be used for bird hunting

**Suku**

Indigenous ethnic group
CHAPTER 1
INTRODUCTION

This introduction chapter presents the context which underpins the research topic in integrating Indigenous knowledge and practices into marine ecotourism development. This chapter also provides the research problem, objective, and questions, an introduction to the case study area, along with previous studies that have been conducted there. Following this, definitions of the key term used throughout this thesis are explained. The chapter concludes with an overview of the thesis structure.

1.1. Research Context

The empowerment of the local community is a crucial subject for successful sustainable tourism management (Saufi, O’Brien, & Wilkins, 2014). When tourism is developed in areas where it utilises the natural and cultural resources which are also the sources of livelihood for the local community, local community’s participation in tourism becomes important (Garrod, 2003). The local community should also be involved in shaping the development of tourism in its area to ensure the sustainability of tourism development for a long-term future. During the 2017 International Year of Sustainable Tourism for Development (World Tourism Organization [UNWTO], 2017), UNWTO proclaimed local communities’ empowerment as one of the five key areas in sustainable tourism development. The role of tourism in promoting cultural values, diversity, and heritage may lead to local community’s empowerment and nurture pride within them (UNWTO, 2016b).

Taking ownership of decisions regarding the use of natural and cultural resources for tourism development is of paramount importance in places where Indigenous people reside (Towner & Milne, 2017). The environmental guardianship and traditional reliance of many Indigenous communities on natural resources are valuable assets for ecotourism development (Zeppel, 2007). The United Nations Convention on Biological Diversity in 1992 article 8(j) requires governments to:
“respect, preserve and maintain knowledge and practices of indigenous communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge” (United Nations, 1992, p. 6) [emphasis added]. The use of Indigenous environmental knowledge in tourism is important for the sustainable use of natural resources and the well-being of Indigenous communities (Esfehani & Albrecht, 2016). The political recognition of Indigenous peoples was strengthened by the first ever World Conference on Indigenous Peoples held in New York on 22 September 2014. During the opening, the United Nations’ Secretary-General, Ban Ki-moon, declared “how much the world can learn from Indigenous peoples”. His statement indicated that Indigenous peoples and their knowledge continue to gain political acknowledgement; they should be highly valued and be positioned within the central human rights and global development discourses (Ki-moon, 2014).

Ecotourism focuses on the conservation of natural and cultural resources by integrating an educational element and the improvement of local people’s well-being (Honey, 2008; S. Jones, 2005; Orams & Carr, 2008). Therefore, it offers promising prospects for economic growth, regional development, employment opportunities, and community empowerment for peripheral areas and Indigenous communities (Hall & Boyd, Butler & Hinch, as cited in Higham, 2007). Indigenous ecotourism is built on Indigenous knowledge systems and values that stimulate the continuity of customary practices and livelihoods (Zeppel, 2007). The recognition of Indigenous knowledge strengthens local communities’ self-esteem and sense of pride in their heritage and identity (Smith & Richards, 2013). The use of Indigenous knowledge systems and values in Indigenous ecotourism development is likely to generate distinctive and creative approaches favouring Indigenous people (Carr, Ruhanen, & Whitford, 2016). This study focuses on integrating Indigenous knowledge and practices in the process of marine ecotourism development, which is expected to be one of the ways to empower local communities.

In addition to economic, geographic, and political backgrounds as central foundations of development, cultural background has also been perceived as another fundamental factor in tourism development (Nuryanti, 2016). It is
important to maintain equilibrium of local people’s economic benefits and cultural ethics (Salazar, 2012), as well as of cultural promotion and preservation (UNWTO, 2018). Cultural features of local people also influence the forms of their participation in tourism development (Timothy, 1999). Adapting Indigenous culture of the local people addresses general problems with local approaches (Nuryanti, 2016) in “culturally sensitive ways” (Salazar, 2012, p. 19), while preserving the Indigenous culture at the same time (Lynch, Duinker, Sheehan, & Chute, 2010). Since Indigenous knowledge and practices play an important role in shaping ethnic identity (Vos, 2006), the utilisation of Indigenous knowledge and practices in marine ecotourism development may emphasise uniqueness related to tangible and intangible values symbolised by place, along with its specific geographic location.

1.1.1. Indigenous Knowledge

Indigenous knowledge can be broadly defined as “the knowledge that an Indigenous community accumulates over generations of living in a particular environment. This definition encompasses all forms of knowledge – technologies, know-how skills, practices and beliefs – that enable the community to achieve stable livelihoods in their environment” (United Nations Environment Programme [UNEP], 2007, para. 1). Besides ‘Indigenous knowledge’, there are other terms used interchangeably in the context of Indigenous communities, such as: “local knowledge”, “folk knowledge”, and “traditional knowledge” (Mistry, 2009, p. 371).

In understanding Indigenous knowledge, it is of paramount importance to also understand Indigenous worldviews, because the worldview of Indigenous peoples is embodied in their Indigenous knowledge (Sillitoe, Dixon & Barr, 2005; Williams, 2010). Although the term Indigenous is reflective of Indigenous peoples, it is important to highlight that Indigenous groups are not homogenous and each Indigenous group has its own worldview. Therefore, Indigenous knowledge cannot be homogenised because of the unique context and history of each Indigenous group and even sub-groups within Indigenous groups. These unique contexts and histories represent the complexity of Indigenous knowledge diversity and Indigenous understandings of the world (Tuhiwai-Smith, 2012).
When tourism is developed involving Indigenous peoples in tourism destinations, it is important to find development tools and techniques in ways that are familiar for Indigenous peoples (Mistry et al., 2016; Semali & Kincheloe, 1999; Tuhiwai-Smith, 2012). As Indigenous knowledge is often the only asset the local people control, development based on Indigenous knowledge can be particularly effective for Indigenous people (Gorjestani, 2000; Nuryanti, 2016; Tuhiwai-Smith, 2012). This argument underpins this research in using Indigenous knowledge in tourism development and the importance of doing so. The integration of Indigenous knowledge “helps to increase the sustainability of development efforts because the Indigenous knowledge integration process provides for mutual learning and adaptation, which in turn contributes to the empowerment of local communities” (Gorjestani, 2000, p. 2).

Over many generations globally, many Indigenous communities in coastal areas have been inheriting Indigenous knowledge and practices regarding the management of their marine environment and wildlife (Durán, Farizo, & Vázquez, 2015; Semali & Kincheloe, 1999). The importance of the environment to Indigenous communities in diverse settings has made them more aware of its characteristics. For example, the practice of rāhui2 in Polynesia and other parts of the Pacific, including Aotearoa/New Zealand, was created by Indigenous communities to achieve sustainable living goals (Hendry, 2014). This inspires them to create more accurate knowledge regarding important characteristics in their environments. Hence, such precise and thorough knowledge is attained after going through a series of processes from people who have developed their understanding of special characteristics in their surroundings (Hendry, 2014). This knowledge has been identified as a conservation tool that supports tourism development in natural protected areas (Esfehani & Albrecht, 2016).

When the modern human-environment relationship fails to reduce environmental degradation, people start to find alternative solutions by incorporating Indigenous knowledge (Berkes, 2012; Hendry, 2014). The use of Indigenous knowledge can help

---

2 Rāhui is a Māori word which means to put in place a temporary ritual prohibition, closed season, ban, reserve. Traditionally a rāhui was placed on an area, resource or stretch of water as a conservation measure or as a means of social and political control (Rāhui, n.d.).
promote biodiversity conservation by characterising resource uses that are appropriate for the particular local landscape (Berkes, 2012). In fact, incorporating Indigenous knowledge into conservation and development activities is believed to be an important mechanism for ensuring the most efficient and productive use of natural resources in the short term, without jeopardizing the long-term capacity of nature to continue producing these resources (World Wildlife Fund [WWF] International, 2008). Yet, Indigenous knowledge is often neglected as a key source of policy-relevant information because it is often undervalued from a perspective of Western scientific knowledge (Semali & Kincheloe, 1999; Tuhiwai-Smith, 2012).

As Indigenous knowledge is based on Indigenous worldviews, Indigenous knowledge may not be fully understood by Western scholars using Western worldviews (Williams, 2010). Some Western scholars may overlook Indigenous contexts because Indigenous worldviews are often perceived to be lacking in logic and consistent perspectives (Tuhiwai-Smith, 2012; Williams, 2010). Consequently, Indigenous knowledge is represented as a romantic spiritual idea because they interpret Indigenous knowledge with Western perspectives and concepts (Tuhiwai-Smith, 2012). Just because Indigenous peoples do not use Western terms, such as conservation, does not mean Indigenous peoples do not practise them. For example, rāhui mentioned earlier (see page 4) is an Indigenous way of working with the environment, which is similar to some Western concepts of conservation.

There has been a growing body of Indigenous scholarship by Indigenous scholars (such as Amoamo, Ruckstuhl, & Ruwhiu, 2018; Chilisa, 2012; Kikiloi et al., 2017; Kovach, 2009, 2010; Tuhiwai-Smith, 2012; S. Wilson, 2001, 2008) that have brought together Indigenous worldviews, traditions, and beliefs into the research process. This is critically important to counter the Western lens often used in scholarship regarding Indigenous peoples and knowledge. This PhD study strived to look at Indigenous knowledge from both perspectives, using a methodology that was informed by the Indigenous paradigm. Learning about and making use of Indigenous knowledge helps confirm the value and importance of Indigenous knowledge and facilitates its integration into resource management policies and practices (Berkes, 2012; WWF International, 2008). First, it must be recalled that Indigenous knowledge has the greatest value to the Indigenous communities themselves. Many
of the Indigenous communities rely on Indigenous knowledge for their very survival, particularly poor rural communities in developing countries. To encourage further development and the use of Indigenous knowledge, promoting local exchange and adaptation of Indigenous knowledge can play an important role (Twarog, 2004). Indigenous knowledge and practices regarding marine environment management are based on the relationship between Indigenous coastal communities and their surrounding seascape (Durán et al., 2015; Semali & Kincheloe, 1999; Tuhiwai-Smith, 2012). This knowledge could be valuable in developing marine ecotourism, especially in Indigenous coastal areas.

1.1.2. Marine Ecotourism

While ecotourism is based on enabling people to experience the natural environment in a way that embodies the principles of sustainable development, marine ecotourism is “ecotourism that takes place in saline and tidal coastal and marine settings” (C. Cater & Cater, 2007, p. 8). Examples of activities in marine ecotourism include: “watching whales, dolphins, other marine mammals and fish, birdwatching, scuba diving, beach walking, rock pooling, snorkelling, walking on coastal footpaths and sightseeing trips by surface boat, submarine and aircraft” (J. C. Wilson & Garrod, 2003, pp. 2-3). Other possible activities are sea angling and land-based activities such as viewing coastal seascapes, visiting sea life centres, and shore angling (J. C. Wilson & Garrod, 2003).

Several authors have indicated that marine ecotourism development is at an analytical stage, both as a concept and as a practical orientation (Garrod & Wilson, 2003; Gonzalez-Bernat & Clifton, 2017). Being a concept that proclaims its explicit endorsement towards sustainability, marine ecotourism aspires to accomplish better results than conventional tourism in terms of maintaining a sustainable relationship between tourism, the environment, the host community, and the local economy (Garrod & Wilson, 2003). Marine ecotourism also offers “an educational experience” (Orams & Carr, 2008, p. 288) of the marine environment, differentiating it from marine tourism which usually lacks an educational component and has a greater focus on leisure or recreation. The development of marine ecotourism has to be able to maintain an optimum balance of both its positive and negative impacts, for it to be genuinely sustainable. The activities included in marine ecotourism have
to have tangible components in terms of the sustainability aspect, compared to those that are not.

The local community’s participation has always been highlighted as an important principle of marine ecotourism, preferably through significant contribution in every aspect of its development and at each stage of decision making in planning, managing, and monitoring (C. Cater & Cater, 2007; Garrod & Wilson, 2003; Rhormens, Pedrini, & Ghilardi-Lopes, 2017). For marine ecotourism to become effective, local involvement needs to be the main focus, hence the shifting of power to the local community level is needed. This will increase the sense of belonging of the local community, which is necessary to make marine ecotourism practices sustainable (Garrod & Wilson, 2003). In the same vein, this research aims to provide approaches for sustainable marine ecotourism development by utilising Indigenous knowledge and practices of the Indigenous community in a marine ecotourism destination.

The distinctive heritage and cultural features of local Indigenous communities in coastal areas are indeed becoming more promising components in marine ecotourism development. For example, the spiritual relationship between the Māori people with the whales at Kaikoura has been a part of the development and the ownership of the whale-watching operations, ‘Kaikoura Whalewatch’, in Kaikoura, Aotearoa/New Zealand (Curtin, 2003; Orams, 2002). According to J. C. Wilson and Garrod (2003), the natural environment aspects are still more noticeable to people who are involved in marine ecotourism research and development, and they often neglect the cultural aspects of marine ecotourism. Over time, studies on marine ecotourism have grown to look more closely at local communities’ involvement and development in marine ecotourism destinations (Curtin, 2003; Hengky, 2018; Hermansyah & Sunaryo, 2016; Mustika, Birtles, Welters, & Marsh, 2012; Orams, 2002; Rhormens et al., 2017; Townsend, 2008/2011). Nevertheless, there is still a dearth of work that focuses particularly on the cultural aspects of the local community in marine ecotourism destinations. This having been said, it is crucial to start underpinning marine ecotourism development with the cultural characteristics of the local communities who inhabit coastal areas because cultural sustainability is indeed as important as natural sustainability (C. Cater & Cater, 2007; Palliser, 2015;
Utami & Mardiana, 2018; J. C. Wilson & Garrod, 2003). Thus, this research is going to explore the integration of local cultural aspects, specifically Indigenous knowledge and practices, into marine ecotourism development.

The marine culture plays an important part in the local Indigenous community’s life in coastal areas. In many peripheral coastal areas, local communities inherited maritime cultural heritage that can be a potential treasure to be utilised in marine ecotourism development (C. Cater & Cater, 2007; Durán et al., 2015; J. C. Wilson & Garrod, 2003). One of which is how they manage their “aquatic resources” (Semali & Kincheloe, 1999, p. 6). Over many generations, the local communities in coastal areas have been inheriting Indigenous knowledge and practices regarding the management of their marine environment and wildlife. These Indigenous knowledge and practices are precious and can be an essential element for the sustainability of marine ecotourism development (Twarog, 2004).

The importance of Indigenous knowledge in marine ecotourism development was first suggested by Garrod and Wilson (2003) and C. Cater and Cater (2007). Garrod and Wilson (2003, p. 253) argue that:

Local people often have local knowledge about the environments in which ecotourism takes place ... This knowledge can be of vital importance if those involved in marine ecotourism are to establish and maintain a sustainable relationship with the natural environment in which [sic] takes place.

This view is also supported by C. Cater and Cater who argue that “the incorporation of Indigenous knowledge in marine ecotourism is vitally important” (2007, p. 126) [emphasis added], as it represents a comprehensive perspective over natural resource management, which can become a potential asset for marine ecotourism development.

Based on this research context, the focus area of this research is depicted in the figure below. The components of Indigenous knowledge were adapted from UNEP’s definition of Indigenous knowledge (see previous section). The components of marine ecotourism were based on the work of J. C. Wilson and Garrod on marine
ecotourism activities and products (2003, pp.2-4), which have been adapted for this research in regard to the potential research gap.

Figure 1.1. Focus of Research (Source: adapted from UNEP, 2007, para. 1; J. C. Wilson & Garrod, 2003, pp.2-4)

As marine ecotourism development cannot be separated from the development of its facilities, supporting facilities has been added as one of the components of marine ecotourism. Supporting marine policy has also been added in the focus area of research, as it has the potential to incorporate Indigenous knowledge which supports marine ecotourism development.

1.2. Research Problem, Objective, and Questions

The concept of “living sustainably with the earth we occupy” (Hendry, 2014, p.5) has been jeopardised by irresponsible human behaviour. Seventy percent of the earth’s surface consist of oceans, but human beings are threatening the oceans by using coastal and marine areas as their dumping ground (Demirdjian & Mokatsian, 2017; Sakinah, Septiningtyas, & Pahlewi, 2018). As there is no human-nature binary in the relationship between Indigenous peoples and nature, Indigenous knowledge offers an alternative of sustainable human-environment relationships, thus people start to look back on their ancestors’ wisdoms and use the knowledge for environmental
safeguards (Berkes, 2012; Hendry, 2014). For example: the incorporation of Indigenous Hawaiian values in the design and management of a large-scale marine protected area of Northwestern Hawaiian Islands, to create more effective management of the protected area (Kikiloi et al., 2017).

This research intends to examine the complexities of integrating Indigenous knowledge and practices into sustainable marine ecotourism development, with a focus on the case study of marine ecotourism in Misool, Raja Ampat, Indonesia. As tourism development in Misool is still in its early stages, this is a convenient location to explore processes of marine ecotourism development and the integration of Indigenous values. The approaches are expected to be effective in enabling active participation from the local communities in marine ecotourism development, which in turn has the potential to conserve the biodiversity and safeguard the cultural landscapes and traditions.

Based on the research objectives, the research questions are determined as follows:

1. What kind of Indigenous knowledge and practices does the local community in Misool, Raja Ampat hold?
2. Have the local community, marine ecotourism operators, and other tourism stakeholders in Misool, Raja Ampat acknowledged and incorporated Indigenous knowledge and practices in the existing marine ecotourism development? If yes, why and how; if not, why not?

The significance of this research is in contributing to filling the research gap on the role of Indigenous knowledge in marine ecotourism. Although some scholars have studied the incorporation of Indigenous knowledge into tourism development (e.g. C. F. Butler & Menzies, 2007; Pásková & Dowling, 2014; Thompson & Ruwhiu, 2014), literature on marine ecotourism and scuba diving tourism (e.g. C. Cater & Cater, 2007; Garrod & Gössling, 2008/2011; Garrod & Wilson, 2003; Higham & Lück, 2007; Musa & Dimmock, 2013) shows an almost total absence of studies taking the perspective of Indigenous knowledge into account, even though the importance of it has been stated by Garrod and Wilson (2003) and C. Cater and Cater (2007). Albeit local community participation is underlined as one of the most important factors in marine ecotourism development (E. Cater, 2003; Garrod & Wilson, 2003; Hoctor,
2003), the natural environment aspects are still more likely to be studied by marine ecotourism researchers and emphasised by the industry (J. C. Wilson & Garrod, 2003). Only recently has the framework of the scuba diving tourism system included the host community as a part of it (Dimmock & Musa, 2015 – see section 3.3.). This research thus contributes new insights as to how Indigenous knowledge from a local community in a marine ecotourism destination can optimally be used and applied in the implementation of marine ecotourism development.

1.3. Introduction to Case Study Area

1.3.1. Indonesia

Indonesia consists of 17,508 islands (Ministry of Tourism of the Republic of Indonesia [MTRI], 2015), making it the biggest archipelago country in the world. With around 258.71 million population (Statistics Indonesia, 2017), Indonesia is the fourth biggest country in the world after China, India and USA. With over 1,000 ethnic/sub-ethnic groups (Suryadinata, Arifin, & Ananta, 2003) spread in thirty-four provinces, from Sabang (the most western point of Indonesia) to Merauke (the most eastern point of Indonesia), Indonesia offers cultural and natural diversities that attract millions of international visitors as shown in the table below. Albeit that tourism development in Indonesia has been volatile over many decades related to political and economic issues, Indonesia’s tourism industry contributed almost NZD 15.5 billion in 2014 to the country’s national revenues, which ranks number four after oil and gas, coal, and palm oil (MTRI, 2015). The Minister of Tourism is targeting the revenue from tourism sector will increase to NZD 29 billion in 2019 (Firdaus, 2015).

Table 1.1. International Visitor Arrivals to Indonesia 2011 – 2017

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of International Visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>7,649,731</td>
</tr>
<tr>
<td>2012</td>
<td>8,044,462</td>
</tr>
<tr>
<td>2013</td>
<td>8,802,129</td>
</tr>
<tr>
<td>2014</td>
<td>9,435,411</td>
</tr>
<tr>
<td>2015</td>
<td>10,230,775</td>
</tr>
<tr>
<td>2016</td>
<td>11,519,275</td>
</tr>
<tr>
<td>2017</td>
<td>14,039,799</td>
</tr>
</tbody>
</table>

Being the biggest archipelago country in the world, Indonesia has about 3.1 million km² area of sea and is known as a country with the biggest marine biodiversity in the world (MTRI, 2015). The richness of marine resources has become a great asset for marine ecotourism development in Indonesia. For marketing purposes, the Indonesian Ministry of Tourism claimed that six of the ten best and most beautiful coral reef ecosystems in the world are located in Indonesia (MTRI, 2015). One of them is Raja Ampat. As shown in figure 1.2. below, Raja Ampat Islands are located on the westernmost point of Papua/New Guinea Island, a part of West Papua Province, Indonesia, and are situated between 0°45” to 2°15” longitude and 129°15” to 132°00” latitude (Statistics Bureau of Raja Ampat District [SBRAD], 2017a). Despite the significant political change in Papua Province and West Papua Province over recent decades, tourism still developed rapidly in the separate islands of Raja Ampat. The natural and cultural features of Raja Ampat make it an ideal case study area for this research. The next section presents general information on Raja Ampat and tourism development in Raja Ampat.

![Map of Indonesia](https://raw.githubusercontent.com/openstreetmap/contributors/master/indonesia.png)

*Figure 1.2. Map of Indonesia (Source: OpenStreetMap, used under CC BY-SA)*

### 1.3.2. Raja Ampat

Raja Ampat consists of about 610 islands, including several large, mountainous islands (the largest being Waigeo, Batanta, Salawati and Misool – see figure 1.3.) and approximately 1,500 small islets and atoll. The population is 47,301 and the total area is 67,379.60 km², of which only 11% is land (SBRAD, 2017a, 2018). The main source for livelihoods of the Raja Ampat people comes from the sea, for example fishing, producing salt fish, seaweed farming, or providing boat transportation.
between islands (Department of Tourism of the Raja Ampat District [DTRAD], 2016). Raja Ampat is currently being considered as a World Heritage site by United Nations Educational, Scientific and Cultural Organization [UNESCO] (it is on the tentative list) for its exceptional biodiversity, the quality of the reef, and the superb aesthetic value on both above water and underwater scenery (UNESCO-World Heritage Centre [WHC], n.d.-b). With the abundance of marine resources in Raja Ampat, marine ecotourism is becoming an important source of livelihood for the local people.

![Map of Raja Ampat Islands](https://i.imgur.com/7z5Q5Q5.png)

*Figure 1.3. Map of Raja Ampat Islands (Source: OpenStreetMap, used under CC BY-SA)*
1.3.2.1. The Establishment of Raja Ampat District

Based on the Law of the Republic of Indonesia Number 26 Year 2002\(^3\), Raja Ampat was established as its own district (State Secretariat of the Republic of Indonesia, 2002). Prior to this, it used to be a part of the Sorong District. However, the local government of Raja Ampat was not fully established until 2005. Being one of the outermost regions in Indonesia, geopolitically, Raja Ampat has an important role. It only takes about five to six hours by motor boat from Fani Island, which is located on the northernmost point of Raja Ampat, to Helen Reef, which is a part of the Republic of Palau. Thus, this resulted in one of the first issues that Raja Ampat had to face after it received its autonomy (Pujayanti & Prasetiawan, 2012). Raja Ampat waters are open and directly bordered by two provinces (Maluku and North Maluku), as well as one neighbouring country, the Republic of Palau. It has been known that Helen Reef in the Republic of Palau has become a place for illegal fishers from the Philippines, Thailand, Vietnam, as well as Indonesia and Palau itself. This issue was related to national defence as it was relatively easy for infiltrators and smugglers to enter Raja Ampat waters from Helen Reef (Pujayanti & Prasetiawan, 2012).

With 610 islands and around 1,500 islets and atolls, the development strategies for Raja Ampat differ from those for land regions. As an islands region, it is more challenging and costlier for the local government to develop the area, especially with severely limited facilities for infrastructure. These development issues led to Raja Ampat being categorised as one of the disadvantaged regions in Indonesia. Hence, in the first five years after its establishment, Raja Ampat District was focusing on the development of infrastructure, education, and health aspects. Even though the conditions of infrastructure, education, and health facilities are now much better compared to 2005, Raja Ampat District is still categorised as a disadvantaged region by the Indonesian government (Ministry of Justice and Human Rights of the Republic of Indonesia, 2015; Yunita, 2015). The government of Indonesia has set development programmes to accelerate development efforts in disadvantaged

\(^3\) Law of the Republic of Indonesia Number 26 Year 2002 is regarding the Establishment of Sarmi District, Keerom District, South Sorong District, Raja Ampat District, Bintang Mountains District, Yahukimo District, Tolikara District, Waropen District, Kaimana District, Boven Digoel District, Mappi District, Asmat District, Bintuni Bay District, and Wondama Bay District in Papua Province.
regions (Ministry of Village, Development of Disadvantaged Regions and Transmigration of the Republic of Indonesia, 2016). With the status of being in a tentative list of UNESCO World Heritage Site, tourism is seen as the most sustainable development tool for developing Raja Ampat.

1.3.2.2. Tourism Development in Raja Ampat

Located in the heart of the Coral Triangle or the Amazon of the Seas, Raja Ampat Islands have been acknowledged as having the highest tropical marine biodiversity on earth (Coral Reef Information and Training Center – Coral Reef Rehabilitation and Management Program [CRITC-COREMAP] Raja Ampat, 2016a; Gunawan, 2010; MTRI, 2015). For that reason, Raja Ampat has become internationally renowned over the years, and is simultaneously becoming one of the most revered scuba diving locations in the world. One of the triggers of this remarkable diversity is the range of habitats from mangrove, seagrass, and coral reefs in shallow water (including shore reefs, barrier reefs, patch, and atoll) to the deep gap in between the small islands. With the high level of biodiversity, some scientists (e.g. Erdmann, 2014; McKenna, Allen, & Suryadi, 2002) label Raja Ampat Islands as the heart of the World’s Coral Triangle. Unfortunately, Raja Ampat has been facing threats from human activities (Ambari, 2017; Department of Marine Affairs and Fisheries of the Raja Ampat District, 2012). Although the condition of coral reefs in Raja Ampat in general is still relatively good, destructive fishing practices are still found (Ambari, 2017). In addition, there is an increasing trend of overfishing. Thus, long-term marine management in Raja Ampat requires comprehensive information and spatial planning of the sea.

Before Raja Ampat became well-known to underwater recreationists, it already attracted several ocean adventurers from Europe since the 19th century. In 1860, a British researcher, Sir Alfred Wallace, stayed for three months in Waigeo to study birds and insects. However, Raja Ampat started to gain popularity after a number of world environmental conservation organizations conducted a marine rapid assessment in 2001 with astounding results. They found 537 coral reef species, which is 75% of all known corals, and 1,074 fish species (McKenna et al., 2002). Dr. Gerald Allen, a renowned ichthyologist, studied the area and broke his own personal record on a single dive by identifying 283 fish species – far higher than the average
Such research led Raja Ampat to being declared as the area within the coral triangle that has the highest marine biodiversity. Then, in 2009, Raja Ampat became a national marine protected area based on Virtue of Decree of the Ministry of Marine Affairs and Fisheries of the Republic of Indonesia No. KEP.64/MEN/2009 with the coverage area of approximately 60,000 ha (Ministry of Marine Affairs and Fisheries of the Republic of Indonesia, 2009).

Tourism was introduced to the islands of Raja Ampat during the 1990s when foreign dive operators started to offer custom dive excursions from Sorong to Raja Ampat, for adventurous divers (Steenbergen, 2013; Vaisutis, Bedford, Elliott, Ray, & Berkmoes, 2007). In 2016, Raja Ampat received 14,215 international tourists and 3,457 domestic tourists (Raja Ampat Marine Protected Areas Unit, 2017). Visitors come to Raja Ampat mainly for scuba diving, snorkelling, and sightseeing or island hopping. Marine ecotourism development in Raja Ampat can potentially save the marine environment as well as bring alternative income into the local community (B. Jones & Shimlock, 2014). Marine ecotourism development can make a difference, especially in a place like Raja Ampat where thousands of visitors come every year and local people are being hired as resorts’ staff, boat skippers, and even dive guides (B. Jones & Shimlock, 2014). Local people who are involved in the marine ecotourism industry are fully aware that tourists come to Raja Ampat for its pristine marine environment, and consequently, they need to preserve that marine environment. This awareness is shared with their relatives and families. As a result, Raja Ampat’s marine environment has improved in the last ten years, where there is now more fish compared to ten years ago (B. Jones & Shimlock, 2014). In order for the Raja Ampat communities to receive the real benefit in having tourism development in their area, the income from marine park fees are used not only for protecting the marine environment, but also for social welfares, such as bringing in teachers and nurses to the villages and providing better nutrition for nursing mother and children, which is shared equally to all villages (B. Jones & Shimlock, 2014).

Most tourists come to Raja Ampat through Sorong. Sorong is a coastal city and municipal in the western part of the West Papua Province. It is the main gateway to Raja Ampat Islands. Sorong is accessible by plane from many major cities in Indonesia, like Jakarta, Makassar and Ambon. Visitors can then take a boat from
Sorong to one of the islands in Raja Ampat. A public boat from Sorong to Waigeo Island takes approximately two and a half hours, and from Sorong to Misool Island takes approximately eight hours (Gunawan, 2010). However, visitors can now take a faster way to Waigeo as a new airport, Marinda, has already opened in Waisai, the capital city of Raja Ampat District, on Waigeo Island (Ministry of Tourism and Creative Economy of the Republic of Indonesia, 2012). It only takes half an hour to fly from Sorong to Waisai, and more commercial airlines are starting to provide more flights from Sorong to Waisai (Islamiah, 2017). With the establishment of the new airport and the status of having the highest marine biodiversity on earth (Gunawan, 2010), the scuba diving industry in Raja Ampat is predicted to develop very rapidly over the coming years. Thus, the management strategy of marine ecotourism development in Raja Ampat needs to be based on the principles of conservation and sustainable use of natural resources (Department of Marine Affairs and Fisheries of the Raja Ampat District, 2012).

Over the years, Raja Ampat’s Tourism Department has published several tourism masterplans and strategies, the latest being the Tourism Development Masterplan of Raja Ampat District 2014–2019 (DTRAD, 2014b). In that document, ecotourism is stated as a tourism development guideline for Raja Ampat. Local community empowerment is also recognised as one of the planning approaches in Raja Ampat’s sustainable tourism development. As the local people are the ones who know best about local sociocultural structure and conditions, they have to be included in the planning so that every tourism development activity reflects local sociocultural values. By increasing their sense of belonging to ensure strong commitment from the local community, this approach is expected to guarantee the suitability of a tourism development programme with the local community’s aspiration and the existing capacities. Consisting of small islands, the Raja Ampat region has a special character where its community is highly dependent on the natural resources for food and income. Therefore, the connection between the local community, and the marine and land resources is strong. As tourism also depends on the same natural resources, the local community participation in tourism is expected to increase community’s awareness about conserving their natural resources. Tourism Department strategies to increase the local community’s participation include: providing tourism
facilitators to increase the local community’s understanding of tourism, capacity building for the local community, creating local entrepreneurship in tourism, facilitating partnerships between tourism industries with community groups, and supporting community’s small–medium enterprises.

1.3.2.3. Marine Protected Areas in Raja Ampat

Since all tourism activities in Raja Ampat take place inside the marine protected areas, in 2007 the local government issued The Regulation of the Raja Ampat’s Head of District Number 63 Year 2007 stating that visitors who come to Raja Ampat must purchase The Raja Ampat Marine Park Entry Permit (Legal Affairs Division of Raja Ampat District Secretariat, 2007). The regulation was superseded in 2014 with the Regulation of the Raja Ampat’s Head of District Number 18 Year 2014 (Secretariat of the Raja Ampat District, 2014). Three provisions were revised: 1) the Raja Ampat Marine Park Entry Permit was renamed ‘the Tariff to Support Environmental Services in Raja Ampat’; 2) the entry fees were being doubled (from IDR 500,000 to IDR 1,000,000 for international tourists and from IDR 250,000 to IDR 500,000 for domestic tourists) in order to support the operational costs of Raja Ampat’s Marine Protected Areas (MPAs) and the community conservation and development programmes; 3) the collection of the funds that used to be the responsibility of the Tourism Department, became the responsibility of a new organization created to ensure the transparent distribution of funds named the BLUD UPTD Raja Ampat MPAs Unit, an autonomous technical management unit within the Department of Marine Affairs and Fisheries of the Raja Ampat District (Stay Raja Ampat, 2017). The Raja Ampat MPAs Unit was formed in 2011 by the issuance of the Regulation of the Raja Ampat’s Head of District Number 7 Year 2011. The idea was to form an independent technical management unit under the Department of Marine Affairs and Fisheries of the Raja Ampat District that can optimally manage all MPAs in Raja Ampat. This unit’s budget is funded from levying of environmental services tariffs.

As one of the tourism stakeholders in Raja Ampat, the local government has recognised the importance of protecting Raja Ampat’s marine environment to bring benefits for the local communities. In 2008, Raja Ampat District Government issued The Local Regulation of the Raja Ampat District Number 27 Year 2008 regarding the establishment of local MPAs in six areas in Raja Ampat District (Ayau-Asia Islands,
Kawe/Wayag-Sayang Islands, Dampier Strait, Mayalibit Bay, Kofiau-Boo Islands, South East Misool. These areas function as: i) areas to maintain reproduction function and fish stock by protecting fish spawning areas and big fish habitat; ii) an *environmentally friendly marine tourism area*; iii) socio-economic development tools for the local communities through sustainable marine resource use; iv) research and development areas that support MPA management; v) areas for other sustainable marine resource use; and vi) means for *conserving traditional cultural values* in sustainable marine resource use (Legal Affairs Division of Raja Ampat District Secretariat, 2008) [emphasis added]. These designated MPAs were completed with an additional national marine protected area in the southwest of Waigeo Island in 2009, based on Virtue of Decree of the Ministry of Marine Affairs and Fisheries of the Republic of Indonesia No. KEP.64/MEN/2009 (Legal Affairs Bureau of the Ministry of Marine Affairs and Fisheries of the Republic of Indonesia, 2009).

### 1.3.2.4. Scuba Diving Tourism in Raja Ampat

Having the highest marine biodiversity in the world (Gunawan, 2010; McKenna et al., 2002), scuba diving tourism is thriving as the main tourist attraction in Raja Ampat. However, until around the 2000s Raja Ampat was still relatively unknown (Gunawan, 2010). In the 2003 Lonely Planet Indonesia Travel Guide (Witton et al., 2003), the Raja Ampat Islands were not mentioned; only Misool Island was. Raja Ampat was only briefly mentioned in the 2007 edition under Sorong, in the section of sights and activities (Vaisutis et al., 2007). It was not until the 2010 edition that the Raja Ampat Islands were included with their own sub-chapter, where Lonely Planet described Raja Ampat as having “...some of the best diving in the world. Little known until the last few years, Raja Ampat’s sheer numbers and diversity of marine life, and its huge, largely pristine coral-reef systems, are a scuba dream come true – and fantastic for snorkellers too” (Berkmoes et al., 2013, p. 452). They also included information about popular dive sites, major dive resorts, homestays, and liveaboards[^4] options. As of 2018, there are eight major land-based dive operators in Raja Ampat.

[^4]: Liveaboard is a boat where scuba divers can stay on board for one or more nights to allow time to travel to more distant dive sites.
As Raja Ampat is becoming one of the most renowned scuba diving locations in the world, many scuba divers consider Raja Ampat as a ‘biological wonderland’ with spectacularly beautiful sceneries both above and under water (Erdmann, 2014). According to Erdmann, Raja Ampat’s marine environment is not only crucial for the scuba diving tourism, it is also critically important to the entire region in terms of being an incubator and is a very special place from the perspective of active evolution and marine biodiversity creation. Green turtles travel around the coral triangle area after they lay eggs on Raja Ampat’s beaches. After laying eggs in Raja Ampat, a large number of leatherback turtles travel all the way across the Pacific, to the coast of California to feed. No one knows exactly why this happens, which makes Raja Ampat a very special place (Erdmann, 2014). This unique phenomenon has the potential to be developed for a sea turtle viewing activity (Whaling, 2017), as an addition to scuba diving activity.

Because of its nature which consists of many little islands, some people believe that Raja Ampat is best explored by boat. There are approximately forty liveaboards in Raja Ampat, but there is not a good management system for controlling liquid waste disposal and fuel burning (Garrod, 2014), and some of them have not displayed efforts to protect the marine environment nor involve the local communities (B. Jones & Shimlock, 2014). One of the liveaboards has hired private marine park rangers to protect Raja Ampat waters because the local governments’ rangers seem to patrol the area only during the scuba diving season, October – April (B. Jones & Shimlock, 2014). After the scuba diving season is over, outside fishermen tend to come back for destructive fishing as local governments’ rangers are limited during this time (Ambari, 2017; Patterson, 2014).

According to Erdmann (2014), the biggest problem for the local communities in Raja Ampat was outside fishermen who were fishing using explosives. In the early 80s, cyanide fishing was started by fishers from outside Raja Ampat, and it became a more common practice by the mid-80s (Varkey, Ainsworth, Pitcher, Goram, & Sumaila, 2010). As a result, the local Indigenous communities were very concerned about their food security. Most of these communities did not have access to capital nor outboard engines, hence, they needed to be able to fish close to home. That ability was being greatly compromised by the fact that there were illegal fishing
practices by outside fishermen. Therefore, the Indigenous communities needed to control their resources, putting an end to those illegal fishing practices, in order to continue to feed their children and grandchildren. They wanted control over their resources (Erdmann, 2014). At the beginning of scuba diving tourism development in Raja Ampat, some Indigenous communities were apprehensive about their food security and their traditional rights, especially their sea tenure. They needed a guarantee that they would still be able to own their sea and make a living out of it (Erdmann, 2014). Thus, it is important for dive operators and accommodation owners to reassure Indigenous communities and demonstrate benefits from scuba diving tourism development in the area.

1.3.2.5. Indigenous Communities in Raja Ampat

There are twelve Indigenous communities (in Indonesian: suku (bangsa)) in Raja Ampat (CRITC-COREMAP, 2016b; DTRAD, 2016), depicted in table 1.2. Some of these Indigenous communities have lived in Raja Ampat longer (such as suku Batanta, suku Moi-Maya, and suku Matbat) and some migrated from surrounding islands. The Indigenous communities of Raja Ampat have a strong sense of kinship; some even think that they came from one lineage. Their lives depend on the natural resources. Some are nomadic, except for people who have had modern cultural influence, and they still have strong spiritual beliefs and customary practices (DTRAD, 2016). The characteristics of the Raja Ampat people, like other Papuans, are different than most other Indonesians because the eastern part of Indonesia inherited Melanesian ethnic and features (Erdmann, 2014). Melanesia (from Fiji to Papua) is one of the few places in the world where Indigenous communities have marine tenure, as well as land tenure. Not only do they own the land (which is common in societies around the world), but in this particular case of Melanesians, they also believe that their tenure extends into the water (Erdmann, 2014). Hence, individual families or clans own the rights to fishing resources.

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5 The definition of suku (bangsa) in the Great Dictionary of the Indonesian Language is: a social entity that can be differentiated from other social entities based on the awareness of cultural difference identities, especially the language (Ministry of National Education of the Republic of Indonesia, 2016).
Table 1.2. Indigenous Communities in Raja Ampat

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Indigenous Communities</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Suku Wawiyai (Wauyai)</td>
<td>Waigeo Island</td>
</tr>
<tr>
<td>2</td>
<td>Suku Kawe</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Suku Laganyan</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Suku Ambel (Waren)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Suku Batanta</td>
<td>Batanta Island</td>
</tr>
<tr>
<td>6</td>
<td>Suku Tepin</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Suku Fiat, Domu, Waili and Butlih</td>
<td>Salawati Island</td>
</tr>
<tr>
<td>8</td>
<td>Suku Moi (Moi-Maya)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Suku Matbat</td>
<td>Misool Island</td>
</tr>
<tr>
<td>10</td>
<td>Suku Matlou (Misool)</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Suku Biga</td>
<td>Misool Island (migrated from Waigeo Island)</td>
</tr>
<tr>
<td>12</td>
<td>Suku Biak</td>
<td>Waigeo, Batanta, Misool, and Kofiau (migrated from Biak-Numfor Island in Cenderawasih Bay)</td>
</tr>
</tbody>
</table>

Source: Adapted from CRITC–COREMAP, 2016b; DTRAD, 2016

Most of the Indigenous communities in Raja Ampat still practise a traditional marine resource management, referred to as *sasi* (McLeod, Szuster, & Salm, 2009; Steenbergen, 2013). *Sasi* is practised in most eastern parts of Indonesia, including Raja Ampat, which is a “traditional system of natural management and includes prohibitions on resource harvest on land and in the sea” (McLeod et al., 2009, p. 657).

*Sasi laut* (marine *sasi*) refers to a traditional marine resource management where the local community closes a certain area of the sea, according to a decision made by traditional leaders and religious leaders through a meeting, for certain kinds of fishery over a period of time until the area is opened again (The Nature Conservancy [TNC], 2014). This thesis examines the complexities of integrating Indigenous knowledge and practices of the Indigenous communities in Misool, such as marine *sasi*, into sustainable marine ecotourism development.

### 1.4. Previous Academic Studies on Raja Ampat

As Raja Ampat has recently been recognised as a significant diving location (Berkmoes et al., 2013; Erdmann, 2014), there appears to be an absence of published academic studies about Indigenous practices within tourism context in Raja Ampat. Most of the studies that have been conducted are in the area of fisheries and marine
ecology (e.g. Bailey, Rotinsulu, & Sumaila, 2008; Grantham et al., 2013; McKenna et al., 2002; Palomares, Heymans, & Pauly, 2007; Varkey et al., 2010).

McLeod et al. (2009) published a paper in which they described the potential of traditional marine resource management practice in Raja Ampat, marine sasi, to support marine conservation goals. This research was conducted in two coastal villages in southeast Misool – Tomolol and Fafanlap – to analyse factors influencing the evolution of marine sasi. The research findings emphasise the importance of the continuation and survival of marine sasi to support marine resource conservation efforts. This requires support from the local community leaders, religious leaders, government institutions, commercial enterprises, and NGOs. Boli, Yulianda, Damar, Soedharma, and Kinseng (2014) also conducted a similar study in Dampier Strait, north Raja Ampat, to investigate the benefits of marine sasi for marine resource conservation efforts, and how the change of marine sasi affected conservation. As both research projects focused on the area of marine conservation, they show that marine sasi can be an effective element to reinforce marine conservation goals, however, they do not consider how marine sasi can be utilised in tourism development.

The community-based and co-management concept for coral reef management in the Raja Ampat Islands was studied by Dirhamsyah (2013). The Coral Reef Rehabilitation and Management Program (COREMAP) is a marine environment conservation programme that involves the community in natural resource management to increase the capacity of community institutions in managing their own resources. In Indonesia, COREMAP commenced in 1998 in fifteen regencies and cities, including Raja Ampat, and will finish in late 2018. The program is funded by several donors such as the World Bank, the Global Environmental Facility, the Asian Development Bank, and the Indonesian government. This study highlighted the challenge facing COREMAP, which is finding other strategies to finance its conservation activities. The result of the study proposes three funding mechanism at the local level, one of which is tourism-based revenues. Tourism-based revenues is the most used mechanism to generate income at the local level, mostly by leasing concessions to tourism facilities inside marine protected areas, encouraging
voluntary donations from tourism operators, and implementing regulations like the protected area entry fees and the certification of tourism operators.

Steenbergen (2013) studied the role of a dive operator in Raja Ampat in addressing illegal fishing. The dive operator is one of the first in Raja Ampat and in order to become established, the owner had to negotiate not only with landowners and local village governments, but also with traditional leaders. Around twenty concession agreements were signed before the dive operator could commence business. No-fishing zones in the immediate surrounding area of the resort were part of the agreement with the local fishermen, in exchange for employment, monetary payments, village infrastructure improvements, and other economic opportunities. This study shows that a private dive operator can play a big part in managing a locally protected marine area when it co-operates well with the local community, NGOs, and local village governments.

Previous studies on Raja Ampat have indicated that the local community, traditional resource use practice, and tourism have important roles in marine conservation efforts. All three studies highlight the importance of the local community participation and cooperation. However, much of the research up until now has not been taking the perspective of the Indigenous knowledge into account. Therefore, the aim of this study is to examine the integration of Indigenous knowledge and practices into sustainable marine ecotourism development in Misool, Raja Ampat.

1.5. Defining the Term ‘Indigenous People’

Throughout this thesis, the term 'Indigenous people’ or ‘Indigenous peoples’ are used. There are several other terms for ‘Indigenous people’, for example: ‘Native People’ that is often used in preference to native Hawaiians of Hawaii, ‘Aboriginal’ that is often used to refer to the Aborigines of Australia, and 'First Nations’ that is often used in USA and Canada to describe the Indian, Inuit, and Metis peoples. Some Indigenous peoples, like the Māori of Aotearoa/New Zealand, prefer to use their own language (Cunningham & Stanley, 2003).

Indigenous communities, peoples and nations are those which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing on those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal system.

In addition to the definition of ‘Indigenous people’, UN Permanent Forum on Indigenous Issues (n.d., p. 1) also developed the following set of criteria to identify ‘Indigenous peoples’:

- Self-identification as Indigenous peoples at the individual level and accepted by the community as their member.
- Historical continuity with pre-colonial and/or pre-settler societies
- Strong link to territories and surrounding natural resources
- Distinct social, economic or political systems
- Distinct language, culture and beliefs
- Form non-dominant groups of society
- Resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities.

Stevens (2014a, p. 16) argues that those “identifying characteristics” have not always been “applied or adopted consistently”. This inconsistency comes from the fact that:

[Some] peoples do not (or do not yet) consider themselves to be Indigenous and have not pressed to be recognised as such, yet meet all the other characteristics listed above.

Indonesia has a different colonial history than other nations with Indigenous groups, such as New Zealand with the Māori people, the United States with the Indian,
Canada with the Inuit, or Northern Europe countries with the Sami. Even though Indonesia was colonized by the Dutch for around 350 years (the Dutch gradually seized control from the early seventeenth century until mid-twentieth century) (Cribb & Brown, 1995), the Dutch had left the country by the end of the colonial era. Since 1945, when Indonesian leaders took over the government, Indonesia has become an independent nation. Referring to Stevens’ statement above, the Raja Ampat people in Indonesia may not “consider themselves to be Indigenous and have not pressed to be recognised as such”, but yet they “meet all the other characteristics listed above” (2014a, p. 16).

Based on the UN’s definition and criteria, the local people of Raja Ampat can be identified as ‘Indigenous peoples’. The Papuan people of Indonesia, including the Raja Ampat people, inherited Melanesian ethnic culture that distinguish them from other Indonesian communities, who are mostly of Malay race. Hence, they have “a historical continuity with pre-colonial societies”, are “determined to preserve their ethnic identity … in accordance with their own cultural patterns” (Secretariat of the UN Permanent Forum on Indigenous Issues, 2004, p. 2), and they have “distinct language, culture and beliefs” (UN Permanent Forum on Indigenous Issues, n.d., p. 1). Moreover, Indigenous communities in Raja Ampat have “strong links to their territories and surrounding natural resources” and they “resolve to maintain and reproduce their ancestral environments and systems” using the sasi systems. The strong links between the Indigenous people of Misool in Raja Ampat and their territories and surrounding natural resources have resulted in the creation of Indigenous knowledge and practices, which have been transmitted from generation to generation. This research focuses on Indigenous knowledge and practices of the Misoolese people and explores the integration of these knowledge and practices into marine ecotourism development.

In relation to the term ‘Indigenous people’, a similar term of ‘Indigenous community(ies)’ is also used in this thesis. Other terms such as ‘local community’ and ‘host community’ are also used interchangeably in this thesis, based on which term was used by authors in the cited studies. It is important to note that the term ‘Indigenous people/community(ies)’ only represents Indigenous individuals,
whereas the terms ‘local community’ and ‘host community’ represent both Indigenous and non-Indigenous individuals.

1.6. Thesis Structure

The overall structure of this study takes the form of seven chapters, including this introductory chapter. This first chapter provides an overview of the background and the context of the research to establish the rationale for undertaking this research. This introduction chapter also defines the research objectives and the terms used in this thesis, and introduces the case study area.

The literature review consists of two chapters, the first of which reviews Indigenous knowledge and traditional ecological knowledge, as well as Indigenous peoples within the context of cultural tourism and Indigenous tourism. The chapter provides an overview of the discussion about the term and concept of Indigenous knowledge belonging to the Indigenous peoples, and a discussion on traditional ecological knowledge, which is a subset of Indigenous knowledge. The following section introduces the reader to Indigenous tourism and ecotourism and the empowerment of Indigenous people. The chapter concludes with a focus on the role of Indigenous and local knowledge in tourism development.

Chapter Three presents the theoretical dimensions of marine ecotourism, including its development, benefits and pitfalls, as well as literature on marine ecotourism development in Indonesia. This section also discusses the role of international NGOs and Indigenous people in marine ecotourism development. As scuba diving represents the main marine ecotourism activity in Raja Ampat, the chapter then concentrates on scuba diving tourism as a subset of marine ecotourism. This section looks at some key elements in scuba diving tourism development, especially the role and the participation of the local community in scuba diving tourism.

The fourth chapter is concerned with the methodology used for this study, commencing with the researcher’s background, positionality, reflexivity, and the rationale for the research topic. The chapter continues with theoretical perspectives on the Indigenous research paradigm and methodology, which informed the qualitative research of this study. It outlines the principles of Indigenous research
paradigms which were applied by the researcher during fieldwork. Chapter Four also describes the location where the fieldwork took place, justifying the fieldwork location. Research techniques are reviewed and determine the research agenda of this study. The design and development of the data collection instrument is outlined in detail, including: overview of the participants recruited in this study, data collection techniques, and data analysis. Ethical considerations are also presented at the end of Chapter Four.

The main findings from the empirical research are presented in Chapters Five and Six, where rich narratives from semi structured in-depth interviews with participants inform the chapters. Chapter Five presents fieldwork findings and discussions on the existing Indigenous knowledge and practices in Misool which are related to the marine environment (Research Question One). Chapter Six discusses how the Indigenous communities, marine ecotourism operators, government institutions, and NGOs acknowledge the Misoolse Indigenous knowledge and practices, then it discusses if and how the Misoolse Indigenous knowledge and practices are incorporated into marine ecotourism development in Misool by the stakeholders (Research Question Two).

Finally, the conclusion chapter summarises the key findings which showcase the complexities of integrating Indigenous knowledge and practices into sustainable marine ecotourism development in Misool, Raja Ampat, Indonesia. This chapter also presents the research contributions to knowledge, which fills the research gap on the integration of Indigenous knowledge in marine ecotourism. Drawing upon the findings, implications and recommendations for tourism stakeholders are discussed. This chapter also presents limitations of the study, some suggestions for future research, and ends with reflections on the research journey.
CHAPTER 2
INDIGENOUS PEOPLES, INDIGENOUS KNOWLEDGE, AND INDIGENOUS TOURISM

2.1. Introduction

The objective of this chapter is to review relevant literature, informing the context and theoretical foundation for exploring the issues of Indigenous peoples and knowledge surrounding tourism development. Indigenous peoples learn to manage their particular environment from their personal life experiences, resulting in a cumulative body of knowledge and beliefs handed down through generations by cultural transmission, about the relationship of living beings with one another and with their environment (Berkes, 1993; Ross, Sherman, Snodgrass, Delcore, & Sherman, 2016; Truskanov & Prat, 2018). This knowledge is expected to be effective in supporting development (Gorjestani, 2000; Nuryanti, 2016), including tourism development, as the local Indigenous people have accustomed to their Indigenous knowledge and practices. Indigenous tourism is viewed as the most suitable form of tourism for Indigenous communities, as it is likely to generate distinctive and creative approaches favouring Indigenous peoples through cultural empowerment, governance, and equality (Carr et al., 2016). The literature review in this chapter presents the relevant research which informed the linkage between Indigenous peoples, Indigenous knowledge, and Indigenous tourism development.

The first section of this chapter focuses on Indigenous peoples and Indigenous knowledge, which includes the general understanding of Indigenous knowledge, its role in conservation initiatives, and its position within Western scientific world. Discussions on Indigenous knowledge also includes a more detailed sub-section on traditional ecological knowledge (TEK). The second section focuses on Indigenous tourism and ecotourism, where Indigenous ecotourism development in Indonesia is also presented. The final section of the chapter focuses on the integration of Indigenous knowledge and local knowledge in tourism development.
2.2. Indigenous Peoples and Indigenous Knowledge

Indigenous peoples possess accumulated knowledge and wisdom that have been conserved and passed on through many generations. This knowledge can be called “embodied knowledge” and all human beings acquire it (Hendry, 2014, p. 6). For example, some collective understandings are gradually acquired, such as how to survive when living in a particular environment. For communities whose livelihood comes from their natural environment, they learn how to hunt animals, catch fish, or select vegetation to pick, as well as the best time to do those activities (Hendry, 2014). This knowledge, which emphasises close connections between human being, community, natural environment, and spiritual surroundings, is embodied in their way of life and has formed distinctive characteristics of each Indigenous group (Grim, 2001).

UNESCO’s and WWF’s definition of Indigenous knowledge are similar to that of UNEP (see section I.2.1.). UNESCO’s definition added the “long histories of interaction with natural surroundings” and “informs decision-making about fundamental aspects of day-to-day life” (2017, p. 8), whereas WWF highlighted that Indigenous knowledge is usually adapted and specific to local ecological conditions and to community members’ social and economic situations and cultural beliefs (WWF International, 2008). Likewise, Warren et al. (as cited in Raymond et al., 2010, p. 1768) define Indigenous knowledge as “local knowledge unique to a given culture or society”. Each definition shares similar characteristics in which Indigenous knowledge develops “over time and through every day experiences” of a local community in a particular environment in order to survive. Indigenous knowledge also reflects a set of resource use strategies that may be sustainable in certain contexts, is usually passed-on by “oral transmission”, and consists of “holistic social memory” (Mistry, 2009, pp. 371-372).

To improve their livelihoods, some Indigenous peoples (e.g. Indigenous peoples of Asia, Oceania, Latin America, and Africa) actively learn from their life experiences in relation to their natural environment to maintain a good connection with that environment (Ross et al., 2016). In maintaining their livelihoods, some Indigenous peoples develop deep knowledge on the environment they live in, which has been providing them basic sustenance and resources. They learn to manage the
environment, including water resource management, from their personal life experiences (Maclean, 2015; Ross et al., 2016; Semali & Kincheloe, 1999). Based on these experiences, Indigenous peoples around the world have accumulated detailed, effective, and sustainable methods in order to survive. One common thread amongst them all is Indigenous mechanisms of sustainable resource use. This is an important element that somehow seems to be overlooked with modern mechanisms of producing food, which uses technology, chemicals, and even genetic modifications (Hendry, 2014).

The sustainable mechanisms of Indigenous knowledge are developed on systematic observations over many generations, with the objective of preserving the resources they need to maintain their livelihood (Hendry, 2014; Ross et al., 2016). For example, in the Cook Islands, there is a prohibition of catching a specific species of fish if that particular species becomes rare, or, after a large catch, they have to wait before they can catch the same species again to allow it to reproduce. This practice is known as ra’ui or rahui and it is normally carried out for a specific short period of time (usually a few months) decided by local leaders (Hoffmann, 2002). Ra’ui or rahui is found widely in the Pacific, including New Zealand. Māori people of Aotearoa/New Zealand practice rahui not only for allowing some species to regenerate, but also for protection from things that can pollute the water (Hendry, 2014). The Indigenous practice of rahui is similar in principle to the Indigenous practice of marine sasi in coastal communities of eastern Indonesia, where they developed harvesting controls on marine species perceived to be in decline, in order to allow regeneration (Cohen & Steenbergen, 2015 – see also section 1.4.).

Indigenous knowledge is “integral to a cultural complex .... These unique ways of knowing are important facets of the world’s cultural diversity” (UNESCO, 2017, p. 8). This is supported by Labelle who writes that “just as the world needs genetic diversity of species, it needs diversity of knowledge systems” (as cited in Ngulube, 2002, p. 96). The loss of Indigenous knowledge can cause the loss of an ethnic identity, as Indigenous knowledge plays an important role in shaping an ethnic identity (Vos, 2006). According to Berreman (as cited in Vos, 2006, p. x), ethnic identity is “a matter of shared perception, the communication of that perception to others, and the response it elicits from others in the form of social interaction”. The
recognition of the ancestral community knowledge becomes an important factor in terms of strengthening self-esteem and ethnic socio-cultural identity (Ortiz, 2007).

The rapid change in the way of life of local communities has largely accounted for the loss of Indigenous knowledge. Dweba and Mearns (2011) argue that there is a rapid deterioration of Indigenous knowledge. The conservation of Indigenous knowledge becomes crucial when the loss of this knowledge negatively impacts the lives of traditional rural communities. “The erosion of people's knowledge associated with natural resources is under greater threat than the erosion of natural resources themselves” (Hoppers, 2002, p. 7). The loss of Indigenous knowledge has also become one of WWF’s concerns over the past twenty-two years, especially because that knowledge “could be beneficial for nature conservation and sustainable use of natural resources worldwide” (WWF, 2017, para. 4). Furthermore, Indigenous peoples who choose to maintain their traditional ways of life will continue to be challenged by the impact of globalisation and existing modern colonization in the 21st century, and it is something that they have to cope with in developing local approaches of problem solving by using Indigenous knowledge as the foundation (Semali & Kincheloe, 1999). Utilisation of Indigenous knowledge means preserving Indigenous knowledge.

Incorporating Indigenous knowledge into conservation for development activities is believed to be an important mechanism for ensuring the most efficient and productive use of natural resources in the short term, without jeopardising the long-term capacity of nature to continue producing these resources and provide a foundation for locally-appropriate sustainable development (Atte, as cited in Ngulube, 2002; UNESCO, 2017; WWF International, 2008). Indigenous knowledge can help promote biodiversity conservation by characterising resource uses that are appropriate for the particular local landscape. The matters of cultural and political importance of Indigenous knowledge include cumulative issues such as cultural survival and revitalization, self-determination, empowerment, and local control of resources and intellectual property rights. As Indigenous knowledge plays an important role in shaping ethnic identity (Vos, 2006) as well as in regaining control over their cultural governance, its wider cultural and social element has turned into a very crucial topic (Berkes, 2012). Regaining and revitalising Indigenous heritage
and knowledge become an important element in decolonization process (Battiste & Henderson, 2000; Tuhíwai-Smith, 2012; Whitney-Squire, 2014, 2016). Revitalisation movements by many Indigenous groups around the world emphasise regaining their Indigenous knowledge as the main approach. An example of this effort is shown by some Indigenous groups in northern Canada and Alaska, including the Inuit, Cree, and Dene, who have been conducting their own Indigenous knowledge studies to reinforce their Indigenous culture and proclaim their land rights (Berkes, 2012). This symbolises a thoughtful and sensible effort by Indigenous groups to create a more sustaining culture (Wallace in Berkes, 2012).

Indigenous knowledge has started to receive more attention in world forums, yet, it is still often neglected as a key source of policy-relevant information because it has been undervalued from a perspective of Western scientific knowledge (Semali & Kincheloe, 1999; Tuhíwai-Smith, 2012). Hendry (2014) suggests that Indigenous knowledge has been underrated because some non-Indigenous people often cannot relate with the stories that are verbally passed on and are culturally different. This view is supported by Williams (2010) who argues that the culturally-specific characteristic of Indigenous knowledge may not be fully understood by non-Indigenous people as they have been informed by different worldviews. However, attempts have been made to combine Western science and Indigenous knowledge. For example, a study by Moller, Berkes, Lyver, and Kislaioğlu (2004) uses a combination of contemporary science and Indigenous knowledge to monitor the population of fish in Canada and of muttonbird in New Zealand. This study suggests that combining science and Indigenous knowledge provides a more holistic approach in population monitoring for co-management or adaptive management. Raymond et al. (2010) have also conducted a study that integrates local and scientific knowledge for environmental management. The demarcation of Indigenous knowledge was not seriously challenged or treated as problematic until recent conjoint claims that without Indigenous knowledge and cultural diversity, there can be no biological diversity, and without biological biodiversity there will be no human habitat, no future for anyone (Turnbull, 2009).

Hikuroa, Morgan, Durie, Henare, and Robust (2011) suggest that there are both similarities and differences when comparing traditional science with Western
science. Both sciences reflect the outcome of the same general intellectual process of generating order out of disorder. Arguably, evidence shows that Indigenous peoples have scientific curiosity, and their Indigenous knowledge is more than just instantaneous practical interests (Berkes, 2012). This argument is supported by Lévi-Strauss (1962) where he argues that Indigenous peoples could not have acquired such knowledge (e.g. the “intimate familiarity” and “precise knowledge” of the Hanunóo people of the Philippines on local plants classification) without a desire for knowledge: “this thirst for objective knowledge is one of the most neglected aspects of the thought of people we call ‘primitive’”. (p. 2). Table 2.1. describes the similarities and differences between Indigenous Knowledge (IK) and Western Science (WS).

Table 2.1. Similarities and Differences between Indigenous Knowledge and Western Science (Scientific Knowledge)

<table>
<thead>
<tr>
<th>Similarities</th>
<th>Differences</th>
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| **Empirical Databases** | - Observation of nature  
- Information accumulated over time, systemised, stored and transmitted either orally or in written form | - IK is based on trial and error, WS is based on repetitive experiment under controlled conditions  
- IK is holistic, WS is primarily quantitative  
- IK is over millennia, WS is short term |
| **Theories and Predictions** | Theoretical constructs are common to both systems | IK uses intuitive learning paradigm, WS strongly relies on theory and focuses on predictability of results (variance) |
| **Testability** | Seasonal practices involve repeatedly testing IK integrity, WS involve experiments, peer reviews, and publication | IK uses natural uncontrolled conditions, WS uses pre-selected parameters |
| **Explanations of Cause and Effect** | Both systems involve explanations of cause and effect as important components | IK uses all information, WS is limited to objective, ideally mathematical, linear, apolitical, analytical, and gender-, culture- & value-free |


The table above shows that most Indigenous knowledge is based upon the same principles as Western science. The main difference is that Indigenous knowledge
enables a wider perspective, as it views the world in a holistic way that supports things that cannot be determined by man-made instruments (Mercier, as cited in Hikuroa et al., 2011).

The combination of contemporary science and Indigenous knowledge is suggested to be effective for problem solving as they complement each other (Hendry, 2014; Ross et al., 2016). Collaboration between contemporary science and Indigenous knowledge has been recommended in resource management partnerships, where Indigenous knowledge and contemporary science “are conceived as equal partners” (Ross et al., 2016, p. 324), hence Indigenous knowledge is included in all management planning and activities. Palliser (2015) conducted a study in Akaroa area of Banks Peninsula, New Zealand, on building adaptive capacity for local approaches to natural resource management. Based on interviews with the local community and participation in local groups’ meetings, the findings show that in order to enhance building adaptive capacity, Indigenous knowledge should be valued alongside scientific knowledge for decision making by both Indigenous and non-Indigenous stakeholders.

One field that commonly uses Indigenous knowledge, and has long been acknowledged for, is the sea navigation. During Captain Cook’s journey to the Pacific, he was fascinated by the Indigenous intelligence in navigation and documented it in his diaries (Hendry, 2014). The peoples of the Pacific not only use astronomy to navigate the seas, they also use other methods as the ocean is an inseparable part of their everyday lives. For example, many Indigenous people of the Cook Islands learned to navigate between islands from their elders, whom taught them how to ‘read the ocean’. One should be able to tell when there is a land nearby by paying attention to the patterns of waves, currents, and swells as the ocean behaves differently around the islands. In addition, they also learned to read the sky in daytime by using the sun as their guide and observing cloud behaviour, as they do with the stars at night (Hendry, 2014). It is quite common for Indigenous navigators around the world to find their way using the sun, stars, clouds, and analysing the motions of the waves and currents just by hearing them (Hendry, 2014). Gujarati navigators are known to possess the ability to interpret signals from observing the weather, the swell, and the colour of the sea, and skippers are guided by the stars
and use Indigenous quadrant (Varadarajan, 1980). Marshallese navigators can “mentally recall” on the movement of waves by using “stick charts”, which are models or maps made of pandanus aerial roots (Genz, 2014, p. 332). Some Indigenous navigators also use the existence of birds and marine life to indicate when land is near. The more experienced ones even can indicate their locations by the taste of the ocean’s spray (Hendry, 2014). As Gladwin put it: “waves, winds, clouds; stars, Sun, Moon; birds, fish and the water itself comprise about all there is to be seen, felt, heard or smelled” (as cited in Richey, 1974). It appears that Indigenous navigation requires a full use of senses and understanding this skill is still a “work in progress for scholars” (Hendry, 2014, p. 109).

Indigenous belief systems constitute Indigenous knowledge, which represent the “cultural knowledge” consisting of “Indigenous cultural beliefs, norms, myths, taboos and a holistic worldview that parallels the scientific discipline of ecology” (Appiah-Opoku; Mathias, as cited in Appiah-Opoku, 2007, p. 82). The personal and spiritual components of Indigenous ecology have become the attention of people who are interested in the environmental ethics (Grim, 2001). An earlier study by Olofson (1995) has revealed that taboos play an important role in Indigenous management of natural resources in the Philippines. Appiah-Opoku (2007) conducted a study that linked Indigenous beliefs and environmental stewardship in Boabeng and Fiema village in Ghana. These two villages are located at the edge of an unfenced monkey sanctuary. Here, it is taboo to kill or harm a monkey as the monkeys protected their chief during a tribal war a long time ago. The local people believe that something bad will happen to them if they kill or harm a monkey. The protection of the monkeys has resulted not only in the protection of the monkeys, but also in the conservation of other flora and fauna species. This study reveals that naturally important places are protected by local taboos, norms and belief systems of the local communities. Indigenous beliefs thus support the conservation of natural resources in places where Indigenous communities reside (Appiah-Opoku, 2007).

A similar study was also conducted by Ntiamoabaidu (2008) in Ghana, where she linked Indigenous beliefs with biodiversity conservation. In sacred groves like The Nkodurom and Pinkwae, where the existence of a significant number of animal species has been indicated, the forests appeared to be intact because entry into them
was strictly forbidden. Entry is only allowed after performing purification rites and with the company of royal guides. In addition, farming, logging, and collecting fuel wood are prohibited in both places, although trees may be cut in Pinkwae to make handicrafts (Ntiamo-Baidu, 2008). For some of the Indigenous peoples who live in coastal Ghana, it is forbidden to kill or harm a certain species of marine animals. For example, it is a taboo for the Ningo people to kill or capture turtles and to collect snails from the sacred Djangé Lagoon; the Sakumo Lagoon is considered sacred by the Tema New Town and Teshie people and it is a taboo to kill or capture the Black Heron bird, which is believed to be a sacred bird associated with the lagoon God (Ntiamo-Baidu, 2008). The author suggests that sacred places, taboos, and totems represent “strong, positive community approach to natural resource conservation that fits local cultural and social contexts” (Ntiamo-Baidu, 2008, p. 324). All these studies have showcased how Indigenous belief systems support the conservation of natural environment.

All the above studies seem to agree that Indigenous knowledge is inseparable from the local natural environment and ecosystem and is both passed down and continuously improved over many generations. Many Indigenous values are consistent with the principles of conservation, biodiversity preservation, and sustainable development. Hence, more holistic approaches are needed in addressing current problems of natural resource use. The case study of this research is in Misool, Raja Ampat, which consists of three Indigenous communities (see section 1.3.2.5.). The utilisation of Indigenous knowledge and practices could offer holistic approaches for the local Indigenous communities in Misool, Raja Ampat to get more actively involved in marine ecotourism development and, at the same time, conserving the marine resources and safeguarding the cultural landscapes and traditions. The improvement of marine ecological system resilience and sustainability can be developed through balanced integration between contemporary marine resource management and TEK (Cullen-Unsworth, Hill, Butler, & Wallace, 2012). This raises questions about the role of TEK in modern societies which will be discussed in the next section.
2.2.1. Traditional Ecological Knowledge

Traditional ecological knowledge (TEK) is regarded as a subset of Indigenous knowledge in ecology (Berkes, 2012; C. F. Butler & Menzies, 2007; Raymond et al., 2010). Even though TEK and its practices are as old as “ancient hunter-gatherer cultures” (Berkes, 2012, p. 2), the term ‘traditional ecological knowledge’ only started to be used in the 1980s in anthropology and ethnoecology studies. Ethnoecology is an approach that focuses on the concepts of a people or a culture’s ecological relationship (Toledo, 1992). The concept of TEK contains an element of local and empirical knowledge of species and other environmental phenomena, an element of practice in the way Indigenous peoples make a living, and an element of belief in peoples’ understanding of their role within ecosystems and their interaction with natural processes (Hernández-Morcillo et al., 2014). Those elements of TEK lead to a working definition of TEK as: “a body of knowledge and beliefs about the relations of specific human societies to the local environments in which they live, as well as their local practices for ecosystem use and stewardship” (Schultz, Folke, Olsson, as cited in Hernández-Morcillo et al., 2014, p. 3). Berkes also added “… the relationship of living beings (including humans) with one another and with their environment” (2012, p. 7) in his definition of TEK.

Returning briefly to the subject of the Hanunóo people of the Philippines, Conklin (1957) recorded that they possessed a remarkably detailed knowledge of native floras and faunas with their natural history, identifying around 1,600 plant species. More than just knowledge, TEK is a way of knowing based on experience, and it is dynamic as it adapts to changes. It also represents a historical continuity of Indigenous peoples’ resource use on a particular area. Aboriginal people define TEK as “a way of life” (McGregor, 2008, p. 144); rather than being just the knowledge of “how to live”, it is “the actual living of that life” (McGregor, 2004, p. 79). People around the world are different in so many ways, such as their everyday activities, material abundance, and the way they view the world around them, which is directly connected to the world’s cultural diversity. This cultural diversity is believed to be eroding swiftly (Berkes, 2012).

There has been an increased interest in TEK since 1980s as a means to build a sustainable human-environment relationship. The world at large has started to
realise that Indigenous peoples have a “reasonably good understanding of living sustainably with the earth we occupy” (Hendry, 2014, p. 5). As TEK offers practices regarding human-environment relations, there has been increased interest, signifying the need for a resource use scheme derived from Indigenous practices with ecological awareness, and the need to reinforce ecological ethics from TEK owners’ wisdom (Berkes, 2012). This leads to a wider framework of the interest in TEK, which is obtained over thousands of years of life experience from human relations with the environment. For example, Aswani and Hamilton (2004) conducted a study which set out to integrate TEK and customary sea tenure with marine and social sciences for conservation of the bumphead parrotfish in the Solomon Islands. They found that TEK’s aspects are more relevant with the management and conservation of bumphead parrotfish. This study illustrates that using TEK can create more effective community-based marine protected areas.

Scientific experts have come to acknowledge, accept, and use TEK in a number of areas such as traditional agriculture, medicine, architecture, and water engineering (Berkes, 2012). A new political issue has arisen with the growing acknowledgment of TEK from many national and international organizations. With the legal obligation to incorporate Indigenous knowledge and values in development programs, there has been a tendency in “the creation of a TEK industry” (Berkes, 2012, p. 16). Based on Berkes’ observation, this tendency leads to problems such as generated material without proper cultural context within non-Indigenous frameworks that are often essentially different from Indigenous codes of conduct (2012). For the sake of incorporating TEK into regulations and policy, policy makers often insert that knowledge without proper consultation with Indigenous peoples, without appropriate financial support, and in an unrealistic timeframe (Simpson, as cited in Berkes, 2012). Therefore, to address this lack of consultation, this research intends to explore Misoolese Indigenous knowledge (IK)/TEK directly from the Indigenous people of Misool, to ensure appropriate Indigenous codes of conduct are applied correctly in the integration of Misoolese IK/TEK in marine ecotourism development. This research also examines whether policy makers have appropriately inserted Misoolese IK/TEK in marine regulations and policy.
Safeguarding cultural diversity is one of the reasons why TEK is important for the world. The other reason is that TEK plays an important role in eight areas that deal with aspects of ecology and resource use (Berkes, 2012) as shown in the following table:
Table 2.2. The Use of Traditional Ecological Knowledge in Ecology and Natural Resource Use

<table>
<thead>
<tr>
<th>AREAS OF USE</th>
<th>DESCRIPTION</th>
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<tr>
<td>Biological information and ecological insights</td>
<td>Studies on plants and animal species identification, species interrelationships, life cycles, behaviour, and natural history, can enrich scientific knowledge to fill the gaps of data and details of specific species.</td>
</tr>
<tr>
<td>Resource management</td>
<td>Traditional resource use practices display sustainability principles; therefore, they can be utilised for resource management. Attempts to combine traditional knowledge and contemporary science have become an increasing subject in resource management.</td>
</tr>
<tr>
<td>Conservation of protected areas</td>
<td>In areas where Indigenous values and belief are consistent with the principles of conservation, collaboration between Indigenous people and conservation managers are most likely to be done, as it is likely to be effective in managing such protected areas through collaborative management or joint management or adaptive management.</td>
</tr>
<tr>
<td>Stewardship of biodiversity</td>
<td>Over many generations, Indigenous communities have relied upon the variety of natural resources in providing their livelihoods. The mixed livelihoods often make them wholeheartedly committed in the conservation of biological diversity. Some Indigenous practices seem to allow less intensive use in order to maintain biological diversity.</td>
</tr>
<tr>
<td>Environmental monitoring and assessment</td>
<td>Traditional knowledge can be useful in monitoring local ecosystems, conducting environmental assessments, and evaluating the environmental impacts of proposed developments. In addition, Indigenous knowledge on local social system is necessary in conducting social impact assessment.</td>
</tr>
<tr>
<td>Development</td>
<td>Traditional knowledge utilisation may be useful for development by providing more realistic evaluations of local needs, environmental limitations, and natural resource use systems. In addition, the use of traditional knowledge is beneficial in designing action plans for culturally sustainable development.</td>
</tr>
<tr>
<td>Disasters and modern crises</td>
<td>Some Indigenous communities hold an outstanding knowledge of foreseeing weather phenomena and natural disaster, which is formed by series of past events. This social memory is often used when scientific information is not available.</td>
</tr>
<tr>
<td>Environmental ethics</td>
<td>Many Indigenous belief systems believe that humans are part of the natural environment which are relevant with environmental and ecological ethics. There are symbiotic connections and mutual obligations in that relationship, which lead to respect as the main element in human-nature relationship.</td>
</tr>
</tbody>
</table>

One of the areas of use of TEK in ecology and natural resource management depicted in the table above is disasters and modern crises. Indigenous and local knowledge are important tools for reducing disaster risk and improving disaster preparedness, because the ability to read the signs of nature offers ways of foreseeing natural disaster (Berkes, 2012; Hendry, 2014; Hiwasaki, Luna, Syamsidik, & Shaw, 2014). A study was conducted in Andaman Islands during the tragic tsunami in South and South East Asia in 2004. The Indigenous people of Andaman Islands were able to anticipate the tsunami before it arrived, hence they had a chance to save themselves by going to higher grounds. The knowledge that saved their lives from the devastating tragedy was simple signals such as a sudden silencing of the cicada insects (tree cricket), followed by unusual withdrawal of the tide (Hendry, 2014). This knowledge is gained through cautious observations and has been passed on for generations. Hiwasaki et al. (2014) conducted a project where they proposed a process of incorporating local and Indigenous knowledge with scientific knowledge for hydro-meteorological disaster risk reduction and climate change adaptation in Indonesia, Timor Leste, and the Philippines. The Indigenous knowledge of coastal and small island communities offers useful insights for reducing disaster risk. For example, observation on the movements of clouds, waves, winds, the sun and the stars for forecasting heavy rainfall or strong winds, foul odour from the sea as a sign of storm or typhoon, and different behaviour of animals, insects, and plants as a sign of natural hazards.

As explained in this section, it is clear that in some contexts, TEK plays a significant role in environmental conservation and natural resource management. However, Redford (1991) argues that the idea of deliberate conservation by Indigenous peoples is a myth. This view is also supported by Krech who notes that there was no evidence that Native Americans practised conservation before the contact period (as cited in Hames, 2007). The ecologically noble savage debate continued, mainly concerning the issues of conservation by Indigenous peoples and of political orientation and that when following the strict definition of conservation, “conservation by native peoples is uncommon” (Hames, 2007, p. 186). Redford claims that “occasionally, only occasionally, it [Indigenous
knowledge] offers methods that, when modified, can be of use to inhabitants, native and non-native, in the modern Neotropics6” (1991, p. 48).

Traditional ecological knowledge values may also be useful for tourism development (which will be discussed further in section 2.4.), as many tourism destinations rely on the natural environment. Campolo, Bombino, and Meduri (2016) acknowledged the importance of TEK in protecting outstanding natural and cultural landscapes from degradations caused by development, including tourism. An important question was raised by Stevens (2014b, p. 5): “can Indigenous peoples contribute to the success of protected areas by bringing to them their values, knowledge of local ecology, environmentally and place-attuned land-use and management practices, protection of sacred places, and commitment to defending their territories?” This leads one to the need to review how Indigenous people can contribute in tourism development while protecting their cultural and natural heritage at the same time.

2.3. Indigenous Peoples and Indigenous Tourism

Indigenous tourism emerged as an important topic for academic researchers in the 1990s. Hinch & Butler (1996) were two scholars who first collected a broad range of topics regarding Indigenous peoples and tourism. Smith (1996, p. 287) explains Indigenous tourism is shaped by four important elements (4Hs) which are: “the geographic setting (habitat), the ethnographic traditions (heritage), the effects of acculturation (history), and the marketable handicrafts”. Hinch and Butler (2007, p. 5) define Indigenous tourism as “tourism activities in which Indigenous people are directly involved either through control and/or by having their culture serve as the essence of the attraction”. Pereiro assembled the definition of Indigenous tourism from previous studies (Harron & Weiler, Volkman, van den Berghe, as cited in Pereiro, 2013), which is: accumulation of direct involvement with “Indigenous cultures”, “cultural collection”, and “co-ethnic relations” attributed to the Indigenous peoples’ culture (Pereiro, 2013, p. 214). Indigenous tourism is a form of cultural tourism which offers alternatives to make tourism more “reflective, ethical and educational” when it is carefully

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6 Neotropics is the tropical region of Central and South America
planned, controlled and empowering Indigenous people in the area (Pereiro, 2013, p. 216).

Tourism has been an agent of globalisation. Nash (as cited in Hinch & Butler, 1996) and Khan (as cited in Johnston, 2006) even argue that tourism is just another label of neo-colonialism, which exploits Indigenous inhabitants. The debate on whether Indigenous tourism stimulates cultural resurgence or cultural decadence still continues (Hinch & Butler, 2007; Koot, 2016; Mathisen, 2010; Suntikul, 2007; Warnholtz & Barkin, 2018). Remote areas with Indigenous peoples who had never been exposed to outsiders continue to be more popular as tourism destinations (Drumm & Moore, 2002; Hinch & Butler, 1996, 2007; Holder & Ruhanen, 2018; Stevens, 2014a; Whitford, Ruhanen, & Carr, 2017; Wu, Wall, & Tsou, 2017). For example: the Rukai and Paiwan tribes in northern Pingdong County, Taiwan (Wu et al., 2017), the Dani tribe in Baliem Valley, Papua, Indonesia (Nursastri, 2012), and the Stone Korowai tribe in Papua’s southern lowlands, Indonesia (Stasch, 2015). When Indigenous peoples choose to get involved in tourism, they face both opportunities and risks (Hinch & Butler, 2007). Some of the negative impacts of tourism on Indigenous peoples are the degradation of local moral standards and behaviours related to their beliefs and identities. With the force of globalisation, the tourism development needs to focus on its positive attribute, which is improving a stronger sense of cultural identity of the Indigenous peoples (Ortiz, 2007; Smith & Richards, 2013). Relationships are likely to be built between the Indigenous communities with the tourists, consequently impacting on the community, local economy, ideas, and moral attitudes (Macleod, 2013). This relationship can increase the local community’s awareness of their own distinct features in relation to foreign tourists; hence, “a stronger sense of local identity might develop” (Macleod, 2013, p. 196) and identity makes a destination unique.

Globalisation may cause the disintegration and degradation of communities, thus shifting the concept of community, both in developing and developed countries (Smith & Richards, 2013). This opinion contrasts with that of Reisinger (2013) who argues that globalisation is not always exterminating local culture. Instead, it can create a cultural innovation where a new unique local tradition may occur.
as a result of “glocalisation” or domestication of globalisation (Reisinger, 2013, p. 41). However, glocalisation can only happen when the Indigenous peoples have a strong sense of pride of their own Indigenous culture. This argument is supported by Nepal (2015) who claims that successful negotiation between tradition and modernity can only happen when there is a higher level of cultural competence. Unfortunately, according to Ulluwishewa (as cited in Ngulube, 2002), younger generations tend to consider western culture to be more desirable than their own Indigenous culture. With this tendency, Indigenous culture could disappear sooner or later by rapid globalisation, alongside colonisation. As an outcome, the life ways of Indigenous peoples are threatened, and they are in need of cultural survival (Johnston, 2006). To deepen our understanding of culture, we need to see cultural tourism in a wider context because it is complex and always changing (Macleod, 2013). The essence of cultural tourism is that it can make Indigenous peoples rediscover their “sense of pride in their culture and identity” (Smith & Richards, 2013, p. 192). Tourism may increase Indigenous peoples’ self-esteem and regain their pride in their heritage. Once this happens, “cultural involution” may occur (McKean as cited in Smith & Richards, 2013, p. 192).

Critics of Indigenous tourism would argue that the justification for Indigenous tourism is “fallacious or at the very least, naïve” (Hinch & Butler, 2007, p. 4), because the main motivation to develop Indigenous tourism is still based on western economic rationale. One of the global and local issues in Indigenous tourism is that Indigenous peoples are striving for fairness, impartiality and self-reliance (Hinch & Butler, 1996, 2007). This problem emerges because non-Indigenous people often control the tourism infrastructure and services; hence, it creates the inequality of authority. Lack of awareness by non-Indigenous people on the issues surrounding Indigenous peoples may cause disempowerment of Indigenous people. Non-Indigenous people need to build a better acknowledgement and acceptance of Indigenous standpoints on main problems by increasing exposure, discovering and practising Indigenous culture (Hinch & Butler, 1996, 2007). Understanding between Indigenous and non-Indigenous people can be achieved by cross-cultural interaction (D’Amore as cited Hinch & Butler, 2007).
Concerns regarding Indigenous tourism were also voiced by Sofield (2003), which include: the seclusion of Indigenous peoples, conflict of interests between Indigenous peoples and non-Indigenous developers, and the issues around acculturation and commodification versus authenticity. These problems might be caused by tourism development in destinations where Indigenous people reside, which might trigger an assumption that tourism is “a new form of colonialism” (Sofield, 2003, p. 86). To guarantee that the Indigenous people in host destinations can obtain an equal portion of the benefit of tourism, conscientious planning and management is needed. In order for Indigenous tourism to succeed, the uniqueness and characteristics ofplace need(14,11),(986,981) to be put into consideration. As Indigenous peoples increase their involvement in a capitalism framework of tourism development, one objective that is constantly shared is long-term sustainability (Hillmer-Pegram, 2016; Hinch & Butler, 1996, 2007; Koot, 2016). In establishing successful empowerment of the Indigenous people, it is important to make sure that Indigenous people are provided with sufficient knowledge about tourism and negotiation skills, and are guaranteed access to economic resources (Ramos & Prideaux, 2014).

The development of community-based cultural tourism requires strategies developed by the Indigenous community on the direction of cultural tourism development. It also requires strategies on how they want to be perceived by the tourists, without compromising the balance between economic benefits and cultural integrity (Salazar, 2012). In many cultural tourism destinations, local tour guides are often the key people who are responsible for presenting and (mis)representing the self-image of the Indigenous community (Salazar, 2012; Walker & Moscardo, 2016). Thus, professional training for local tour guides is necessary, especially in increasing the awareness of “complex ethical dilemmas” (Salazar 2012, p. 18), such as the way in which the image of Indigenous communities is perceived or wished to be perceived. In addition, the interpretive ability of local tour guides could affect tourist values to support sustainable Indigenous tourism and related behaviours (Walker & Moscardo, 2016). In marine ecotourism destinations, Indigenous tour guides may become the key people who introduce their Indigenous maritime culture to visitors, including
Indigenous knowledge and practices that are related to marine environment, which could be a part of visitor education experience.

Indigenous tourism is linked to the processes of Indigenous empowerment (Pereiro, 2013). By empowering Indigenous people, sustainable tourism can be achieved by preserving their traditional values and natural and cultural heritage, and appreciating their genuine socio-cultural aspects (Hinch & Butler, 2007; Ramos & Prideaux, 2014). This will establish an equal share of socio-economic advantages to all stakeholders (Saarinen, 2013), especially the Indigenous people. In this regard, the community’s control holds a very important role in Indigenous tourism development (Hinch & Butler, 1996, 2007). The empowerment of Indigenous people was studied by Thompson-Carr (2013) in which she investigated the development of Māori tourism in New Zealand throughout the past twenty-five years. New Zealand is known as one of the first countries in the world to acknowledge its Indigenous people, the Māori people, with the signing of the Treaty of Waitangi in 1840 that protected the traditional rights of Māori. Since then, both parties have been actively playing their roles. The Department of Conservation and Heritage New Zealand provides an enabling framework of support to include Māori people in tourism management, especially in natural and cultural heritage sites through consultation and communication with local runanga (a tribal authority). The Māori people’s self-empowerment makes them take the lead by owning the land and businesses. For example, Māori ownership of whale-watching operations in Kaikoura, Aotearoa/New Zealand (Curtin, 2003). Moreover, acknowledgement of Māori values is reflected in the New Zealand Tourism Strategy 2015, which incorporates two cultural values of kaitiakitanga (looking after the environment guardianship) and manaakitanga (looking after the people) (Thompson-Carr, 2013, p. 230).

The development of tourism in Mount Bromo, East Java, Indonesia demonstrates that the empowerment of its Indigenous people, the Tenggerese, leads to more control over tourism development in the area (Zeppel, 2006). There were about fifty Tenggerese villages within the Bromo-Tengger-Semeru National Park and they managed to control tourism development. They created village laws that “prevent non-Tenggerese from buying land or renting land for more than a year”
and “only Tenggerese people are allowed to own horses and four-wheel-drive jeeps for taking visitors to the crater at Mount Bromo” (Zeppel, 2006, p. 250). Both tourism and agriculture have become the main source of most villagers’ livelihood (Mujanah, Ratnawati, Andayani, 2015; Zeppel, 2006). Overall, tourism has brought economic benefits to the Tenggerese people because they were able to control tourism access and facilities. The examples of Māori ownership of tourism operations in Aotearoa/New Zealand and the Tenggerese people’s control over tourism access demonstrate that the inclusion of Indigenous cultural values in tourism development could create self-empowerment for Indigenous people.

Indigenous communities usually have different social and cultural identities and institutions. Typically, there are two governing bodies in a minority group of Indigenous people: one is the official organization of local government whose function is controlled by the national government, the other one is traditional form of government based on Indigenous cultures which led by the board of elders, respects affinity and collective relations, and prioritises consensus for decision making (Hinch & Butler, 1996, 2007). Indigenous tourism development needs to consider these two levels of Indigenous governance, as disputes may occur between the two. Conflicts might arise when the official local government is faced with two different interests between the Indigenous people and foreign developers. For example, there were times when the governments of South Pacific countries were in favour of their own people and traditional values, but other times they were in support of the foreign investors when pursuing “planned” development (Sofield, 2003, p. 130).

One of the key characteristics of Indigenous peoples is “unique ties and attractions to traditional habitats and ancestral territories and natural resources in these habitats and territories” (UNDP, as cited in Hinch & Butler, 2007, p. 5). Most Indigenous peoples often have indivisible bond with Mother Nature (Coria & Calfucura, 2012), thus, the unique ties between the Indigenous peoples and the natural environment have to be wisely used to ensure its sustainability (Hinch & Butler, 2007). For example, the strong connection between the Denesoline people in Canada’s northern territories with their ancestral territory has resulted in continuous efforts in protecting their rights to control and be in charge of their
territory, which reflects on the bottom-up Indigenised code of conduct for tourists who visit their ancestral territory (Holmes, Grimwood, King, & Lutsel K’e Dene First Nation, 2016). This inseparable relationship between Indigenous people and their nature is often disturbed by many efforts to incorporate them into common earning economies (Hinch & Butler, 1996, 2007). For this reason, it is important to maintain the profound connection between Indigenous people and their natural environment, even with a rapid growth of tourism development in their area. The key to any development discourse, including Indigenous tourism development, is control. Lack of control or reduced quality of the environment make substantial impacts on Indigenous tourism practices (Gardner & Nelson, as cited in Hinch & Butler, 1996). With better control by the Indigenous people, they can balance their engagement in a common earning economy with Indigenous livelihood practices bound to their natural habitat.

2.3.1. Indigenous Ecotourism

This thesis focuses on the integration of Indigenous knowledge and practices in marine ecotourism development. To provide theoretical background on Indigenous peoples and ecotourism, this section discusses the concept of Indigenous ecotourism development and Indigenous ecotourism in Indonesia. The term ‘Indigenous ecotourism’ came into widespread use in mid 1990s to describe community ecotourism development on Indigenous land in Canada, Australia, and Latin America (Zeppel, 2006). The main elements of Indigenous ecotourism include a nature-based product, the presentation of Indigenous natural and cultural knowledge, and Indigenous people with their traditions of the strong connection between Indigenous cultures and the natural environment. The Indigenous view of ecotourism is different than that of the mainstream industry (Zeppel, 2007). One of the differences is that in mainstream ecotourism “few companies negotiate business partnerships or royalty payments”, whereas in Indigenous ecotourism, operators are “negotiating the terms of trade for the use of ecotourism resources, including people” (Zeppel, 2007, p. 325). In Steenbergen’s study on the role of a dive operator in Raja Ampat in addressing illegal fishing (2013 – see section 1.4.), the negotiation between the dive operator with landowners, local village governments, and traditional leaders represents
one of the Indigenous ecotourism views, which is negotiating with Indigenous peoples in terms of the use of Indigenous land and marine resources. The negotiation resulted in a mutual agreement which provides win-win solutions for both the Indigenous communities and the dive operator.

Zeppel (2006, p. 15, 2007, p. 316) identified the following list as various levels of Indigenous involvement in ecotourism based on studies by Drumm (1998) and Ashley and Roe (1998):

- Renting land to an operator to develop while simply monitoring impacts.
- Working as occasional, part- or full-time staff for outside operators.
- Providing selected services such as food preparation, guiding, transport or accommodations (or a combination of several or all of these) to operators.
- Forming joint ventures with outside operators with a division of labour, which allows the community to provide most services, while the operator takes care of marketing.
- Operating fully independent community tourism programmes.
- Enterprises run by local entrepreneur, supplying goods and services (guiding, campsites, homestays).

This list might have been more comprehensive if the authors had included Indigenous knowledge utilisation as a part of Indigenous community involvement in ecotourism. Although the utilisation of Indigenous knowledge is implicitly reflected in the provision of services, such as guiding, the commitment from an Indigenous community to maintain Indigenous knowledge and practices itself is worth to be acknowledged, as it may increase their self-pride of their unique cultural identity as well as conserve the cultural heritage for the next generation.

The lack of separation between Indigenous peoples and their land, is one of the key elements of most Indigenous cultures, as the land provides their livelihoods. Even those who have lost control over their natural resources, still maintain essential features of resource use practices that are consistent with the preservation of the natural environment (Berkes, 2012). The significance of the
land with its resources is more than just an asset with basic economic value, it is a part of their identity. The land of Indigenous peoples is often rich in flora and fauna with "unique Indigenous landscapes" (R. Butler & Hinch, 2007, p. 112), and has potential for Indigenous ecotourism development. It is important that any tourism development in Indigenous land is sustainably managed without damaging the land, its resources, and the connection between the land and Indigenous peoples. Moreover, not only could Indigenous ecotourism initiatives increase visitors’ appreciation of the Indigenous natural areas, but also the Indigenous culture as part of the visitor experience (Đukić, Volić, Tišma, & Jelinčić, 2014).

Carr (2007) explored the relationship between New Zealand’s Māori nature tourism businesses with the land. As mentioned earlier, cultural and heritage landscapes are an inseparable part of most Indigenous groups and are valuable for tourism resources. Based on Carr's interviews with eight Māori ecotourism operators, there were seven emerging themes that relate to cultural identity: 1) connecting with Indigenous lands through tourism work, 2) sharing myths and legends, especially about the landscape and Indigenous interpretation of its creation, through storytelling, 3) relating personal family or tribal history to visitors as a chance to acknowledge their identity and sense of place by conveying their ancestral and spiritual connections with culturally important lands, 4) as the land was their source of livelihood, issues such as the loss of habitat and endangered species became their concern, 5) for some respondents whose operations involving consumptive tourism use of nature, traditional physical activities in the landscape, such as fishing, hunting, and traditional food gathering, was a way to share how they identified their Māori culture, 6) the business management was perceived as something that could improve themselves, and 7) statement of the Māori identity in marketing. In this study, Carr (2007) concluded that Indigenous ecotourism business could offer not only the economic benefits, but also the nourishment of personal cultural identity by connecting with ancestral land. This cultural identity influenced the ecotourism product development and the cultural values of the Indigenous land, completed the holistic tourist experience as advertised on websites/brochures.
When developing Indigenous ecotourism, one needs to think about the impact of ecotourism development to the Indigenous community. Even though ecotourism is believed to have low impact on the environment and the community’s culture, research done by Suntikul (2007) in Luang Namtha Province in Laos showed that there was a major concern from the Laotian government, and the tourists, about the potential negative impact of tourism on the Indigenous community’s culture and tradition. In some touristic areas, some customs have started to disappear. Tourism, coupled with increasing access to a market economy, have triggered the change of Indigenous lifestyle. But, nonetheless, the national government still identified ecotourism as one of the tools to assist poverty alleviation. The interaction between foreign tourists with Laos’ isolated ethnic minorities have given the opportunity to broaden the local communities’ knowledge and to get economic benefits from tourism.

Timothy (1999) suggests that local sociocultural and economic conditions of the Indigenous communities could limit the involvement of the Indigenous communities in ecotourism development. With the case study of Yogyakarta, Indonesia, he found that the Javanese people’s cultural and political traditions, poor economic conditions, and the lack of understanding and expertise are hindering local community’s participation in ecotourism development. The strong social class system of the Javanese people creates authority and reverence towards people with higher political and/or social standing. As Timothy observes: “in Javanese society, the followers do not ask themselves whether or not they agree with what the leader has proposed, or whether or not this agrees with their own opinions and beliefs” (1999, p. 384). This Indigenous approach to authority may be one of the most significant constraints on the local community’s participation in ecotourism planning.

The strong Javanese traditional hierarchy has made the local people themselves believe that they should not be involved in ecotourism planning (Timothy, 1999). Thus, strategies to increase the local community’s participation in Indigenous ecotourism development should consider local cultural attributes and decision-making traditions that are already in place. This view is supported by Rachmawati (2014) who conducted a study on ecotourism development in two provinces in
Indonesia involving two Indigenous communities: East Java Province with the Javanese people, and West Java Province with the Sundanese people. She found that the Javanese people have a strong traditional social structure and are more introverted, whereas the Sundanese people tend to be softer and are more open to new comers. This study suggests that the social and cultural capitals of the local Indigenous community are foundational to Indigenous ecotourism development.

2.3.1.1. Indigenous Ecotourism in Indonesia

In Indonesia, Indigenous ecotourism started to develop in early 1990s with the first Indigenous ecotourism project being held in Mount Halimun National Park in West Java. The park was established in 1992 covering 40,000-ha with 500 plant species, 200 bird species, twenty-three mammal species, and various kinds of butterflies. Around 160,000 people lived in forty-six villages in and around the park area, including two Indigenous groups: the Kasepuhan, who have lived in the area for more than 600 years, and the Sundanese, who depended on the forest as their food resources (Zeppel, 2006). The ecotourism project started in 1993 when the Biodiversity Conservation Network donated around NZD600,000 funding to Mt. Halimun ecotourism consortium for developing Indigenous ecotourism enterprises and promoting conservation in the park. The funding was used for building three guesthouses in the north, south, and east section of the park with a traditional style using bamboo, which were built and owned by community members. It was also used for building a small hydropower system for electricity, upgrading walking trails to waterfalls and mountain tops, appointing a field manager at each site to supervise the tourism operation and work with the local communities, and conducting trainings and workshops for local guides (ten people from each village), porters, managers, and guesthouse staff. Tourism development in the area has provided income for the local communities through the sale of fresh food and handicrafts, local transport, and entertainment. Some of the tourism profits were allocated to maintain communities’ facilities, promote ecotourism in the park, and for monitoring activities. The problems with this Indigenous ecotourism development were the lack of guidelines in setting visitor carrying capacity, managing accounting system, and conducting monitoring activities. In terms of issues with the local communities, there was still a lack of
awareness about ecotourism and caused a dispute between Indigenous groups in the south section of the park (Zeppel, 2006).

Indigenous ecotourism development in Mount Rinjani National Park on Lombok Island, Indonesia, won the World Legacy Destination Stewardship in 2004 for the natural and cultural heritage conservation of Lombok (Zeppel, 2006). The park covers a total area of 41,330 ha, including an important pilgrimage site for the Indigenous people of Lombok, Sasak, and the Balinese people, which is the crater lake of Segara Anakan. The most famous tourist activity in the area is the three-day Rinjani trekking. There were about twenty Sasak villages around Mount Rinjani and most of them were actively involved in tourism. Local Sasak people, including women, were trained to be trekking guides and sell handicrafts. The local community initiated a community cooperative that runs trekking and other tourist activities at two main entrances, which are located in Senaru Village and Sembalun Lawang village. The trek connects these two villages with a few attractions along the way: the crater rim, the summit of Mount Rinjani, campsites nearby freshwater springs around the summit, the volcanic crater lake of Segara Anakan, and hot springs (Zeppel, 2006).

The community-run cooperative coordinates local guides and porters, village tours, as well as the selling of handicrafts using a roster system. Both villages also offer accommodation, hill and waterfall walks, and a traditional cultural village with cultural performances including traditional weaving. Some of the tourism profits were allocated for trails maintenance, tourism training, and management and conservation activities. The Rinjani Trek Management Board included local Sasak people as members, along with park staff, staff from local and central government agencies, and tourism associations. This board is the first in Indonesia that provided a model for Indigenous ecotourism management. This successful ecotourism development was supported by the New Zealand government through NZ Aid programme to help the poorer eastern parts of Indonesia by supporting Indigenous ecotourism for poverty alleviation (NZAID, as cited in Zeppel, 2006). On the contrary, a long-term study conducted by Schellhorn (2010) from 2002 – 2006 in Mount Rinjani National Park shows that the local Indigenous community, the Sasak, receives less economic benefits from
the tourism development in their ancestor’s land. Some of the barriers to the participation of the Sasak people included cultural, education, gender, socio-economic, and tourism skills. In addition, donor agencies prefer more tangible developments such as new tourism products and better services. This focus seems to have overlooked social development, especially the Sasak people’s participation in tourism development.

Kausar and Gunawan (2017) conducted a research in Toraja, South Sulawesi, Indonesia, where the Indigenous way of life, the practice of Indigenous religion, and landscape features (such as rice paddy fields and forests) of the Torajan people became the main tourist attractions. Better accessibility to the region has contributed to the market expansion by capturing Asian tourist market. Some identified issues in the Indigenous ecocultural tourism development in Toraja include preserving Torajan heritage and promoting Indigenous values to maintain the balance between culture, heritage conservation, and ecocultural tourism development. Although most of the Indigenous research participants supported the development of ecocultural tourism in the area, some others expressed their concerns regarding nurturing and protecting culture alongside tourism. They expected more involvement in the process of decision-making related to the use of their natural and cultural resources for ecocultural tourism development. The authors suggest that improved communication is needed between the local Indigenous communities and the local government when deciding how natural and cultural resources can be utilised for ecocultural tourism.

Section 2.3. has described why Indigenous tourism and Indigenous ecotourism are considered to be the most suitable form of tourism for destinations where Indigenous peoples reside. Indigenous tourism/ecotourism is expected to be effective in enabling active participation from the local Indigenous communities by safeguarding both the natural environment and cultural traditions. However, the role of Indigenous people’s stewardship in ecotourism is challenged by Fennell (2008) where he argues that Indigenous stewardship is just a myth. His arguments contest the idea of Indigenous people being ecologically wiser, more virtuous, and more responsible than Western people. Fennell highlights evidence
of the Indigenous peoples’ over-hunting, biodiversity crisis caused by the arrival of Indigenous peoples, Indigenous peoples exploiting resources and endangering lands, and, when “ecological impact is found to be low within a traditional society, it is not because of conservation-mindedness, but rather from conditions of low population density, poor technology, or the absence of a market ... from which to profit” (Low; Faust & Smardon, as cited in Fennell, 2008, p. 137). Based on these arguments, he points out that in ecotourism, the claim that Indigenous peoples are ecologically wiser than Western people needs to be carefully examined. He goes on to say that:

there may be serious philosophical and operational problems in packaging aboriginal ecotourism according to a superior environmental ethic, i.e. indigenous ecotourism may not be special by virtue of the opportunity to teach non-aboriginal people how best to co-exist with nature. (Fennell, 2008, p. 144)

Nevertheless, Fennell also notes that “if there are Indigenous practices that are sustainable, these should be highlighted, celebrated, and further investigated” (2008, p. 144). This study intends to highlight and investigate the Misoolese Indigenous knowledge and practices and how they are incorporated into marine ecotourism development.

The literature review on Indigenous knowledge of the Indigenous people (section 2.2.) describes general understanding of Indigenous knowledge, its role in conservation initiatives, and its position within Western scientific knowledge. The literature review on Indigenous tourism/ecotourism (section 2.3.) provides theoretical background on how Indigenous peoples contribute in tourism development while protecting their cultural and natural heritage at the same time. Both literature reviews inform this research on Indigenous knowledge of the Misoolese people and how they incorporate this knowledge into marine ecotourism development. The next section focuses on the integration of Indigenous and local knowledge in tourism development.
2.4. Indigenous and Local Knowledge in Tourism Development

This section reviews key literature about the integration of Indigenous and local knowledge in tourism development. The importance of incorporating Indigenous knowledge into tourism has been acknowledged by Tribe and Liburd (2016, p. 53), in which they suggest: “we have still to see more representations of indigenous tourism knowledges, including explorations of how indigenous knowledges are valued in authentic being, justice, wisdom, and the fusion of epistemology and ontology” [emphasis added]. In the same vein, Chambers and Buzinde (2015) suggest the need to integrate Indigenous knowledge and practices into the tourism curriculum rather than “as a part of optional or specialist courses” (p. 10), to broaden our perspectives on tourism epistemology. Citing Chambers and Buzinde, Tribe and Liburd (2016, p. 52) write a sentiment that perfectly portrays the importance of this study (which is located in Indonesia) with the researcher being a non-native English speaker from Indonesia:

To enable further understandings from the perspective of local and indigenous epistemologies of tourism to emerge they call for psychological liberation, transformation and educational integration of native knowledges and practices emanating from scholars from the South whose language is not English.

Sustainable tourism management is perceived as an activity that is principally consistent with Indigenous values about the sacredness of the land and people’s relationship to it (Hinch & Butler, 2007). More manmade settings are being built, which is causing more separation between human and nature. This creates environmental issues of the modern world, thus, simultaneously, people are trying to find new ways of connecting to nature (Berkes, 2012). With environmental degradation caused by modernisation, particularly on natural resource deterioration and environmental catastrophes, there has been a shift in how scholars (Aswani & Hamilton, 2004; Berkes, 1999, 2012; C. F. Butler & Menzies, 2007; Schlacher, Lloyd, & Wiegand, 2010) recognise TEK as an alternative solution to the problem. Any culturally and environmentally sustainable tourism development should be based on the distinctive connection
between Indigenous people and their habitat, and the interrelated knowledge they have cherished and established over generations (C. F. Butler & Menzies, 2007). Therefore, it is crucial to identify ways to safeguard these traditional values by using such knowledge for both the protection of Indigenous resources as well as a unique tourist attraction (Hinch & Butler, 2007) [emphasis added].

The most significant rationale for using TEK for tourism development is that TEK is “a way of life and is based on both cosmology and experience” (C. F. Butler & Menzies, 2007, p. 18). It is constantly entrenched in a specific environmental and cultural setting. So, while there may be similarities between TEK (for example, marine sasi of the Raja Ampat people and rahui of the Māori people), each one reveals “a unique way of understanding the world” (C. F. Butler & Menzies, 2007, p. 18) and it is “an embodied practice directly rooted in everyday livelihood activities” (Menzies, as cited in C. F. Butler & Menzies, 2007, p. 18). The role of TEK in tourism development was studied by C. F. Butler and Menzies (2007), in which the authors investigated the potential links between TEK research and tourism planning in an Indigenous community in north-western Canada, Gitxaala. The material of this study was based on five collaborative research projects with the Gitxaala First Nation, that documented Gitxaala’s TEK and conservation and management practices, “in the prehistorical, historical, and contemporary eras” (C. F. Butler & Menzies, 2007, p. 16). The study shows that sustainable tourism development in the area can be supported by three aspects of their TEK: conservation, observation, and holistic resource use.

Gitxaala’s conservation, ethics, and harvest management practices can inform consumptive tourist activities such as sports fishing and hunting, as well as wildlife-viewing activities such as bear and whale watching. For sustainable consumptive tourist activities, Gitxaala’s estimation of species abundance and vulnerability to predation can be used to set harvest limits; for wildlife-viewing activities, Gitxaala’s ethics of respect and non-interference can be used to set the codes of conduct. Moreover, their knowledge about wildlife behaviour and motion patterns makes them better guides. The other two aspects of Gitxaala’s TEK are observation and holistic resource use. Environmental observation, such as ecosystem health and resource abundance monitoring, is essential to oversee the
impact of industries in the area, including tourism. Tourism activities such as establishment of fishing lodges in local water, increased fish harvests by recreational fishers, whale watching tours, increased cruise ships and boat traffic may cause ecological impacts.

The observation of the ecological impacts is substantial to maintain the quality of the environment and the sustainability of Gitxaala people to harvest their traditional food. Any declines in resource availability may cause termination or modification of tourism development activities. The unique relationship between Gitxaala people and their environment that shapes holistic resource use can provide a solid foundation for cultural tourism development. Tourists with an interest in Indigenous culture might appreciate Gitxaala’s unique processing technologies, interesting harvest tools and various traditional cuisines. The highlighting of TEK practices may even increase the touristic experience of those tourists (C. F. Butler & Menzies, 2007). Based on this study, using Indigenous knowledge and practices may offer suitable resolutions over the sustainable tourism development. This will empower the Indigenous people, preserve the Indigenous knowledge itself, conserve the environment, and eventually stimulate a sustainable economic improvement. This argument represents the heart of this research. When tourism development is being planned carefully and empathetically, by empowering Indigenous people and their unique knowledge and practices, it does not necessarily turn into another form of colonialism.

The utilisation of Indigenous and local knowledge in geotourism destinations was studied by Pásková and Dowling (2014) with the case studies of Chile, Australia, Europe, Japan, and Indonesia. Easter Island in Chile has great potential for geotourism development due to its volcanic origin and moais (the gigantic carved stone figures). The Rapa Nui people who inhabit this island have set a carrying capacity for tourism development using an intuitive approach based on “the historic experience of previous ecological neglect” (p. 2) as a part of intergenerational collective memory. Other Indigenous knowledge and practices that could potentially make the geotourism development more sustainable include: the close relationship between the Rapa Nui people and their land, deep respect for natural environments, historically shared experience of ecological
catastrophes, relating land-use management skills, and unique natural spirituality.

In Australia, the Kanawinka Geopark includes a complex of Indigenous aquaculture, where visitors can experience the tribal use of fish traps made of stone and permanent stone huts to develop the fishing culture. Other examples from Europe include: the use of local farming practices in Basque Geopark, locally specific ways of mining in Karavanke Geopark and Idria Geopark, and the hard mountain way of living in Adamelo Brenta Geopark. Itoigawa Global Geopark in Japan highlights the strong connection between its Indigenous inhabitants and their land containing a large deposit of jade, which created the jade-working culture. In Batur Global Geopark, Indonesia, the use of Indigenous knowledge is represented in the information given by the local tour guides, and in the Batur Volcano Museum that contains holistic information on volcanology, landscape interpretation, and an understanding of the links between the landscape and the Balinese culture. The usage of Indigenous and local knowledge in the management of geotourism destinations has been increasing the sustainability of geotourism development (Pásková & Dowling, 2014).

In a study investigating the connection between slow food, traditional ecological knowledge, and sustainable ecocultural tourism in Aotearoa/New Zealand, Thompson and Ruwhiu (2014) found that Māori tour operators believed that the integration of TEK in slow food experiences could enhance visitor experiences and understanding on Māori ecocultural tourism. Examples of TEK in slow food processes include: traditional food gathering (such as foraging and hunting), the sharing of freshly gathered food, and the preparation and consumption of traditional foods. Another TEK related to slow food experiences consist of Indigenous land used practices and the knowledge of native species of flora and fauna, which provide local tour guides the opportunities to convey stories about Māori cultural heritage and value systems to visitors. This study suggests that the integration of Indigenous knowledge within the tourism experience is of paramount importance for sustainable ecocultural tourism development and in preserving intergenerational traditional knowledge.
Schlacher et al. (2010) explored the use of oral history and local ecological knowledge from the local community to address the issue of brown algae outbreaks on popular tourist beaches in southeast Queensland, Australia, because there were no data available on algal bloom history, characteristics, nor the drivers. After interviewing sixty-one people, they managed to gather 541 bloom records. This led to information on key characteristics of blooms which could not have been acquired by other methods, such as the time of formation, geographic scope, duration, the level of severity, and the patterns of dispersion. The local community’s ecological knowledge was proved to be a valuable tool to address the issue of algal blooms. New insights have emerged by the use of local ecological knowledge which led to wider management implications which required regional collaboration. This study displays the significant role of local ecological knowledge in addressing a major problem in a tourism destination, where tourism has become the main source of the local community’s livelihood. When scientific data is not available, oral history and traditional knowledge often become the only practical tools to obtain data (Schlacher et al., 2010; Berkes, 2012). Harnessing traditional knowledge is an important process in increasing Indigenous communities’ participation in addressing issues in tourism development. By actively engaging Indigenous communities, not only can it strengthen their sense of ownership for a site and its ecosystems, it can also provide a medium to inform the Indigenous communities, so they will become more likely to accept policy change in the future (Carr, Evans & Birchenough, Kapoor, as cited in Schlacher et al., 2010).

However, the implementation of Indigenous knowledge and practices can sometimes create conflicts within the tourism context. A study by Hillmer-Pegram (2016) in Barrow, Alaska demonstrates how one of the Inupiat Indigenous practices, which is subsistence bird hunting, has created conflicts. Duck Camp is a place where the Inupiat people do their hunting of migratory fowl using shotguns. That place is also one of the best places for birdwatching. “Birders have been brought to tears, I was told, as they watched certain species blown from the sky for traditional Indigenous uses. ... Inupiat have fought long legal battles to maintain their traditional subsistence harvest” (Hillmer-Pegram, 2016, p. 1204).
Interestingly, one of the findings of the study illustrates that some local people believed that by “exposing tourists to traditional hunting, fishing and gathering activities will actually help to build allies (rather than enemies) in the struggle to maintain subsistence rights” (Hillmer-Pegram, 2016, p. 1205). Conflicts between subsistence and tourism can only be eliminated by finding a balance and securing their Indigenous values through tourism.

In Indonesia, the practice of traditional ecological knowledge in Bali has been acknowledged as internationally significant. In 2012, the World Heritage Committee of UNESCO officially agreed to enlist the Cultural Landscape of Bali onto UNESCO’s World Heritage list. The full name of the inscription is the “Cultural Landscape of Bali Province: the Subak System as a Manifestation of the Tri Hita Karana Philosophy” (UNESCO-WHC, n.d.-a, para. 1). Subak displays a complex system of thinking that exists in an Indigenous group of Bali (Berkes, 2012). It refers to a religious and social institution of self-governing groups of farmers who democratically share the responsibility for the water used to grow rice in their paddy fields. Farmers meet regularly to control the distribution of the irrigation water and also to make spiritual offerings at the temples. Furthermore Berkes (2012, p. 202) stated:

Having holistic concepts of the land and dealing with uncertainty and scale are hallmarks of a complexity approach. ... [It shows] evidence of an intuitive understanding of a complex adaptive system approach, where traditional knowledge and management systems deal with components and interactions of an integrated whole, and where they show an ability to learn and adjust.

The cultural landscape of Bali displays the complex systems thinking of TEK that offers exquisite natural landscape and landmarks. Not only can tourists admire the magnificent view, they can also learn about Balinese Indigenous culture at the same time. With the potentially increased visitation, it is important to establish a management mechanism to preserve the cultural value of the outstanding cultural landscape with its unique philosophy, and protect it from the negative impact of tourism (Watson & Lansing, 2012). As mentioned in section 1.3.2., Raja Ampat is enlisted in the tentative list of UNESCO World Heritage Site for its exceptional
biodiversity, the quality of the reef, and the superb aesthetic value on both above water and underwater scenery (UNESCO-WHC, n.d.-b). The use of Indigenous knowledge and practices in marine ecotourism development in Raja Ampat, could potentially add more outstanding values as a world heritage nomination.

Unfortunately, there have been indications of cultural erosion of Balinese traditional ecological knowledge. A study on Balinese TEK of food plants in thirteen traditional Balinese Aga villages displays the amount of TEK that the villagers “actually retain is much lower than the potential TEK that would be expected” (Sujarwo, Arinasa, Salomone, Caneva, & Fattorini, 2014, p. 431). It also illustrates that the level of awareness of TEK of the younger generation is much lower than that of the older people. The researchers also suggest that tourism contributes to major socioeconomic changes, which contributes to the decline of TEK. The development of tourism in villages like Jatiluwih, Songan, and Bayung Gede, where the local people have been exposed to cultural and material influences and “excesses of the developed world” from the tourists, has impacted the local people’s connection with nature. The researchers observed the separation between the younger generations who are pro tourism and embrace the intercultural experiences it has to offer, and the older generation whose values and knowledge seem to be “out of step with life in the region” (Agung, as cited in Sujarwo et al., 2014, p. 434). This study suggests a recommendation of using the Balinese life philosophy of the *Tri Hita Karana* continuously, as it could lead the local people to wisely use the natural resources and conserve Indigenous knowledge, even the ones that have been lost.

Research on the use of Indigenous knowledge in agrotourism development was carried out by Arifin and Nurhayati (2016) in two ecovillages in Banten and West Java, Indonesia, where two Indigenous communities reside. The research found that the Indigenous communities have been practising Indigenous agroforestry and agricultural systems in rural and agricultural landscapes such as *pekarangan* (home gardens), *kebun campuran* (mixed gardens), and *talun* (forest gardens). These Indigenous practices play an important role in promoting agrotourism and ecotourism development, because they preserve the ecosystem balance and maintain the aesthetical landscapes of *pekarangan*, *kebun campuran*, and *talun*. 
The authors suggest the integration of Indigenous agroforestry and agricultural practices as a key approach in agrotourism development, to increase the community’s well-being socially, economically, ecologically, and culturally (Arifin & Nurhayati, 2016). Similarly, Lake, Avenzora, and Arief (2018) hold the view that Indigenous knowledge and practices play an important role in strengthening ecotourism development. Lake et al. (2018) suggest the implementation of integrated stakeholder management consists of the local government institutions, local Indigenous community members, NGOs, academics, and the private sector, in integrating existing Indigenous knowledge and practices into sustainable tourism development.

2.5. Chapter 2 Summary

This chapter has reviewed literature on Indigenous knowledge, Indigenous tourism/ecotourism, and the use of Indigenous and local knowledge in tourism development. Taken together, these studies support the notions of the importance of Indigenous knowledge as well as involving Indigenous peoples with their knowledge in tourism development to create a mutualistic relationship. Indigenous knowledge is integral to a cultural complex, which are important components of the world’s cultural diversity (UNESCO, 2017). Some of the complex realities of Indigenous peoples and knowledge include: the loss of Indigenous knowledge, how they remain undervalued, and the myth of Indigenous ecological knowledge proposed by some scholars (e.g. Hames, 2007; Redford, 1991). The rapid change in the way of life of Indigenous communities has largely accounted for the loss of Indigenous knowledge. Utilisation of Indigenous knowledge means preserving Indigenous knowledge. Although Indigenous knowledge has started to receive more attention, it is often neglected as a key source of policy-relevant information because it is often undervalued from a perspective of Western scientific knowledge (Semali & Kincheloe, 1999; Tuhiwai-Smith, 2012). Hence, it is important to highlight the similarities between both knowledges, as most Indigenous knowledge is based on the same principles as western science (Hikuroa et al, 2011). Both Indigenous knowledge and western science are based on observation of nature, both information is accumulated over time and involve repeated tests, and both systems involve explanations of cause
and effect as important components. Although there have been some arguments pointing out that the idea of deliberate conservation by Indigenous peoples is just a myth (Hames, 2007; Redford, 1991), some traditional ecological knowledge offers practices regarding human-environment relations. This has increased interest, signifying the need for a resource use scheme derived from Indigenous practices with ecological awareness and the need to reinforce ecological ethics from TEK owners’ wisdom (Berkes, 2012).

When Indigenous peoples choose to get involved in tourism, they might face both opportunities and risks (Hinch & Butler, 2007). Indigenous tourism is a form of cultural tourism, which offers alternatives to make tourism more responsible when it is carefully planned, controlled and empowering Indigenous people in the area (Pereiro, 2013). To guarantee that the Indigenous people in host destinations can obtain an equal portion of the benefit of tourism, conscientious planning and management are needed. Albeit Fennel (2008) voices opposition on some Indigenous stewardship practices, he still encourages investigations on Indigenous practices that are sustainable. In addition, Tribe & Liburd (2016) also suggest the need for incorporating Indigenous knowledge into tourism. There remain several aspects of the integration of Indigenous knowledge in tourism development which could be explored further.

As mentioned earlier, younger generations tend to consider western culture to be more desirable than their own Indigenous culture (Uluwishewa, as cited in Ngulube, 2002). With this tendency, Indigenous culture, including its knowledge, could disappear sooner or later through rapid 21st century globalisation. The utilisation of Indigenous knowledge through tourism could improve a stronger sense of cultural identity of the Indigenous peoples (Ortiz, 2007; Smith & Richards, 2013) and its sustainability. As cultural sustainability in marine ecotourism is as important as natural sustainability (C. Cater & Cater, 2007; J. C. Wilson & Garrod, 2003), this study aims to examine the complexities of integrating Indigenous knowledge and practices into sustainable marine ecotourism development. In the next chapter, the literature review will explore the development of marine ecotourism, including scuba diving tourism as a subset of marine ecotourism, and the role of stakeholders in it.
CHAPTER 3
MARINE ECOTOURISM DEVELOPMENT

“We know more about the moon than our own ocean world"  
(WWF/IUCN, n.d., p. 10)

3.1. Introduction

The objective of this chapter is to provide a literature review which informs the context and theoretical foundation for exploring the relationships between the tourism stakeholders, especially local Indigenous communities, and marine ecotourism. Marine ecotourism is still perceived as one of the best vehicles for coastal area development and marine conservation support (Garrod & Wilson, 2004) as it offers a more sustainable form for marine-based tourism (Sakellariadou, 2014), and its development relies on the conservation of pristine marine environment (Gössling, Hall, & Scott, 2018; World Wildlife Fund/International Union for Conservation of Nature [WWF/IUCN], n.d.). The role of the local communities in marine ecotourism is deemed essential, as they are the key stakeholders who have the birthrights to marine resource use (C. Cater, 2014). The local communities, with their socio-cultural setting, influence the direction of marine ecotourism development. The social setting may influence the level of participation and the cultural elements may be utilised for developing marine ecotourism. Therefore, the literature review in this chapter presents relevant research, informing the linkage between the knowledge and practices of Indigenous coastal communities and marine ecotourism development.

The first section of this chapter focuses on marine ecotourism and marine resource management. The case study site of this research is located in Indonesia, hence, the marine ecotourism development in Indonesia is discussed in the first sub-section, continued with the role of international NGOs and Indigenous communities in marine ecotourism development since they are related to the first part of the second research question, which focuses on tourism stakeholders. The second section focuses on literature relevant to the core marine ecotourism
activity in Raja Ampat – scuba diving – highlighting the issues surrounding scuba diving tourism development and the role of local community participation.

3.2. Marine Ecotourism

The statement above, from the WWF/IUCN’s marine policy in creating a sea change, perfectly portrays the abundance of marine biodiversity (Tullis, 2017; WWF/IUCN, n.d). The facts that “out of 33 animal phyla, 32 are found in the sea, 15 of which are exclusively marine, and how the oceans contain the world’s largest (the blue whale) and smallest (meiofauna) animals” (C. Cater & Cater, 2007, p. 3) and “there may be another 1 to 8 million undiscovered species of organisms living in and around reefs” (Reaka-Kudla, as cited in National Oceanic and Atmospheric Administration [NOAA], 2017a, para. 1), have stimulated the growth of marine ecotourism where tourists seek to treasure and respect marine life in all its forms. In effect, marine ecotourism has arisen as an industry and a development tool which involves physical, social, cultural, political, and economic components (C. Cater & Cater, 2007). One of the contributions of tourism to Sustainable Development Goals (SDGs) is the conservation and sustainable use of the oceans, seas, and marine resources for sustainable development (UNWTO, 2016a), which could be achieved by incorporating the values of marine ecotourism principles.

Despite the idea that “it is extremely difficult (and perhaps unwise) to make definitive statements regarding those marine tourism activities that are ecotourism and those that are not” (Orams & Carr, 2008, p. 288), Orams and Carr define marine ecotourism as “a subset of marine-based tourism activities which offers a less consumptive and more sustainable form of marine tourism, with a focus on offering an educational experience of the environment” (2008, p. 288). These nuances of the marine ecotourism definition could be beneficial, so each culture/society can adapt to the core principles of ecotourism to their own definitions, especially in the Indigenous context. When talking about ecotourism itself, there are three characteristics embodied in ecotourism, which are: nature-based (fauna, flora or both), learning purpose (improving people’s behaviour in treating the environment for more sustainable relationships) and sustainability
values (using sustainable development approach) (J. C. Wilson & Garrod, 2003). One thing that is important to be highlighted in this discourse is that the sustainability in ecotourism context is not only related to the natural environment conservation, but it also includes the sustainability of local communities’ ways of life and livelihood (Masud, Aldakhil, Nassani, & Azam, 2017; J. C. Wilson & Garrod, 2003).

The fundamental basis of marine ecotourism is the conservation of marine biodiversity, which depends on the sustainability of ecological processes (J. C. Wilson & Garrod, 2003). Thus, marine ecotourism needs to be planned and managed carefully to ensure the sustainability of the marine environment and resources which it builds upon. Permanent deterioration to the marine environment may occur when marine ecotourism practices are not responsive in dealing with threats (Burgin & Hardiman, 2015; Trave, Brunnschweiler, Sheaves, Diedrich, and Barnett, 2017). Some forms of interaction with marine animals can be a serious threat for the future of those animals (e.g. swimming with cetaceans). To maintain the strength of species and habitats in coping with negative impacts of tourism, they need to be in healthy condition. Therefore, a better understanding of the ecology of marine wildlife is needed in marine ecotourism development (Trave et al., 2017), in which marine ecotourism planners and developers acknowledge the environmental capacity of the coastal area in absorbing the negative impacts (J. C. Wilson & Garrod, 2003). Indigenous knowledge may provide useful insights for marine wildlife management (Weiss, Hamann, & Marsh, 2013). Through significant dedication from Indigenous and non-Indigenous stakeholders to increase environmental management relationships through communication and network building, Weiss et al. (2013) suggest that the integration of Indigenous knowledge is crucial for managing green turtle and dugong populations in northern Australia. Similarly, Trave et al. (2017) propose management strategies to reduce negative impacts of marine wildlife tourism, which include the implementation of an adaptive management framework by involving local communities in safeguarding their natural assets, using their ecological knowledge.
It has been argued that the improvement of peripheral coastal communities can be accomplished by developing marine ecotourism (Bansil, Capellan, Castillo, Quezon, & Sarmiento, 2015; Hermansyah & Sunaryo, 2016; Lindberg, Enriquez, & Sproule, 1996). Similarly, Garrod and Wilson (2004) assert that the reason marine ecotourism appeals to peripheral coastal areas is because marine ecotourism offers: an option for sustainable development, an alternative for redistribution of resources, an answer to fill the gap caused by seasonality, a product diversification approach rather than market diversification that requires modest capital investment, and lower leakage factors and higher multiplier effects in the local economy compared to other forms of economic activity. In addition, marine ecotourists seek unspoiled marine resources that peripheral areas have. In this study, marine resources that are discussed are not limited to just natural resources. In many peripheral coastal areas, the local communities inherited maritime cultural heritage that is a potential treasure to be used in marine ecotourism development (Masud et al., 2017; J. C. Wilson & Garrod, 2003). One example of this is how they manage their aquatic resources (Durán et al., 2015; Semali & Kincheloe, 1999).

Despite the potentials of marine ecotourism already mentioned above, marine ecotourism is not the perfect solution for peripheral coastal areas, because it also has some drawbacks (Garrod & Wilson, 2004) [emphasis added]. To some extent, marine ecotourism still relies on the global tourism industry and tourists’ assurance in the stability of international safety and security. In addition, marine ecotourism activities are often situated at coastal areas with abundant marine animals and creatures. Because the movement of these species is not limited to legal boundaries between areas/countries, an irresponsible practice of marine ecotourism in one area/country may have a negative influence on the species along the movement path (Garrod & Wilson, 2004). To a certain degree, marine ecotourism could also contribute to environmental degradation caused by the use of marine vessels with internal combustion engines which produce damaging emissions into the sea and the air (Orams & Carr, 2008).

Another possible pitfall of marine ecotourism is the viability of certain types of animals may also be disturbed by inadequate knowledge of the biology of the
animal and of the negative impacts of marine ecotourism activities to the animal (Garrod & Wilson, 2004; Burgin & Hardiman, 2015). Burgin and Hardiman (2015) investigated the effects of non-consumptive wildlife-oriented tourism on marine species and prospects for their sustainable management. As one of the marine ecotourism activities, non-consumptive marine wildlife-oriented tourism has been growing in recent decades. Unfortunately, negative impacts occur from human-mediated feeding of marine species, such as direct habituation, behavioural change, and dietary impacts on the species. The number of marine vessels used by tourists also causes the decline of species numbers.

Marine ecotourism cannot be regarded as a single entity nor be dealt with in seclusion. The success of sustainability results depends on other conditions too. According to E. Cater (2003), to ensure that marine ecotourism can achieve its goals, including increased local participation, the wider context within which it is addressed needs to be recognised. It is essential to view marine ecotourism in the framework of marine nature tourism as a whole and be considered in connection with other tourism market segments that rely and give impact on the marine environment. It is also important to consider other forms of activity that take place on the marine environment, such as fisheries. In the case of Raja Ampat, damaging fishing practices, such as cyanide and dynamite usage, create serious threats to the marine environment sustainability (Erdmann, 2014; Varkey et al., 2010). The global environmental context, such as climate change that causes damage to the marine environment, also needs to be taken into consideration (Dawson, Maher, & Slocombe, 2007). A study in Palau shows that climate change has a big impact on Palau’s ecosystem (Wabnitz, Cisneros-Montemayor, Hanich, & Ota, 2017). The increase of sea surface temperature has caused the decline in coral coverage area, which contributes to reef degradation. Such impacts could influence local livelihoods, food security, and marine ecotourism industry. Thus, a sustainable coastal management plan is necessary to include local communities to continuously review and improve adaptive strategies using local management measures (Wabnitz et al., 2017).

Marine ecotourism continues to be suggested as a means to reduce local dependency on fisheries as the skills needed for fishing, such as operating boats,
knowledge on traditional navigation and on local marine habitats, are also useful for marine ecotourism operations (Porter, Orams, & Luck, 2015). Marine ecotourism activities, such as surfing tourism, offer alternative livelihoods to the coastal communities in the Philippines (Porter et al., 2015) and Mentawai Islands, Indonesia (Towner & Milne, 2017). Sustainable marine ecotourism development must include Indigenous coastal communities in the decision making regarding the use of local marine resources (Towner & Milne, 2017), as the increased number of visitors has implications for marine resource sustainability and the livelihood of Indigenous coastal communities (Ponting & O’Brien, 2015). Thus, the management of marine ecotourism development needs to ensure the sustainable economic benefits to the Indigenous coastal communities, the conservation of marine resources, and the preservation of local Indigenous culture (Towner & Milne, 2017).

One of the outstanding universal values of Raja Ampat is the excellent condition of the coral reefs, which put Raja Ampat in the tentative list of UNESCO World Heritage Site (UNESCO-WHC, n.d.-b). Coral reefs play an important role in the marine ecosystem as they provide supports that humans benefit from. Tourism is one of the industries that is benefiting from the existence of coral reefs. Marine ecotourism relies on the healthy condition of coral reefs and is one of the best possible uses of coral reefs when managed responsibly. Fenner (2014) identified several things that can be a threat to the marine environment, which are: over fishing, destructive fishing (using bomb or cyanide), sediment runoff from nearby constructions, fertiliser runoff to the sea that fertilises algae, divers/snorkellers’ negative behaviours that damage the coral reefs, and global warming that causes coral bleaching. Compared to the other causes, divers/snorkellers damage is still relatively insignificant in threatening the coral reefs (Fenner, 2014). However, Fenner failed to mention the impacts of tourism infrastructure and other types of marine ecotourism activities on coral reefs. Other researchers who have looked at scuba diving damage, found that the prevalence of healthy corals at low use sites were twice than that of high use sites (Lamb, True, Piromvaragorn, & Willis, 2014). They also found that high intensity tourist activities in marine sites increases coral disease development. Indigenous knowledge on the marine
environmental resources could potentially prevent the disruptions caused by marine ecotourism development (Berkes, 2012; Masud et al., 2017).

The establishment of marine protected areas (MPAs) is argued to be effective in supporting both marine ecotourism and fishery to work together in a community, especially in the peripheral coastal communities whose livelihood depends on a healthy condition of the marine environment (Lopes, Pacheco, Clauzet, Silvano, & Begossi, 2015). A study on the relationship between fisheries, tourism, and MPAs was conducted by Lopes et al. (2015) in Brazil’s Green Coast. Similar to Raja Ampat, the area has been recognised to be significant for biodiversity conservation (Begossi et al.; Lopes et al, as cited in Lopes et al., 2015). Before the area was turned into MPA, it used to be important fishing grounds for local fishers. Even so, there was no conflict between local fishers and the MPA manager when the area was turned into MPA because, arguably, local fishers understand that MPA could potentially improve fisheries through spillover of fish and larvae dispersion to fishing zones (Gell & Roberts, 2003). Besides fisheries, marine ecotourism could also benefit from MPA through a zoning system, which has been exemplified in Great Barrier Reef, Australia (Day, as cited in Lopes et al., 2015). Biodiversity conservation on MPAs could be an added value to be sold to marine ecotourists as people are willing to pay more to support conservation (Lopes et al., 2015). The study found that fishers who were engaged in marine ecotourism had better earnings than those who only depended on fisheries. When fishers are involved with marine ecotourism activities, it could potentially reduce their time to fish, therefore benefiting marine conservation. In order to achieve balance and sustainable use of marine ecosystem, it requires “a mosaic of uses”, which allows the maintenance and recovery of marine resources (Lopes et al., 2015, p. 7). When fishing activities are restricted as a result of MPA regulations, marine ecotourism may be able to offer livelihood for local fishers. Hence, the establishment of MPAs should involve the local community in deciding whether full conservation is necessary or sustainable use of fisheries and tourism could be negotiated (Lopes et al., 2015).

Similarly, Fenner (2014) suggests that MPAs can provide a win-win solution for local fishers and marine ecotourists. It allows fish to grow big, which allows
divers/snorkellers to experience the feeling of awe when seeing those big fish, and fishers can catch them when they swim outside the boundaries. According to Fenner (2014), this concept works better when applied in areas where the local communities are highly dependent on the ocean for sustenance, as they will defend their reefs from outside fishers. He goes on to say that it is easier to expand no-take-zone areas in developing communities compared to that of developed societies who are wealthier and well educated. For example, in Florida there was a big protest from the local fishers when the local authority wanted to expand the no-take-zone area from 1% to 3% (Fenner, 2014). On the other hand, for peripheral coastal communities whose food comes from the ocean, they can see the benefit of MPAs.

A number of studies have confirmed the effectiveness of traditional ecological knowledge (TEK) for marine conservation (Drew, 2005; Gerhardinger, Godoy, & Jones, 2009; Shackeroff & Campbell, 2007). Traditional ecological knowledge on marine species classification, the level of species population, and ecological interactions could inform marine conservation strategies based on customary ecosystem management plans (Drew, 2005). A study at nine MPAs in Brazil also displays TEK as an important tool which informs the management of marine conservation areas (Gerhardinger et al., 2009). Some of the TEK that is useful for the management of marine conservation areas include knowledge of species/resource distribution within the area, seasonal variation of resource availability, resource exploitation dynamics, and sustainable exploitation rates (Gerhardinger et al., 2009). These studies conclude that utilisation of TEK in marine conservation can encourage local Indigenous communities’ involvement through shared responsibility of the marine conservation areas (Drew, 2005; Gerhardinger et al., 2009).

As mentioned earlier, over many generations the local communities in coastal areas have been inheriting Indigenous knowledge and practices regarding the management of their marine environment and wildlife. These Indigenous knowledge and practices are precious and can play an important role for the sustainability of marine ecotourism development (Twarog, 2004), by informing the marine environmental capacity and habitat viability for the sustainability of
ecological processes (Berkes, 2012; Schlacher et al., 2010). For example, the environmental concepts of the Māori people of Aotearoa/New Zealand, which include: whakapapa (connection between human and ecosystems including all flora and fauna), kaitiakitanga (stewardship of the environment), mana (control over natural resource management), and ki uta ki tai (the Māori concept of integrated catchment management from the mountains to the sea), are part of a dynamic system which aims to protect natural environment, including the marine environment, for future generations (Harmsworth & Awatere, 2013). These Indigenous environmental concepts support the marine ecosystem management, which is foundational for marine ecotourism development.

3.2.1. Marine Ecotourism Development in Indonesia

As this research is located in Indonesia, this section discusses the development of marine ecotourism in Indonesia. In Indonesia, marine ecotourism initiatives started in Togean Islands and Wakatobi Islands in Sulawesi in 1997 (Zeppel, 2006). The Togean Islands are located in Central Sulawesi. The Indigenous communities in Togean consist of seven ethnic groups of whose livelihood comes from fishing and copra farming. The islands are known as a scuba diving destination by scuba diving enthusiasts. In addition, Togean also offers other attractions such as Bajau (sea gypsies) culture and some endangered animal species, e.g. the endemic Togean macaque and tarsier, cuscus, and Sulawesi hornbill. In 1996, the Togean Islands became a provincial marine ecotourism destination. In 1997, the Togean consortium was established which initiated by Conservation International (CI) and a local NGO, YABSHI. Its main goals include biodiversity conservation, habitat protection, and local income generation from ecotourism. The consortium assisted the local community in developing locally managed tourist attractions, such as a forest trekking path in Malenge village, island handicrafts, and a mangrove forest wooden walkway in Lembanato village. To conserve the mangrove forest around the walkway, the local community in Lembanato village imposed traditional laws (Zeppel, 2006). The Togean consortium also facilitated the establishment of the Togean Ecotourism Network (TEN) to manage and promote local ecotourism products, accommodation, handicrafts, and other tourist services on the islands. In 1998 and 2001, TEN won
the ‘Tourism for Tomorrow’ award (Buckley and CI, as cited in Zeppel, 2006). After Togean Islands were declared as a national park in 2004, CI and Seacology assisted the local community in managing their natural resources. With the financial support from Seacology, the local community received some facilities to patrol their water, including a new speedboat with radio equipment and a guardhouse. The fund was also used to build a well and repair the pier and mosque at Tomil village. In exchange, a 3,200 acre of no-fishing zone was established by the local community and coordinated by a dive operator (Zeppel, 2006).

Wakatobi Islands are a district located in South East Sulawesi, which has been declared as a national marine park by the Indonesian government in 1996 (Wakatobi National Park Office, 2017). Wakatobi has long become a well-known diving destination in Indonesia because of its high-number of reef and fish species. Fringing reef, patch reef and atoll are the most dominant types of reef in the area, hence Jacques Cousteau, the pioneer of scuba diving, called it an “underwater nirvana” for divers (MTRI, 2016, para. 3). The total population of Wakatobi is 95,209 and consists of five main ethnic groups (Statistics Bureau of Wakatobi District, 2017; Wakatobi National Park Office, 2017). In 2000, PADI Aware Foundation funded the establishment of a fish aggregation device near Sampela village and a no-fishing zone on Hoga reef. These efforts managed to reduce cyanide and dynamite fishing on the reef, and thus supported sustainable marine ecotourism in Wakatobi (Johnson, as cited in Zeppel, 2006). With the existence of Operation Wallacea, research tourism remains the largest tourist sector in Wakatobi with around 14,000 bed nights in 2004 (Zeppel, 2006). Operation Wallacea (Opwall) is an organization that conducts various research programmes related to biodiversity and conservation management in remote areas around the world (Operation Wallacea, 2015). Opwall supports community-based tourism development in Wakatobi by using locally-owned accommodation, hiring local staff and transport services from the local people, and purchasing food, water, and fuel locally (Zeppel, 2006). Wakatobi Islands were able to become a self-governing marine ecotourism destination in 2004. In addition to research
and scuba diving tourism, Opwall suggested to develop up-market ecotourism in Wakatobi (Clifton, as cited in Zeppel, 2006) that still continues to date.

Another popular Indonesian marine ecotourism destination is Lombok in West Nusa Tenggara Province. Pradati (2017) conducted a study in Sugian Village, a coastal-marine conservation zone in East Lombok consisting of two small uninhabited islands: Gili Sulat and Gili Lawang. This small traditional village is also home to Sasak people, the Indigenous people of Lombok. Since 2006, the local Indigenous community initiated marine ecotourism development by establishing a local community-based organization, focusing on marine ecotourism programmes, such as conducting a community forum to address illegal fishing issues and establishing a dive centre to increase the community’s awareness on the importance of marine conservation. The local indigenous community was quite enthusiastic with the development of marine ecotourism in the area. They actively participated in scuba diving trainings, tour guide trainings, coral reef restoration, and mangrove replantation in beach areas. Marine ecotourism development has been acting as a means to improve social, economic, and environmental benefits for the local Indigenous community. Some of the social benefits include: local people’s involvement in decision making processes, the strengthening of their Indigenous culture, and the improvement of social equity for women and young people in marine ecotourism. The local people gain economic benefits through the provision of accommodation, food and beverages, boat rental, dive guide services, and tour guide services. Marine ecotourism development has also motivated the local people to become agents in protecting their marine environment.

Recent studies (e.g. Hengky, 2018; Utami & Mardiana, 2018) have shown that focus on marine ecotourism development in Indonesia is moving towards the development of small island destinations. Thousand Islands, off the northern coast of Jakarta, have been appointed as one of the ten-priority destinations by the Indonesian Ministry of Tourism (Hengky, 2018). One of the most visited islands in the area is Bira Island, which offers white-sandy beaches and beautiful underwater panorama. Marine ecotourism development has improved the local economy by empowering the local community in marine ecotourism services,
including the development of traditional culinary and handicraft tourism. In addition, marine ecotourism has strengthened the preservation of marine environment on and around the island. However, there is still a gap between the existing and the expected performance of marine ecotourism (Hengky, 2018). Local stakeholders should thus strategise a comprehensive management plan to create more opportunities for the local community. Pahawang Island is a small island in Lampung Province, Sumatra. Its crystal-clear water and white-sandy beaches attract domestic and international visitors. Utami and Mardiana (2018) found a high level of participation from the local community in the planning, implementation, and evaluation of marine ecotourism development in the area. The study also found that there is a significant relation between the local community’s participation to the sustainability of marine environment, local socio-culture, and local economy. Both studies demonstrate the importance of involving the local communities in developing sustainable marine ecotourism.

This section has reviewed the marine ecotourism development in Indonesia, where non-governmental organizations (NGOs) have taken major role in assisting its implementation. It has been suggested that NGOs as one of the tourism stakeholders play an important role in formulating effective strategies that could help solve tourism issues and advocate sustainable tourism development (Ananayo, 2013), including marine ecotourism. The next section reviews the role of NGOs, especially international NGOs, in shaping the development of marine ecotourism.

3.2.2. The Role of International NGOs in Marine Ecotourism Development

The second research question in this thesis aims to address how tourism stakeholders, including NGOs, acknowledge and incorporate Indigenous knowledge and practices in marine ecotourism development. As a place with high level of marine biodiversity, Raja Ampat has attracted some international NGOs in developing conservation projects there. Hence, this section specifically focuses on the role of international NGOs in marine ecotourism development. The issues that are often faced by the local governments with local autonomy are the lack of financial, technical, and institutional capacities, which caused the predicament of accommodating economic growth and environment conservation (C. Cater &
Cater, 2007). To address this problem, the international community is recommended to help local governments by building partnerships to improve their financial, technical, and institutional capacities (Atmodjo, Lamers, & Mol, 2017; Chen & Uitto, 2003). Many international NGOs have developed partnerships with local governments to address issues in local marine governance. Partnerships between states in developing countries and international NGOs have emerged in forming global environmental governance, which affects the process of conservation policy-making in developing countries (Duffy, 2006). Some conservation NGOs even “wage a war to save biodiversity” with the use of militarised approaches (Duffy, 2014, p. 819). If such an approach continues, it can be counter-productive as the local communities are less likely to support conservation programmes (Duffy, 2014).

There is a criticism of NGOs’ role as conservation agents, deeming them to have their own agenda driven by special interests of certain groups of people (Calado et al., 2012; Espinosa-Romero, Rodriguez, Weaver, Villanueva-Aznar & Torre, 2014; Halpenny, 2003). Most of NGOs are sponsored by certain groups of people or getting financial aid from certain countries. Often times, those NGOs have certain obligations to donor organizations. Therefore, it is imperative for NGOs to implement the concept of ‘think globally, act locally’. NGOs need to have the capability to communicate well with donor organizations by adopting donor’s principles but operate and adapt with the local communities’ ways and more importantly, prioritising local communities’ agendas (Duffy, 2006). It has been suggested that the assumption of NGOs is driven by their own agenda has gradually become less apparent as NGOs have shown professionalism over the years (Espinosa-Romero et al., 2014; Halpenny, 2003).

Multilateral and bilateral funding from international donor agencies that are channelled through international NGOs have become progressively interested in marine ecotourism projects as marine ecotourism can improve both marine conservation as well as coastal livelihoods (C. Cater & Cater, 2007; Clifton, 2013). As a vehicle for positive transformation in coastal areas, marine ecotourism is mainly supported by international NGOs in natural and cultural resources conservation. Many NGOs favour the ecotourism concept because it has
moderately low negative impacts on natural and cultural environments, while still offering economic benefits to the local communities, and corresponding to conservation goals (Romero-Brito, Buckley, & Byrne, 2016). The implementations of marine ecotourism are varied in each location, although they still have the same principles in protecting natural and cultural heritage sites. Conservation International and The Nature Conservancy are two international NGOs that utilise ecotourism as their instrument of conservation (Halpenny, 2003). These two NGOs have been actively implementing conservation programmes in Raja Ampat, which will be discussed further in this thesis.

Conservation International (CI) is a “very influential” non-profit organization (C. Cater & Cater, 2007, p. 217) as it has strong connections with the World Bank and major corporate partners. CI operates in more than thirty countries around the world with thousands of projects worldwide (Conservation International, 2017). CI initiated many marine ecotourism programmes, such as the establishment of marine protected area in Southern Belize to protect the whale sharks in the area and to develop ecotourism as an alternate livelihood for the local communities (Conservation International, as cited in C. Cater & Cater, 2007). One of CI’s programmes that accommodates marine conservation planning is the Marine Rapid Assessment Programme. The programme has been providing baseline biodiversity information about coral reefs and other ecosystem information on selected areas, and then analyse that information along with environmental and social information to inform applicable and practical recommendations in marine conservation planning (Conservation International, as cited in C. Cater & Cater, 2007).

The Nature Conservancy (TNC) is “the world’s richest” non-profit organization with US$ 3 billion assets (C. Cater & Cater, 2007, p. 217). It has approximately one million members worldwide, including major corporations, and conservation projects in seventy-two countries (The Nature Conservancy, 2018). TNC often works together with CI, delivering marine projects in many countries around the world. In Indonesia, TNC worked with local fishermen in Komodo National Park who were practising destructive fishing, such as using cyanide and dynamite, diverting them to sustainable fishing (Kirkpatrick & Cook, as cited in C. Cater &
TNC also arranged a team of park rangers, local police, and Indonesian Navy members to patrol the marine park weekly by speedboat. These efforts have succeeded in reducing dynamite fishing by more than 90% and recovering more than 60% of coral reefs (The Nature Conservancy, 2015).

Another stakeholder that is included and becomes the primary focus in this research is the local community. As this research aims to explore Indigenous knowledge and practices for marine ecotourism development, the next section discusses the role of Indigenous communities in marine ecotourism development.

3.2.3. Indigenous Communities Participation in Marine Ecotourism

Indigenous communities’ participation in marine ecotourism is viewed to be essential as they may have issues with the commodification of their marine environment through marine ecotourism (C. Cater & Cater, 2007; Higgins-Desbiolles, 2008; Jennings, 2008). This view is also supported by UNEP and UNWTO through one of their recommendations in World Ecotourism Summit 2002. They stated that tourism planning must “allow local and Indigenous communities, in a transparent way, to define and regulate the use of their areas at a local level, including the right to opt out of tourism development” (UNEP & UNWTO, 2002, p. 3). In the case where local Indigenous communities opt for tourism development, including marine ecotourism, the local population is still perceived as one stakeholder who receives the least benefits from tourism development, especially in terms of access to freshwater, land, and marine resources (Stonich, 1998). In the same vein, Cole (2012) also suggests that the inequality of access to resources can cause social conflict and environmental problems. Therefore, policy makers and marine ecotourism developers are obliged to include local Indigenous communities in coastal management (Jennings, 2008). Indigenous coastal management acknowledges the strong connection between Indigenous peoples with their marine environment and their traditional management systems, which are compatible with the sustainability principles (Jennings, 2008).

Many Indigenous peoples living in coastal areas believe that there is an inseparable connection between the ocean and the land, as well as the communal
ownership over the land that spreads to the sea (C. Cater & Cater, 2007; Erdmann, 2014; Higgins-Desbiolles, 2008; Jennings, 2008). Due to the open nature of the marine environment, the ocean is often considered as a common property and that all kinds of ownership frequently result in an open access. The term “the tragedy of the commons” (Hardin, 1968, p. 1244, 2009, p. 246) describes the exploitation of the natural resource as a common property which leads to an environmental degradation, and the cost is perceived to be spread between everybody even though the benefit is only coming to an individual. But arguably, the communal ownerships of the sea may become “important social institutions that can effectively manage the commons” (C. Cater & Cater, 2007, p. 5). With traditional sea tenure, individual families or clans own the rights to fish in the designated areas (Erdmann, 2014). Group ownership and management can potentially avoid the tragedy of the commons.

When Indigenous access to traditional marine resources are not fully recognised, conflicts have resulted from competing interests in marine ecotourism development (Higgins-Desbiolles, 2008; Higham & Lück, 2007; Jennings, 2008; Lemelin, 2007). One example of marine ecotourism activities that causes such conflicts is marine wildlife viewing, some of which are: whale-watching (Higgins-Desbiolles, 2008; Higham & Lück, 2007) and polar bear viewing (Lemelin, 2007; Lemelin & Dyck, 2007). Many animal protection and environmental groups oppose the practice of traditional whaling. On the other hand, traditional whaling is a part of Indigenous culture and traditions of some Indigenous communities (Higgins-Desbiolles, 2008). For instance, the Makah Native American community in Washington, USA sees whaling as a part of their identity: “whaling is what we do, it’s what our songs and stories are about” (Higgins-Desbiolles, 2008, p. 229). Evans (2005) reported that the prohibition of traditional whaling in Tonga in the 1970s to support whale-watching tourism development had significant consequences for the health of individual Tongans. This was due to the loss of whale meat produced for domestic consumption by Indigenous Tongan whalers, which caused nutrition deficits. These instances lead to opinions where marine ecotourism is perceived as “a contemporary form of cultural imperialism” (Evans, 2005, p. 49) or “eco-imperialism” (Higgins-Desbiolles, 2008, p. 229). To minimise
conflicts on marine resource use, there needs to be comprehensive approaches through collaborative management amongst all stakeholders (Jennings, 2008). In Ukkusiksalik National Park, Nunavut, Canada, an agreement was reached after intensive consultations with the Indigenous communities regarding polar bear management (Lemelin & Dyck, 2007). This agreement combined Inuit Indigenous knowledge with scientific knowledge to regulate polar bear harvest and sustainable polar bear tourism.

Some scholars’ view on the importance of Indigenous knowledge in marine ecotourism development (C. Cater & Cater, 2007; Garrod & Wilson, 2003) was presented in Chapter One. This view is also supported by Lemelin (2007) who encourages more researchers to examine how the integration of Indigenous knowledge systems in marine ecotourism development can be accomplished. In addition, C. Cater and Cater (2007) mentioned that the use of Indigenous knowledge in marine ecotourism can “present an alternative approach to environmental management, often constituting a more holistic overview. It can also constitute an important resource for marine ecotourism” (p. 126). Baker and Ross (as cited in C. Cater & Cater, 2007, p. 127) also supported the idea by suggesting that it is time “to move beyond economic and species-specific dominated strategies towards ecosystem and adaptive management strategies to include Indigenous knowledge”. Some marine ecotourism destinations have started to consider the importance of conveying Indigenous peoples’ culture and values to the tourists as they offer insights into Indigenous people’s way of life on living in and interacting with a particular marine environment (see table 3.1.).
## Table 3.1. Indigenous Cultural Influences on Marine Ecotourism

<table>
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<tr>
<th>Location (Author)</th>
<th>Types of Indigenous Culture</th>
<th>Approaches</th>
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| Kaikoura, New Zealand (Curtin, 2003) | The mix of Indigenous power, Indigenous maritime cultural heritage and environment | - Indigenous ownership of whale-watching operations  
- Indigenous interpretation from Indigenous guides |
| Couran Cove, Queensland, Australia (C. Cater & Cater, 2007) | - Indigenous practices of the aboriginal use of marine resources, such as the use of dolphins to herd sea mullet into the net and the variety usage of mangrove  
- Indigenous myths and legends | - Aboriginal Heritage and Environment Centre (Mylne, 2003)  
- A half-day tour consists of a bush walk and a performance of Aboriginal dance and music (Mylne, 2003) |
| Surin Islands National Park, Thailand (C. Cater & Cater, 2007) | The traditional ethnobotanical knowledge of the Moken seafarers of the Andaman Sea regarding plants as food and medicine | Information displays in exhibition hut |
| Western Australia, the Northern Territory, Queensland – Australia (C. Cater & Cater, 2007) | - Indigenous cultural sites offshore  
- The strong connection between Indigenous people and their marine areas  
- Indigenous people’s identity as "salt water people" or "white sand beach people" | - Interpretive centres  
- The use of Indigenous guides |
- Some interpretation displays also include information in Gaelic (old Scottish language) |
| West Timor, East Nusa Tenggara Province, Indonesia (Stacey, Karan, Meekan, Pickering, & Ninf, 2012) | Bajo Indigenous practices and beliefs concerning whale sharks, which prohibit catching and killing whale sharks | Community-based monitoring to support whale shark-watching tourism initiatives |
| Barrow, Alaska, USA (Hillmer-Pegram, 2016) | Indigenous maritime values such as respect for marine nature and whale hunting traditions | - Iñupiaq maritime values adopted in Arctic marine-based tourism  
- 'The People of Whaling’ exhibition in the Iñupiat Heritage Centre Museum |
| Stanley Island, North-eastern coast of Australia (Walker & Moscardo, 2016) | Indigenous interpretation on Indigenous marine environment stewardship | Indigenous guides convey their care of place by explaining the traditional relationship between them and their marine culture and environment |


Indigenous knowledge and skills, along with beliefs, values, lifestyles, traditions, crafts, performing arts, and artefacts, are parts of cultural resources that can be
important resources for marine ecotourism (C. Cater & Cater, 2007). This view is supported by Baldacchino (2015) who argues that the islanders and coastal communities often develop marine and “island cultural landscape” thereby creating a unique and different ambiance compared to the mainland (Baldacchino, 2015, p. 3). These cultural resources can bring uniqueness in marine ecotourism products as they illustrate the inseparable connection between natural resources and cultural practices of the Indigenous people. This holistic view of nature is very different from the Western point of view, which potentially creates a significant difference in marine ecotourism destinations that makes them unique. Not only do they provide “a fascinating insight into traditional livelihoods, but also serve to reinforce and maintain cultural identity, engendering a sense of pride and thus empowering and facilitating the preservation” of Indigenous culture (C. Cater & Cater, 2007, p. 125; Ortiz, 2007; Smith & Richards, 2013).

As was mentioned in Chapter One, the unique heritage and cultural features of Indigenous communities in coastal areas are becoming more important components in marine ecotourism development (J. C. Wilson & Garrod, 2003). In Kaikoura, New Zealand, the local Māori people have an important spiritual relationship with whales (Curtin, 2003; Orams, 2002). This spiritual relationship represents Indigenous knowledge and practices, which has been an important part of the local Māori people’s self-empowerment. The local Māori people took ownership of the whale-watching operation, then diversified the business by adding other marine ecotourism operations based on marine mammals, such as dolphin watching and seal watching (Orams, 2002). This marine ecotourism development has created major positive impact where “local Maoris have moved from a position of powerlessness and low socio-economic status to become a major employer and a strong economic force in the community” (Curtin, 2003, p. 183). The interpretation by Māori guides to the visitors conveys Māori Indigenous practices and values on their relationship with whales (Curtin, 2003), which would preserve their Indigenous culture.

When marine ecotourism takes place in Indigenous territory, a balanced mixture between culture and commerce is necessary. In an area where the Indigenous
people’s strong bonds of kinship are connected to land and resources, important cultural implications might arise when Indigenous natural resources are used for non-traditional commercial ends such as tourism and modern conservation (Amoamo et al., 2018). For example, in Northwestern Hawaiian Islands, the Indigenous Hawaiians believe that the place is “a spiritual region that facilitated the journey spirits took upon death and the process of deification in the afterlife” (Kikiloi et al., 2017, p. 4). It was not until 2006 that the cultural importance of the place was included into the conservation efforts of the area, when the Indigenous Hawaiians held key leadership roles in the design, the establishment, and the management of the area and strong Hawaiian cultural aspects were soon embedded in the management of the area. Another example is from the Otago Peninsula, a marine ecotourism site in Dunedin, New Zealand. The area has significant importance to the local Māori people, where the blue penguins are considered as a tāonga (treasured) species for them (Amoamo et al., 2018). The management of marine ecotourism Blue Penguins Pukekura has developed a tour protocol that includes whaikōrero (formal Māori speech) and information on the cultural importance of the land and the species to the local Māori people. Both examples demonstrate how Indigenous culture is intertwined with the management of marine ecotourism site, to ensure the sustainability of the Indigenous culture.

Participation of the local communities, protection of human heritage and biodiversity, and conservation of critical environmental processes are some of the key principles in sustainable development concept (Hoctor, 2003). The development of sustainable tourism ideally considers the impacts on the environment and the local community, as both components are fundamental for sustainable tourism. Active participation of local communities in determining the quality of their environment and living conditions is suggested in participatory development (Hoctor, 2003). Hoctor suggests that to ensure the sustainability of marine ecotourism, local community participation in the marine ecotourism development process has to become a means for them to recognise their resources as well as needs, in order to create prospective solutions, establish suitable knowledge and skills, manage local interests, and take initiatives. This
research will examine the use of Misoolese Indigenous knowledge and practices that can accommodate the tourism stakeholders in Misool, Raja Ampat, to achieve the goals of marine ecotourism related to “biodiversity conservation” and “the safeguarding of cultural landscapes and traditions” (Halpenny, 2003, p. 107).

As was mentioned in Chapter One, local communities’ participation has always been highlighted as an important principle of marine ecotourism. For marine ecotourism to become effective, local involvement has to be set as a central attribute, hence, the shifting of power to the local level is needed. This will increase the sense of belonging of the local community, which is necessary to make marine ecotourism practices work in the long run. However, a typical obstacle for this is that the local communities are not used to taking part in this way, especially in geographically scattered areas (Garrod & Wilson, 2003; Hermansyah & Sunaryo, 2016). Therefore, there is a necessity to educate local people through capacity building in natural resource management, environmental issues, and especially the nature of marine ecotourism.

Land conservation programmes have long been focusing on empowering the local communities who own the rights to use the natural resources. On the other hand, marine conservation programmes have just started to focus on the local communities (Erdmann, 2014). The coastal communities may be more likely to protect their reefs because their lives depend on them, which creates a sense of ownership. In the implementation of marine conservation programmes, many conservationists adopt the top-down approach by introducing western concepts to the Indigenous peoples, such as the importance of biodiversity conservation. These Indigenous peoples have lived in the area over many generations before marine conservations or marine ecotourism even existed. They inherited Indigenous ingenuity from their elders on how to preserve the marine resources, so they can sustain their livelihood (Berkes, 2012). Hence it is crucial to change the approach from top-down to bottom-up, from ‘coming and talking’ to ‘coming and listening’. The local communities have to want conservation for it to work (Erdmann, 2014).
When the local community chooses to opt in to marine ecotourism development, optimising benefits for the local community from marine ecotourism is highly critical to create a sustainable development (Erdmann, 2014). Before developing marine ecotourism, the local community in the area need to be asked about their daily problems and how marine ecotourism development can be of benefit to them for their betterment. Empowering local stakeholders also includes empowering local businesses (Erdmann, 2014). In the case of Raja Ampat, some marine ecotourism operators have started to include the local community in their operations by buying food and handicrafts from them, employing them, making scholarship programmes, and giving donations. When the local community is not benefiting from the marine ecotourism development, that destination is going to have problems over time (Erdmann, 2014). Marine ecotourism has to be able to bring alternative income into the local community and make a difference (B. Jones & Shimlock, 2014).

3.3. Scuba Diving Tourism

As mentioned in section 1.3.2.4., with the status of having the highest marine biodiversity in the world (Gunawan, 2010; McKenna et al., 2002), scuba diving tourism has become the key marine ecotourism activity in Raja Ampat, including Misool. Thus, this section focuses on scuba diving tourism as a subset of marine ecotourism (C. Cater & Cater, 2007; Hoctor, 2001; J. C. Wilson & Garrod, 2003), highlighting the issues surrounding scuba diving tourism development and the role of local community participation. UNWTO describes scuba diving tourism as encompassing:

persons traveling to destinations with the main purpose of their trip being to partake in scuba diving. The attraction of the destination is almost exclusively related to its dive quality rather than any other factor, such as the quality of accommodation or land-based attractions. (as cited in Garrod & Gössling, 2008/2011, pp. 4-5)

While it is difficult to be precise about the overall size of the diving tourism market, observers generally agree that it has been subject to significant growth in recent years (Garrod & Gössling, 2008/2011; Musa & Dimmock, 2013).
Professional Association of Diving Instructors [PADI] estimated the total number of currently active certified divers exceeds 22 million (PADI, 2014), while the UNWTO concludes that one in three of these will take a diving-based holiday in any one year (as cited in Garrod, 2008/2011).

Scuba diving tourism has reached a significant growth in recent years. With over thirty million certified scuba divers (Lew, 2013), the scuba diving industry has turned into a billion-dollar global industry (Garrod & Gössling, 2008/2011; Dimmock & Musa, 2015) attracting underwater lovers who are passionate about the feelings of excitement, relaxation, freedom, and adventure they gained from scuba diving (Kler & Moskwa, 2013). According to C. Cater (2008/2011), the primary attraction of scuba diving is the immersion in a strange and alien environment. Perceptions and interactions with the marine environment are heightened by the minimal communication that can take place underwater, and the highly physical and sensory nature of that engagement. Kler and Tribe (2012) claim that scuba diving provides some durable benefits that may contribute to the good life. As the demand for scuba diving keeps on arising, scuba diving tourism has turned into a niche sector with high revenue (Dimmock & Musa, 2015).

Several issues and concerns regarding the development of scuba diving tourism have increasingly emerged in the past few years (Dimmock & Musa, 2015). The most discussed issues are the environment issue, such as the over-used marine resources, and the social issue, such as competition over beach, stakeholders complexity (L. J. Wilson, 2014), and the lack of attention to the local community (C. Cater, 2014; Dimmock & Musa, 2015). Most of the scuba diving tourism industries are looking at the ocean as a ‘backdrop’ and an unlimited resource, where in fact it needs to be seen as a true business asset or a ‘partner’ that needs to be taken care of (L. J. Wilson, 2014). A shift is needed in the scuba diving tourism management. It needs a holistic approach that can identify how the scuba diving tourism affects the environment and the local community, and vice versa.

From an academic point of view, there was a lack of attention to the local community with regard to scuba diving tourism. Musa and Dimmock (2013) identified three main elements that framed the scuba diving tourism system,
which are: environment, divers, and scuba diving industry (see figure 3.1.). This system does not include the local community as a part of it, even though the local community is directly related to all three elements.

In 2015, Dimmock and Musa proposed a revised model for the scuba diving tourism system by including the host community as one of the sub-systems as shown in the figure below.

*Figure 3.1. Scuba Diving Tourism System (Source: Musa & Dimmock, 2013, p. 4)*
Figure 3.2. The Scuba Diving Tourism System—Revised (Source: Dimmock & Musa, 2015, p. 53)

Figure 3.2. depicts the importance of the local community in scuba diving tourism development has just started to be recognised. In figure 3.1., scuba diving tourism was only impacted the environment, which originated from the scuba diving industry and scuba divers; where in fact, it also has impacts for the host community (figure 3.2.).

In scuba diving tourism, the host community holds an important role but is still often unnoticed (C. Cater, 2014; Dimmock & Musa, 2015). Host communities are engaged in the interactions between the marine environment, the divers, and the scuba diving industry, creating patterns of social and environmental systems. These interactions can potentially offer livelihood benefits for the host communities, such as work opportunities that can provide income distribution within the area and training opportunities, for example, as diving guides and boat skippers (Dimmock & Musa, 2015). In Raja Ampat, the income received from marine park entry permits gives financial contribution to local marine conservation management, which enable them to hire local people as marine park rangers and managers (Atmodjo et al., 2017). Increasing demand in a scuba diving destination can lead to more investments in the area, which can generate both positive and negative impacts. The direct positive impact of investments is more employment opportunities for the local community, but the negative impact is a
financial leakage when scuba diving operations are not owned by the local community (Townsend, 2008/2011). A community-based shark reef marine reserve in Fiji, off the coast of Viti Levu, is one of the good examples of community empowerment in a world-renowned scuba diving destination. The local community’s stewardship has grown since they took ownership of shark diving tourism operations and the conservation of marine species (Brunnschweiler, 2010). Shark diving tourism development in South Africa has increased the local community’s awareness in the values of marine conservation, including the protection of marine flora and fauna (Dickens, as cited in Dimmock & Musa, 2015).

Interaction with local communities is often inevitable, even liveaboards will still be passing through local communities during their route. In some diving locations, especially in remote areas in developing countries, dive operators often have to interact with the local community that is being affected by their business (Steenbergen, 2013). In a way, the local community is a unique attraction and how they relate to their ocean can be quite interesting. There is an opinion that the inclination of many scuba diving operators in developing countries are owned by foreigners is another form of neo-colonialism (C. Cater, 2014; King, 2017). In the case of Raja Ampat, many of the professional dive operators are foreign owned (King, 2017). Thus, foreign dive operators are advised to prioritise the local community’s interest and to make sure that they get the benefit of the scuba diving tourism development in their area (C. Cater, 2014).

With the necessity for social and natural conservation, it is also important for the scuba diving operators to encourage scuba divers to engage with the social and natural marine environment, in addition to making them satisfied with the dives and keeping them safe when doing it (Brylske, 2014). Dive operators need to build the awareness of scuba divers on social and environmental problems that are happening locally and globally (Mussman, 2014). One method for building scuba divers’ awareness is by sharing information on the condition of coral reefs, marine environment, and the local community in the area during open water course class or during safety stops (Brylske, 2014; Mussman, 2014). Once scuba divers are aware of local social and environmental problems, they may be more willing to help and contribute. Dodds (2014) carried out a survey in Thailand and Indonesia.
about tourists’ willingness to pay the conservation fee, finding that in Indonesia, tourists were more willing to pay conservation fees.

Each diving destination has its own unique characteristics, so it is important to look at the factors that differentiate one destination from another by asking ‘who we are’ and ‘what we have to offer’ (Krauskopf, 2014). It is crucial for the scuba diving industry to be involved with the local community and be aware of the issues that affect the destination because both parties are using the shared resources of the shared community. For that reason, the scuba diving industry needs to respect the local community. Moreover, the unique culture of the local community contributes to the total diving experience. According to L. J. Wilson (2014), it is not uncommon that the dive is not the only highlight of a dive trip. When divers start to explore the cultural area of the community, the experience of learning about another culture can make a difference in forming the total diving experience (B. Jones & Shimlock, 2014; L. J. Wilson, 2014) and in creating positive images as a unique diving destination.

Since most of the sustainable scuba diving tourism practices are still focusing on environmental issues, the scuba diving industry is starting to get pressure for being socially responsible as well (C. Cater & Cater, 2007; Townsend, 2008/2011; L. J. Wilson, 2014). The trend towards corporate social responsibility in industry in general has affected the tourism sector, including scuba diving industry (C. Cater & Cater, 2007; Townsend, 2008/2011). Dive tourism, like any other form of tourism, may bring both positive and negative socio-cultural impacts to the local communities. The positive impacts being employment opportunities, income for local businesses, and genuine cultural exchange; the negative impacts include conflict over use of marine resources, cultural change, jealousy and cynicism of outsiders (Townsend, 2008/2011). In order to maintain smooth business operation, more dive operators are trying to develop long-term relationship with local communities in their areas of business by providing opportunities and live improvements (Ashley, as cited in Townsend, 2008/2011).

The social and environmental impacts on a dive tourism area in Malaysia were studied by Lew and Hamzah (2013). One of the most preferred dive locations in
Malaysia is Sipadan Island. In 2004, the Malaysian government required six resorts on the island to relocate in order to preserve the island’s biodiversity. Some of them migrated to the neighbouring island of Mabul, making it a “sacrifice area” for Sipadan (Lew & Hamzah, 2013, p. 190). Mabul is a twenty hectares island with around 2,500 residents living in two villages. The regional governmental agencies together with NGOs have been trying to socialise the importance of keeping the ocean clean as the environmental awareness of the local community is mostly low. Incentives are given to local residents to dispose their solid waste on a single site, which is then transported to the mainland by boat. However, most of wastewater from the residents is still disposed into the ocean. Dive tourism development on Mabul Island has created both positive and negative social impacts. Some of the positive impacts include employment opportunities, in-house hospitality training, a non-profit evening school for disadvantaged children, and local cultural performances in some of the resorts. However, dive tourism also caused some social tensions in the local community. Alcohol that made its way into the local community and the improper dress of western tourists are some of the things that concern the locals. The growing numbers of dive resorts has also caused fear of dislocation among the local community (Lew & Hamzah, 2013). Reducing the negative social impacts of scuba diving tourism development could be attained by enabling active participation from the local communities in scuba diving destinations with the safeguarding of Indigenous traditions and cultural landscapes.

One thing that the scuba diving operators often miss out when ‘working with the ocean’ is that they do not necessarily consider the local community which can have a direct impact on both the ocean and the business (L. J. Wilson, 2014). One of the examples of best practice in taking the local community into consideration comes from Wakatobi Dive Resort in Sulawesi, Indonesia (Rosen, 2014; Townsend, 2008/2011; Weaver, 2014). In a study conducted by Townsend (2008/2011) on dive tourism and social responsibility, it was shown that the owner of Wakatobi Dive Resort realised that the local community is the ‘original’ stakeholder of the ocean whom should be asked permission from. He believes that involving the local community on the early stage of development and on every
stage subsequently can eventually help in safeguarding the fragile marine environment. According to him, the most difficult part was on the early stage, where he had to convince the local community to avoid fishing in surrounding marine protected areas (Rosen, 2014). In consultation with the local leaders and village elders as well as collaboration with the local community, the resort’s owner established the Collaborative Reef Conservation Program to raise the local community’s awareness on the value of and care for the reefs in their area. In order to do so, the resort had to provide an economic alternative to fishing and an incentive for local people who help manage and protect the reefs (Townsend, 2008/2011).

In addition to the direct employment of the local people, the resort also provided other benefits, such as subsidising electricity and waste management for the local village, selling locally produced products to resort’s guests, and providing credit schemes for local small businesses and educational materials for schools. They also supported the poorest (e.g. widows) by providing work specially for them, which was making natural roof tiles for the resort made from palm leaves (Townsend, 2008/2011). What is interesting about the sponsorship of electricity is that the resort provides a two-km power line to the village, transformers, and electrical installations in every household with twenty-four-hour maintenance support in exchange for a 3-km reef sanctuary on the village traditional fishing grounds (Townsend, 2008/2011; Von Heland & Clifton, 2015). In regard to the local Indigenous culture, the owner pointed out that the local Indigenous beliefs about the sea and the dangers of swimming in it made it more difficult for the resort to train local people to become dive guides (Townsend, 2008/2011).

Daldeniz and Hampton (2013) conducted a study in which they investigated the participation of local Indigenous communities living in the residence areas in three scuba diving destinations in Malaysia, namely: Redang (package tourism), Perhentian (backpackers), and Mabul (up-market dive tourism). Marine ecotourism and scuba diving tourism have become economically important for local communities who live in regions designated for marine protected areas. As commercial fishing or fish farming are not allowed in the conservation zone, tourism becomes an alternative source of livelihood. Daldeniz and Hampton used
a set of seven indicators that covered environmental, economic, and socio-cultural impacts affecting local community participation. Even though scuba diving tourism development have brought some positive impacts for local communities in the areas, such as new infrastructure (roads, freshwater pipelines, wind turbines), employment opportunities, and environmental awareness, the local community participation was low (Daldeniz & Hampton, 2013). As was mentioned earlier, the local community is the key stakeholder of the ocean, hence scuba diving tourism development needs to find ways to facilitate wider local participation. Using Indigenous knowledge and practices in scuba diving tourism may bring the eminence of its activities, while still maintaining local communities' culture, ways of life, and livelihood at the same time.

According to C. Cater (2014), some of the local communities in scuba diving destinations in developing countries might not realise that their underwater marine resources are potential for scuba diving tourism development. Therefore, dive operators and scuba divers need to share the beautiful underwater landscape with the local communities, in order to generate understanding of the local communities about the resources they are potentially benefiting from. Economic benefit is important, but the more important thing is the understanding of what lies beneath the waves. By helping the local community to recognise how valuable their resources are, they are more likely to protect them. Involving the local communities is not only by offering employment opportunities, but also in terms of educating them to be the advocates (C. Cater, 2014). For example, in Kimbe Bay, Papua New Guinea, there is an education and outreach programme where school children are invited to do snorkelling, so they will get familiar with the corals and the fish. The understanding about the underwater environment has led the local community in Kimbe Bay to establish locally managed marine areas where they set a no-take-zone area to sustain fish population. This kind of practice is one of the ways in formalising Indigenous knowledge and involving the local communities effectively alongside preserving their own Indigenous knowledge (C. Cater, 2014).

This thesis focuses on the local Indigenous communities in Misool by exploring whether and how they integrate their Indigenous knowledge and practices in
marine ecotourism, which includes scuba diving tourism. By acknowledging the importance of incorporating Indigenous knowledge and practices in an industry that is perceived as “the colonizers new industry” (King, 2017, p. 13), the scuba diving industry might seem less colonizing when it contributes in safeguarding the Indigenous cultural traditions of the community to encountering the forces of increasing modernisation and globalisation.

### 3.4. Chapter 3 Summary

This chapter has presented a literature review exploring marine ecotourism and scuba diving tourism development. Marine ecotourism has arisen as an industry and development tool which involves physical, social, cultural, political, and economic components (C. Cater & Cater, 2007). As marine ecotourism development needs to take the marine environmental, social, and cultural capacities into account, the local Indigenous communities’ instinctive knowledge regarding their area and marine cultural heritage are particularly instrumental. These Indigenous knowledge and practices are valuable assets in the sustainability of both marine ecotourism development and marine conservation (C. Cater & Cater, 2007; Garrod & Wilson, 2003; Twarog, 2004;). Indigenous knowledge and practices around culturally significant natural marine resources are important for marine ecotourism development, as they can bring uniqueness to and inform wise management of marine ecotourism activities. The acknowledgment of Indigenous cultural values in marine ecotourism management could be an important factor for cultural and natural sustainability. This study, which aims to examine the integration of Indigenous knowledge and practices into marine ecotourism development, could be regarded as a means of empowering local Indigenous communities and promoting the sense of ownership. This could stimulate other stakeholders to start adopting Indigenous knowledge and practices in marine ecotourism development.

In Indonesia, marine ecotourism development is supported by international NGOs, such as CI and TNC, in collaboration with the local government and private operators. The role of international conservation NGOs in marine ecotourism development is increasing, as marine ecotourism has low negative impacts on
natural and cultural environments, while still offering economic benefits to the local communities, and corresponding to conservation goals (C. Cater & Cater, 2007; Halpenny, 2003). It is of paramount importance for NGOs to prioritise local communities’ interests and provide solutions which the local communities are familiar with (Duffy, 2006). In addition, it has been observed that the importance of the local community in scuba diving tourism development is emerging. In scuba diving tourism, the host community holds an important part but is still often unnoticed (C. Cater, 2014; Dimmock & Musa, 2015). It is crucial for the scuba diving industry to be involved with the local community and be aware of the issues that affect the destination, as both parties are using the shared marine resources. For that reason, the scuba diving industry needs to respect the local communities and build good relations with them. Additionally, the unique culture of the local communities can also be a part of the total diving experience (B. Jones & Shimlock, 2014; Krauskopf, 2014; L. J. Wilson, 2014).

This chapter has also reviewed the importance of Indigenous knowledge and practices in the context of marine ecotourism development. The integration of Indigenous knowledge and practices in marine ecotourism development helps to increase the sustainability of development efforts, as it provides a means of mutual learning and adaptation, which can stimulate local communities’ participation in the development process (Gorjestani, 2000; Nuryanti, 2016; Tuhiwai-Smith, 2012). Indigenous knowledge and practices provide an alternative approach to marine resource management through adaptive management strategies, offer insights into Indigenous people’s way of life on living in and interacting with a particular marine environment, and are important cultural resources (C. Cater & Cater, 2007), which can bring uniqueness in marine ecotourism products as they illustrate the indivisible connection between natural resources and cultural practices of the Indigenous people.
CHAPTER 4
RESEARCH METHODOLOGY AND METHODS

4.1. Introduction

This chapter outlines the methodology and methods utilised in conducting the data collection and analysis in this research. The central aim of this study is to examine the complexities of integrating Indigenous knowledge and practices in marine ecotourism development. This research is qualitative, informed by an awareness of research approaches to issues and values of Indigenous methodology. The chapter starts with a description of the background and positioning of the researcher which informs the chosen methodology and the interpretation of findings (Kovach, 2009). The chapter continues with an overview of theoretical perspectives of the research, focusing on the Indigenous research paradigm and methodology approach informing this research. The section on the case study site provides contextual information on Misool and the justification for site selection. The chapter continues by explaining the participants' recruitment and the methods used in data collection and analysis, and concludes with the ethical considerations.

Starting from this chapter, the use of the first person is applied to emphasise the social elements of the research process, and to describe the researcher’s personal contributions to the research process (Webb, 1992). S. Wilson (2007) stated that in using the Indigenous research paradigm “we must write in the first person rather than the third” (p. 194) to emphasise the strong relational context between Indigenous knowledge researchers and their work. In qualitative research using an Indigenous paradigm, the use of the first person is necessary to maintain the consistency of the research epistemologies and to be engaged in reflexivity (Webb, 1992; S. Wilson, 2007). Reflexivity is the “assessment of the influence of the investigator's own background, perceptions, and interests on the qualitative research process” (Ruby, as cited in Krefting, 1991, p. 218). As a researcher, I am
mindful that my background might influence the research process, hence the following section presents my background as a part of my own reflexivity.

Using the first person in the methodology chapter may give space for more reflective and effective writing, as well as showing that social scientists do have emotions about the subjects in their research (Davies, 2012). The use of the first person will continue in the findings chapters because “a product resulting from research using a tribal-centred Indigenous methodology ought to have a strong narrative component as part of its method and presentation of findings” (Kovach, 2009, p. 35). Therefore, the flow of this chapter onward is descriptive and narrative to emphasise “the relational approach of holistic epistemology in Indigenous research”, as narrative is methodologically compatible with Indigenous knowledge (Kovach, 2009, pp. 35-36).

**4.2. The Researcher’s Background**

As I am doing a research project about Indigenous knowledge belonging to the Indigenous people of Misool, it is important to first understand my position as a non-Indigenous Misolese. Whilst my research focuses on Indigenous knowledge and people, Indigenous research typically includes Indigenous person/people as equal partners from the early stages of the research planning up until the implementation of the research (Castellano, 2012; Tuhiwai-Smith, 2012). Consequently, I used the words “informed by Indigenous methodology” in describing my research approach, in that I am fully aware of the need to be conscious of Indigenous values and support from the Indigenous people in my research approach.

Within Indigenous research, researchers’ knowledge and experiences will influence the interpretation of the fieldwork experience and findings (Absolon and Willett, as cited in Kovach, 2009). “Researchers, no matter how objective they claim their methods and themselves to be, do bring with them their own set of biases” (S. Wilson, 2008, p. 16). This view is supported by Rossman and Rallis who suggest that “the reflexivity of qualitative research ... demands that researchers be continually aware of their own biases as a means of consistently
locating themselves in the research” (as cited in Kovach, 2009, p. 26). Battiste (2008) points out that researchers’ experiences, capabilities, and attitudes influence their interpretations of Indigenous knowledge. For those reasons, I find it necessary to position myself with my personal background and my purpose within this research (Kovach, 2009), as one of the principles of the Indigenous research paradigm is “acknowledgement that the researcher brings to the research his or her subjective self” (Atkinson, as cited in S. Wilson, 2008, p. 59). Thus, I am fully aware of the possibility of bringing my subjective self to this research.

As I was born and spent most of my life in the big city of Jakarta, I only had a general knowledge of the Raja Ampat culture. In this sense, I am both an insider and outsider in relation to my research participants who are the Indigenous people of Misool (Kovach, 2009). I am an insider because I am an Indonesian and Misool is a part of Indonesia. Thus, the Misool speakers and I share a general sense of Indonesian culture and context. All communications with the Misool people were conducted in the Indonesian language, Bahasa Indonesia. In that regard, I was accepted not as a complete foreigner (or in other words, as a partial insider) by the Indigenous participants. Being an insider gives researchers an advantage in collecting and analysing the data as they already have some knowledge (e.g. having “cultural intuition”) about the subject and have the awareness of issues that need to be addressed (Berger, 2013, p. 223). Sharing a common language (Indonesian) with my research participants gave me the ability to engage with them better. On the other hand, I am also an outsider to them because I am not a Misool speaker and I do not speak their traditional language (Bahasa Misool).

When I visited Raja Ampat in 2013 for a preliminary survey and a scuba diving trip, I sensed that some of the local people I met saw me as a ‘big-city woman’ who had a lot of money as I was able to afford scuba diving, which is considered an expensive activity. This is understandable as I only spent eleven days in a village in Waisai (the capital city of the Raja Ampat District) and I spent most of my time scuba diving. I was a tourist. There was no deeper relationship I built with the local community because of the limited time I had. That is why for my
fieldwork, it was important for me to spend more time with the local community, get to know them first, and build relationships before I started my data collection.

My being an Indonesian citizen who is fluent in Indonesian language and has a broad understanding of Indonesian culture was helpful in carrying out this research. As an Indonesian, doing my research in Indonesia provided practical benefits. According to Unwin (2006), doing development research ‘at home’ offers sound personal grounds and other advantages, such as: i) researchers’ familiarity with their own society and culture; ii) working in researcher’s first language deliberates significant advantages, especially when working with the local community; iii) being an ‘insider’, the researcher can gain privileged access into particular social situations that would remain closed to outsiders; and iv) it can often contribute more readily to the issues because the researcher will already be much more aware of what those issues actually are.

My academic background, research and industry experience afforded me the necessary requirements to carry out this research project. I hold a bachelor’s degree in Tourism Management (with Highest Distinction) from Bandung Institute of Tourism, Indonesia, and a Master of Science degree in Development Studies (Tourism Consultancy) from Bandung Institute of Technology, Indonesia. I have conducted two research projects using descriptive qualitative methodology as part of the requirements for my bachelor’s and master’s degree, where I used participant observation and semi-structured interviews to collect the data. I also have significant professional tourism industry experience, working in different capacities in Indonesia. I worked as a tourism consultant for the Ministry of Tourism of Indonesia and several Provincial Tourism Offices. I also have experience living and working with an Indigenous community in Borobudur Sub-district, Central Java, for one and a half years when I was working for UNESCO Indonesia as a Project Coordinator for Borobudur. I brought this experience of living with an Indigenous community to my fieldwork, where I was living with the local Misool community in my research site for four months.

Being a travel enthusiast, I had many opportunities to be exposed to different cultures around the world through travelling. I have also met many tourists who
came to Indonesia and fell in love with its nature, culture, and the genuineness of its people. Some even stayed longer to learn more about traditional Indonesian culture. To see their passion and love for my culture, I began to reflect on the appreciation of traditional Indonesian culture by Indonesian people, especially younger generations. I feel that younger generations feel prouder when they know more about western culture, or even follow its lifestyle, than they do of their own. They may not know, or are just simply ignorant, that a few westerners are more knowledgeable about their traditional culture than they are. As was pointed out in section 2.3., younger generations tend to underestimate the values of traditional culture because of the influence of the western culture (Ulluwishewa, as cited in Ngulube, 2002). If this situation carries on, the continuity of traditional Indonesian culture could be in danger. This thought underlies my research topic. In a way, this research is my statement in showing my appreciation of traditional culture, and as much as possible, I would like to contribute in the safeguarding of Indonesian Indigenous culture and make its people proud of their own culture. I am mindful of the ‘danger’ that might come from this idea, namely that I might have a tendency to romanticise Indigenous culture. However, the Indigenous research paradigm can offer ways to “celebrate” Indigenous culture without “romanticising” it, and still allowing me to be critical (S. Wilson, 2008, p. 19).

As Raja Ampat is located in the heart of the Coral Triangle, scuba diving has become the main activity that attracts visitors to Misool. I started my scuba diving journey in 2010 when I took my scuba diving open water certification, and then a year later, my advanced certification. Since then I have undertaken over 160 dives, mostly in Indonesia. The underwater scenery never fails to amaze me. The feeling I get every time I scuba dive is indescribable. My passion for scuba diving initially led me to conduct my research. During my scuba diving trips, which have been all over Indonesia, I often met and talked with the local community in the diving area. I am intrigued by the knowledge they have regarding the importance of protecting their marine environment, which they gained from their parents and grandparents. These communities, who live in peripheral coastal areas, have Indigenous knowledge of marine conservation, which could be beneficial for
marine ecotourism development. That is why I chose this topic for my PhD research: to examine the complexities of integrating Indigenous knowledge and practices for marine ecotourism development in Misool, Raja Ampat, West Papua, Indonesia.

4.3. Indigenous Research Paradigms and Methodology

Kovach described the relationship between Indigenous methodologies and qualitative research to have “the insider/outsider dynamic” (2009, p. 31), until Indigenous methodologies received a legitimate place within academic research discourse. Critical Indigenous qualitative research should meet the following criteria: “ethical, performative, healing, transformative, decolonizing, and participatory. It must be committed to dialogue, community, self-determination, and cultural autonomy” (Denzin & Lincoln, 2008, p. 2; Tuhiwai-Smith, 2012). Indigenous qualitative research plays a critical role in gaining back the trust of Indigenous people who are doubtful about fitting their Indigenous knowledge in an academic context, especially when spirituality and metaphysics are involved in gaining that knowledge (Tuhiwai-Smith, Maxwell, Puke, & Temara, 2016).

E. Wilson and Hollinshead (2015) compared Indigenous tourism research to other types of qualitative tourism research, based on the strength of empirical principles in tourism studies approaches. Compared to critical pedagogy and critical discourse analysis, Indigenous tourism research has a much stronger need to develop an awareness of the ontological and epistemological processes. Where the research is becoming more contextual, collaboration with communities is advised. This leads to another principle that appears very strong in Indigenous research, which is “the rejection of the idolatry of control” (E. Wilson & Hollinshead, 2015, p. 33). This is where researchers often immerse deeper into Indigenous way of thinking, and thick descriptions to describe the local contexts are considered necessary (Greenblatt, as cited in E. Wilson & Hollinshead, 2015) [emphasis added]. Compared to critical pedagogy and ethnoaesthetics, Indigenous tourism research requires more constant reflexivity in every phase of the research. Indigenous tourism research, unlike critical discourse analysis and autoethnography, also has a very strong “critical multilogicality” (E. Wilson &
Hollinshead, 2015, p. 34), in which researchers’ understanding of constantly changing socio-cultural dimensions of identity is paramount.

Researchers have studied Indigenous peoples because they are perceived to possess accumulated knowledge and wisdom that were conserved and passed through many generations by living their daily life (Hendry, 2014). Many Indigenous peoples, however, have come to oppose research because most of the time they have been excluded from the research process. Also, some research that has been conducted had little pertinence for them, especially when researchers are foreign to the community and yet they may claim to know what the community’s problems are (Sillitoe et al., 2005; Tuhiwai-Smith, 2012; S. Wilson, 2008); e.g.: “the creeping policies that intruded into every aspect of [Indigenous peoples’] lives, legitimated by research, informed more often by [Western] ideology” (Tuhiwai-Smith, 2012, p. 3).

Fortunately, in the past few decades, changes to Indigenous research has led to more beneficial, useful, and sympathetic approaches to Indigenous peoples (Tuhiwai-Smith, 2012). As previously stated in Chapter One, many Indigenous scholars (e.g. Amoamo et al., 2018; Chilisa, 2012; Kikiloi et al., 2017; Kovach, 2009, 2010; Tuhiwai-Smith, 2012; S. Wilson, 2001, 2008) have brought together Indigenous views, traditions and beliefs into the research process in order for it to become more culturally sensitive to Indigenous peoples. Chilisa (2012) proposes practical guidance in conducting Indigenous research by understanding the value of Indigenous ways of knowing. Tuhiwai-Smith (2012) addresses the issues of decolonizing Indigenous methodology and the complexities of Indigenous research. In his research, S. Wilson (2001) looks at Indigenous psychology and how the Indigenous language and culture of Indigenous researchers create an Indigenous perspective.

There has been a shift in conducting Indigenous knowledge research (Mauro and Hardison, as cited in Berkes, 2012). Many researchers in the past have attempted to document Indigenous knowledge for the safeguarding of cultural heritage. It is believed that Indigenous knowledge can only be preserved in situ: “much of Indigenous knowledge makes no sense when abstracted from the cultural of
which it is a part” (Agrawal, as cited in Berkes, 2012, p. 31). Researchers no longer have total freedom to separate themselves from the Indigenous people, nor to use the data they collect as if it was their own, to avoid misrepresenting Indigenous peoples’ views (Tuhiwai-Smith, 2012). Indigenous research needs to come from an Indigenous paradigm as it must reflect Indigenous context and world views. This research intends to “give voice to the Indigenous epistemologies” and as Indigenous “knowledge is not Western knowledge” (Kovach, 2009, pp. 30-31), it is essential to position this research within Indigenous cultural concepts and paradigm.

Indigenous research tends to acknowledge and develop solutions based on available resources within an Indigenous community (S. Wilson, 2008). One of the main differences between dominant western research paradigms and an Indigenous research paradigm relies on the fundamental belief which it builds upon. In dominant western paradigms, “knowledge is an individual entity: the researcher is an individual in search of knowledge, knowledge is something that is gained, and therefore, knowledge may be owned by an individual” (S. Wilson, 2001, p. 177). In an Indigenous paradigm, “knowledge is relational. Knowledge is shared with all creation … with the cosmos; … the animals, with the plants, with the earth that we share this knowledge. It goes beyond the idea of individual knowledge to the concept of relational knowledge” (S. Wilson, 2001, p. 177). The growth of the Indigenous research paradigm is of immense importance to Indigenous people as it requires researchers to develop concepts, approaches, and procedures that are specifically appropriate for the Indigenous community by integrating Indigenous worldviews. It is imperative for researchers to understand the relationship between Indigenous peoples with their environment, families, ancestors, ideas, and the cosmos around them (S. Wilson, 2007). Researchers will continuously be informed by this understanding when conducting every stage of the research. This approach can develop an empathetic approach, which can lead to solutions that cater for the needs of Indigenous people (S. Wilson, 2008).

One of the fundamental elements of Indigenous identity is how Indigenous peoples view the world. Thus, the Indigenous research paradigm embraces
Indigenous peoples’ worldviews, ethical beliefs, cosmology, and epistemology (S. Wilson, 2008). In other words, an Indigenous research paradigm is “research that follows an ontology, epistemology, methodology, and axiology that is Indigenous” (S. Wilson, 2008, p. 38). It should always be guided by the principles shown in the following table:

**Table 4.1. Principles of Indigenous Research Paradigms**

<table>
<thead>
<tr>
<th>Indigenous Research Principles</th>
<th>My Research Approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indigenous people themselves approve the research and the research methods</td>
<td>Formal approvals obtained from related government institutions. Met the traditional leaders for consent</td>
</tr>
<tr>
<td>A knowledge and consideration of community and the diversity and unique nature that each individual brings to community</td>
<td>Four months of fieldwork with the <em>Misoolese</em> people</td>
</tr>
<tr>
<td>Ways of relating and acting within community with an understanding of the principles of reciprocity and responsibility</td>
<td>Participated in the community's events</td>
</tr>
<tr>
<td>Research participants must feel safe and be safe, including respecting issues of confidentiality</td>
<td>Asked for the participants’ consents and anonymity preference</td>
</tr>
<tr>
<td>A non-intrusive observation, or quietly aware watching</td>
<td>Quiet observation on the marine environmental awareness that was reflected on the daily practices of the local communities in five villages, as well as their interactions with the tourists who came to their villages</td>
</tr>
<tr>
<td>A deep listening and hearing with more than the ears</td>
<td>When traditional leaders shared their point of views using analogies, “a deep listening and hearing with more than the ears” was adopted</td>
</tr>
<tr>
<td>A reflective non-judgemental consideration of what is being seen and heard</td>
<td>Broader reflection and understanding on participants’ answers</td>
</tr>
<tr>
<td>Having learnt from the listening a purposeful plan to act with actions informed by learning, wisdom, and acquired knowledge</td>
<td>Adjusted questions as I proceeded with interviews</td>
</tr>
<tr>
<td>Responsibility to act with fidelity in relationship to what has been heard, observed, and learnt</td>
<td>To ensure the accuracy of the local people’s voices, naturalized transcription was used</td>
</tr>
<tr>
<td>An awareness and connection between logic of mind and the feelings of the heart</td>
<td>During fieldwork and the process of transcribing, analysing, and writing of findings, both my mind and my intuition played an important role</td>
</tr>
<tr>
<td>Listening and observing the self as well as in relationship to others</td>
<td>During fieldwork, I always reflected on how I talked and interacted with the local people, especially with the Indigenous participants</td>
</tr>
<tr>
<td>Acknowledgement that the researcher brings to the research his or her subjective self</td>
<td>I am fully aware that my background and experiences influence my positioning in the research and my interpretation of findings</td>
</tr>
</tbody>
</table>

Source: adapted from Atkinson, as cited in S. Wilson (2008, p. 59) and author’s field notes
To fully understand an Indigenous research paradigm, one must comprehend its elements, which consist of Indigenous ontology, epistemology, axiology, and methodology. Indigenous ontology acknowledges multiple realities where the truth is not external, but it is embodied in the relationship one owns with the truth (S. Wilson, 2008; Yates, Harris, & Wilson, 2017). “Reality is relationships or sets of relationships” (S. Wilson, 2008, p. 73), which makes reality not an exact entity, but somewhat different sets of relationships that create an Indigenous ontology. This idea, where reality is more likely to be a process of relationships rather than an object, places Indigenous ontology at the same position as Indigenous epistemology, which is also based upon relationships. Indigenous epistemology is more than simply a way of knowing (Meyer, 2001). It is the Indigenous peoples’ “cultures, worldviews, times, languages, histories, spiritualities, and their places in the cosmos” (S. Wilson, 2008, p. 74). It develops from relationships between things that generate systems of knowledge. This means Indigenous epistemology must be seen as a set of knowledge systems and relationships (Meyer, 2001). The Indigenous ontology and epistemology that are based on relationships influence the development of Indigenous axiology and methodology. Indigenous axiology is the nature of value and valuation which consists of Indigenous ethics, based on “relational accountability” approach (S. Wilson, 2008, p. 76). Assessments on values (e.g. right or wrong, significant or insignificant) become less important than the researcher’s position and responsibilities in the research relationship, that is “being accountable” (S. Wilson, 2008, p. 77). Hence, the researcher cannot be separated from the subject of research.

In this study, Indigenous ethics, which is a set of moral principles relating to a form of conduct, played a paramount role, especially during fieldwork, which will be explained later in section 4.7. In terms of assessments of values in this research, I tried to understand the Indigenous participants’ worldviews, which sometimes were different than mine, and dived into their perspectives and worldviews during the process of meaning-making. With this attachment, the researcher commits to producing results that are useful for the Indigenous community by adopting a respectful and accountable methodology (S. Wilson, 2008), and usually it results in an everlasting relationship between the researcher and the
community (Tuhiwai-Smith, 2012). In regard to my own research, which is informed by Indigenous methodology, the time I spent with the Indigenous participants during fieldwork has created a deep relationship between us. Once I have finished my final PhD thesis, I intend to go back to Misool to share the results with the Misoolse participants and the government officials.

S. Wilson (2001, p. 178) used “intuitive learning” as a big part of his research method. He goes on to say that “many people don’t trust their intuition” (S. Wilson, 2001: 178). I am intuitively drawn to the concept of Indigenous methodology, for I feel more connected to it. Indigenous methodology has deeply informed my research because it is an Indigenous research that is done for Indigenous people and, as mentioned earlier, it offers ways to “celebrate” Indigenous culture without “romanticizing” it, while still “allowing for the critical examination of shortcomings” (S. Wilson, 2008, p. 19). Indigenous methodology also allows a deeper insight into “what it means to bring old knowledges as Indigenous into places that are new to them as academic research” (Kovach, 2010, p. 41).

Similar to Indigenous axiology, Indigenous methodology is a methodology that focuses on “relational accountability” (S. Wilson, 2001, p. 177), in which cultural protocols, beliefs, and deeds become integral parts of the methodology (Tuhiwai-Smith, 2012), and the research methods and measures are tailored to the culture of the research participants (Chilisa, 2012). Many western research paradigms perceive the relational aspect as something that might bias research, hence it is something that should be separated from methodology, whereas in Indigenous methodology, the relational aspect is very vital and is something that should be embraced by researchers (Kovach, 2010). There are three important characteristics that must be embodied in Indigenous methodology: respect, reciprocity, and responsibility (S. Wilson, 2008). The researcher needs to make sure that while doing Indigenous research, he or she always reflects on respectful relationships with research participants, responsible actions during the research, and that the process of learning and sharing is reciprocal.
Indigenous methodology centres Indigenous knowledge (Kovach, 2010). Indigenous knowledge has critical roles that underpin Indigenous methodology. The following are some of those roles (Chilisa, 2012, pp. 100-101):

1. Indigenous knowledge that is embodied in stories, folktales, legends, and cultural experiences are valuable sources in “giving voice” to Indigenous communities.

2. Indigenous knowledge research allows researchers to present knowledge that was previously ignored, allowing researchers to close the knowledge gap that resulted from the undervalued western perspective.

3. Indigenous knowledge research methodology can empower “reclamation of cultural or traditional heritage”, protection against “exploitation and appropriation of Indigenous knowledge”, and a “validation of Indigenous practices and worldviews”.

4. Indigenous communities can become “the source of solutions to the challenges they face”.

5. Indigenous knowledge research methodology enables research to be “carried out in respectful, ethical ways, which are useful and beneficial” to the Indigenous people.

6. Indigenous methodology offers opportunity for “collaboration between researchers and the researched as well as community participation during all the stages of the research process”.

As this research is focusing on Indigenous knowledge, it is important to comprehend the essence of Indigenous knowledge research. Indigenous knowledge research is “small-scale, culturally specific and geographically localised, infrequently encompassing regional eco-systems” (Sillitoe et al., 2005, p. 22). Indigenous knowledge researchers should be able to attain empathetic and comprehensive understanding of local practices and goals, by combining the empathy of researchers with their critical perspectives (Sillitoe et al., 2005). In Indigenous knowledge research, researchers should understand both Eurocentric and Indigenous contexts in appraising the current state of research on Indigenous knowledge (Battiste, 2008) to get a more comprehensive perspective on the issue. In the same vein, Semali and Kincheloe (1999) note that the synergy of Indigenous
epistemologies and western epistemologies is advised to stimulate the discovery of advanced approach in knowledge generation.

However, there are also some potential issues with “cross-cultural epistemological problems” (Sillitoe et al., 2005, p. 19). For example, when asking Indigenous people about modern biodiversity conservation, they might not be able to understand this western concept, unless researchers use interpretations that relate to their beliefs and worldviews. Therefore, in conducting the interviews with the Misoolese participants, I often had to use words in Misoolese or provide more explanations in Indonesian that the participants could relate to their beliefs and worldviews. This formed negotiation and discussion between the Indigenous participants and me to try and reach understandings.

Another issue that may exist with Indigenous knowledge research is that there is no consensus on Indigenous knowledge amongst an Indigenous community. This might occur in less socially structured community or in a community whose people have different experiences or heritage (Sillitoe et al., 2005). Although some western researchers are very aware of Indigenous cultures, a possible danger of Indigenous research conducted by western researchers who are informed by a different worldview is that some of them might undervalue or even ignore some information that is highly important to people who fully understand its significance, since they might not have sufficient cultural awareness to value a culturally specific information (Williams, 2010). Hence the Indigenous worldviews and epistemologies cannot be detached in understanding or using Indigenous knowledge.

4.4. Case Study Site

Providing a detailed description of the case study context is important to ensure transferability, which is needed in qualitative research (Daniel, 2016; Lincoln & Guba, 1985). Transferability is “a type of external validity achieved by describing a phenomenon in sufficient detail, assessing the extent to which the outcomes of qualitative research can be transferred to other times, settings, situations, and people” (Lincoln & Guba, as cited in Daniel 2016, p. 28). The case study site of this
research is located in Misool, Raja Ampat District, West Papua Province, Indonesia. As was shown in Chapter One table 1.2., the Indigenous communities in Misool consist of *suku* Matbat (People of the Mountain), *suku* Matlou (People of the Sea), and *suku* Biga (which originally came from Waigeo Island). Misool’s population of 10,723 is spread over four sub-districts: Misool, South Misool, West Misool, and East Misool (SBRAD, 2018). In each sub-district, there are around 6-9 schools, which consist of: 4-5 primary schools, 1-2 junior high schools, and 1-2 high schools (SBRAD, 2018). During the time of fieldwork, University of Papua just opened its third campus in Waisai (the capital city of Raja Ampat District) for a three-year diploma in ecotourism programme (Zainal, 2015). The university is committed to fostering and maintaining Papuan culture and Indigenous knowledge (Sidik, 2017).

Based on the Virtue of Decree of the Raja Ampat Regent No. 70 Year 2010, five villages in Misool were appointed as tourism villages: Yellu (population: 1,957), Harapan Jaya (population: 491), and Fafanlap (population: 943) in South Misool sub-district, and Usaha Jaya (population: 724) and Tomolol (population: 1,348) in East Misool sub-district (SBRAD, 2017b; SBRAD, 2017c; The Regent of Raja Ampat District, 2010). The primary sector in both sub-districts is fisheries, as the local people’s main income comes from employment at the pearl farm and from fishing and sea cucumber collection. According to the Raja Ampat District government, Yellu is growing as the economic centre, Fafanlap as the cultural centre, and Harapan Jaya as the tourism centre as the first locally owned homestay in Misool was built there (Al-Anshori, 2014; SBRAD, 2014). Most of the local Indigenous communities in Yellu, Harapan Jaya, Fafanlap, and Usaha Jaya are ethnically identified as *suku* Matlou and the ones in Tomolol as *suku* Matbat (CRITC–COREMAP Raja Ampat, 2016b).

Having a rich marine biodiversity (McKenna et al., 2002), the scuba diving industry in Raja Ampat is predicted to develop very rapidly over the coming years. Misool is one of the islands in Raja Ampat that attracts keen scuba divers and snorkellers from around the world, due to its abundant marine life. Tourism in Misool gained momentum since 2008 when a resort was opened in South Misool, and continued with the opening of the first locally owned homestay in Misool in
2011, also located in South Misool. Domestic and international tourists come to Misool for scuba diving, snorkelling, and sightseeing or island-hopping. Some of the tourism potentials in Misool\(^7\) (DTRAD, 2010) include:

1. Scuba diving/snorkelling tourism. Most of the dive sites are located in between islands in the south and east of Misool, which is a part of Misool MPA. Hence, the area offers a rich marine ecosystem and colourful corals, complete with exotic underwater caves. In terms of the number of dive sites available in Misool, the information varies. Based on The Nature Conservancy's data collection in 2009 and the “Diving Raja Ampat Indonesia” book, forty-four dive sites have been explored in Misool waters (as cited in DTRAD, 2010). According to “Diving Indonesia’s Bird's Head Seascape” book, there are twenty-seven dive sites in Misool (B. Jones, Shimlock, Erdmann, & Allen, 2011). The resort in Misool offers thirty-five dive sites for their guests. For tourists who do not dive but still want to view the stunning underwater scenery, snorkelling is the option. The beauty of corals and sea life is still clearly visible to snorkellers (DTRAD, 2010).

2. Sightseeing: karst formations, scenic views from hilltops, and beaches on small islands.

3. Historical sites and sacred caves. Many of the historical sites and caves are located in an area called ‘area makan bersama’/shared resource area.

4.4.1. The Rationale for Case Study Site Selection

Geographically, Raja Ampat is divided by two main areas: north Raja Ampat (where the capital city of Raja Ampat District, Waisai, is located) and south Raja Ampat (where Misool is located). The tourism development in north Raja Ampat is considered to be more established than south Raja Ampat. The difference on the development phase is understandable as north Raja Ampat is closer to Sorong, the closest city on the mainland and the gateway for Raja Ampat. Hence, north Raja Ampat is more accessible and offers more amenities. Further justification was obtained during an initial conversation with a representative from a government institution in charge of tourism development in Raja Ampat.

\(^7\) Photographs and descriptions of tourism attractions in Misool are presented in Appendix A

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where he stated that tourism has just started to develop in Misool during the last two to three years with the opening of a weekly return ferry route from Sorong to Misool (personal communication, August 10, 2015) and became twice weekly in late 2015.

Because the process of tourism development in Misool is still in its early stages, this is an excellent location to trace processes of marine ecotourism development and the integration of Indigenous knowledge and practices, such as the customary marine tenure system and customary marine conservation of sasi which are still practised by most Indigenous communities in Misool (McLeod et al., 2009; TNC, 2014). Another reason in deciding to focus on Misool is because the local communities in Misool have been researched before (McLeod et al., 2009); thus, it indicates their cooperation in working with researchers. Cost-effectiveness also came into consideration when choosing Misool, as the Head of Raja Ampat Marine Protected Areas Unit provided transport and accommodation support for my fieldwork in Misool (personal communication, August 7, 2015).

Based on the decree that appointed five villages in Misool as tourism villages mentioned earlier, I decided to conduct my fieldwork in those five tourism villages, where I stayed in Harapan Jaya village during my time in Misool.

<table>
<thead>
<tr>
<th>No.</th>
<th>Village, Sub-district</th>
<th>Indigenous Ethnic Group (Suku)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yellu, South Misool</td>
<td>Suku Matlou</td>
</tr>
<tr>
<td>2</td>
<td>Harapan Jaya, South Misool</td>
<td>Suku Matlou</td>
</tr>
<tr>
<td>3</td>
<td>Fafanlap, South Misool</td>
<td>Suku Matlou</td>
</tr>
<tr>
<td>4</td>
<td>Usaha Jaya, East Misool</td>
<td>Suku Matlou</td>
</tr>
<tr>
<td>5</td>
<td>Tomolol, East Misool</td>
<td>Suku Matbat</td>
</tr>
</tbody>
</table>

It is relevant to note that all five tourism villages are separated by sea. Even though Fafanlap, Usaha Jaya, and Tomolol are located on the mainland (as shown in figure 4.1.), there is no road access connecting the three villages. Thus, every time I wanted to go from one to another village, I had to borrow a boat and the crew from MPA Misool field office, or rent one, if they were not available. Besides those five villages, I also went to two other villages called Dabatan village to interview the Head of South Misool Sub-district, and Folley village to interview the Head of East Misool Sub-district and a couple of Indigenous elders to share
their success story on conducting marine *sasi*. Interviews with NGOs were conducted in Sorong as their offices are located in Sorong.
Figure 4.1. Case Study Sites Location and Misool MPA Zoning Map (Sources: OpenStreetMap, used under CC BY-SA, for map; The Nature Conservancy Raja Ampat, n.d. for zoning information)

Legend:
- **Yellow**: Aquafarming zone
- **Orange**: No-take-zone/food security zone
- **Blue**: Fishing equipment restrictions/traditional fishing ground

1-5 Positions of tourism villages (the numbers are referred to table 4.2.: 1. Yellu, 2. Harapan Jaya, 3. Fafanlap, 4. Usaha Jaya, 5. Tomolol)
4.5. Participant Recruitment

Four groups of research participants were chosen for this research: local government institutions, NGOs, marine ecotourism operators, and the Indigenous communities.

a. Local government institutions

There are two departments that are related to the management and development of marine ecotourism in Misool: one in charge of marine affairs in the area and another one in charge of tourism development. Prior to going to Raja Ampat for the fieldwork, initial approaches to both departments were conducted via email to introduce myself and my research.

b. NGOs

There are three international NGOs conducting marine conservation projects in Raja Ampat. Two of them are more active and based in Sorong, West Papua: one is focusing on areas in south Raja Ampat (Kofiau and Misool) and another in central and north Raja Ampat. These international NGOs are often working together in doing some activities, such as monitoring coral reef health and activities involving local government institutions. There is also one local Indigenous NGO consisting of traditional leaders from all Indigenous clans in Raja Ampat, whose main task is to advise and supervise the use of natural and cultural resources in Raja Ampat through customary law.

c. Marine ecotourism operators

At the time of my fieldwork, there were six marine ecotourism operators in Misool: a non-local couple who owned a dive resort and five Indigenous people who owned homestays and marine ecotourism operations. During my fieldwork period, one of the homestays was still being constructed and one was not yet opened. All of them provided accommodation, sightseeing trips, and scuba diving trips, except for one homestay which only focused on providing accommodation and sightseeing/snorkelling trips.

d. The Indigenous communities

The Indigenous communities in this study consist of two suku: Matlou (People of the Sea) and Matbat (People of the Mountain). Most of the Indigenous participants worked in tourism sector as homestay owner, homestay manager, dive guide, tour guide, boat skipper, cook, waiter, patrol ranger, and
local advisor in a resort; and others worked as field staff at Misool MPA Field Office. The other Indigenous participants who were also included in this study consisted of the heads of five tourism villages and the traditional leaders in each village.

In recruiting participants for this research, convenience sampling and snowball sampling were used. As Hibberts, Johnson, and Hudson (2012) explain, convenience sampling is a method of non-random sampling that utilises potential participants who are accessible and can conveniently be engaged to partake in the research. Snowball sampling is widely used in qualitative research where the researcher makes initial contact with one person or group who are relevant to the research topic, and then uses these connections to establish contact with others who fulfil the criteria (Hibberts et al., 2012; Noy, 2008). As I have been to Raja Ampat before, I already had contacts and built relationships with participants from NGOs in Raja Ampat. They then gave me contact details of government officials from two departments that are related to the management and development of marine ecotourism in Misool (my first recruited participants). Snowball sampling was then used to obtain contact information of homestay and resort owners, and the heads of five tourism villages in Misool from the first recruited participants. Participants were asked to nominate one or more people who meet specific requirements related to the research. To enhance credibility of the process, the nominator was used as a point of reference when approaching new participants. Often participants suggested some names for me voluntarily at the end of the interview.

Snowball sampling helped identify traditional leaders/elders in five tourism villages through an Indigenous government official who worked in the Raja Ampat Regent Office. It is crucial to attain such information from the right person, as he advised me to be careful when addressing someone as a ‘traditional leader’ because this is a title that not just anybody can get (an Indigenous government official, personal communication, August 7, 2015). Meanwhile, the Head of Raja Ampat’s MPAs Unit introduced me to the Misool MPA Field Office Manager, who later assigned some of his local staff to assist me during my fieldwork in Misool. One of which became my facilitator during my stay in Misool.
A facilitator is someone who can facilitate access to the study sites as well as introducing me to potential participants for the research (Clark, 2010). Having a facilitator during my fieldwork was tremendously helpful, not only by providing access to participants, but also by helping me adapt with the local culture and the environment, and providing me with temporary housing. He introduced me to the heads of five villages, the traditional leaders/elders, and Indigenous people from those five villages that worked in Misool MPA Field Office and/or worked in tourism sector, including the homestays owners. Convenience sampling was once again utilised when I included Indigenous people who worked in Misool MPA Field Office from those five villages as my research participants. This was because I lived with them throughout my fieldwork and they were representatives of Indigenous people from outside tourism sector.

In the case of accessing participants who worked in the tourism sector, the tourism business owners became my gatekeepers. In this context, a gatekeeper is defined as a person who has charge of mediating the researcher with the participants in his or her organization/institution (Singh & Wassenaar, 2016), where I had to seek permission from them to access my participants. This was necessary as I did not want to interfere with their working hours. The downside of having the owners as gatekeepers is that participants might participate in the research involuntarily because the request is coming from their superiors (Malone, 2003; Singh & Wassenaar, 2016). Therefore, I always tried to approach those participants prior to the interviews and inform them that they did not have to participate if they did not want to (I used the phrase “if you are busy”, as in local context “busyness” is considered to be politer and a more valid reason to refuse nicely). But at the end, they all participated in my research. From my experience, another drawback of interviewing participants in their workplace was that they had the tendency to say nice things about their workplace or their superiors or to agree on a certain rule that is contradictory. Here I applied one of Atkinson’s principles of conducting Indigenous research, which is “a deep listening and hearing with more than the ears” (as cited in S. Wilson, 2008, p. 59).

The total number of participants who were interviewed was forty-seven. Two of them were interviewed together and another two have dual roles as the head of
village and the traditional leader. Difficulties in recruiting participants were encountered in only a couple of instances. These difficulties included lack of interest in my research, by some individuals who were approached, as they expected monetary compensation for their participation in the research. The general breakdown of the participants is as follows:

Table 4.3. Research Participants

<table>
<thead>
<tr>
<th>PARTICIPANTS</th>
<th>PLACE OF INTERVIEW</th>
<th>TOTAL NUMBER</th>
<th>GENDER, AGE RANGE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indigenous people who worked in the tourism sector</td>
<td>Yellu, Harapan Jaya, Fafanlap</td>
<td>15</td>
<td>14 male &amp; 1 female, 20-70</td>
<td>All Misoolese. One of them worked for the government, but since he is a Misoolese, I included him as an Indigenous person who worked in tourism instead of a government official</td>
</tr>
<tr>
<td>Indigenous people who worked in Misoel MPA Field Office</td>
<td>Yellu, Harapan Jaya, Fafanlap, Usaha Jaya, Tomolol</td>
<td>7</td>
<td>6 male &amp; 1 female, 30-40</td>
<td>All Misoolese</td>
</tr>
<tr>
<td>Marine ecotourism operators</td>
<td>Yellu, Harapan Jaya, Fafanlap</td>
<td>7</td>
<td>6 male &amp; 1 female, 30-60</td>
<td>Five are Misoolese, two are non-Misoolese</td>
</tr>
<tr>
<td>Heads of villages</td>
<td>Yellu, Harapan Jaya, Fafanlap, Usaha Jaya, Tomolol</td>
<td>5</td>
<td>All male, 30-80</td>
<td>All Misoolese. Two of them have dual role as the head of village and the traditional leader</td>
</tr>
<tr>
<td>Traditional leaders/elders</td>
<td>Yellu, Fafanlap, Usaha Jaya, Tomolol, Folley</td>
<td>6</td>
<td>All male, 60-90</td>
<td>All Misoolese. The traditional leader of Yellu also served as the traditional leader of Harapan Jaya</td>
</tr>
<tr>
<td>Government officials</td>
<td>Dabatan, Folley, Waisai, Sorong</td>
<td>5</td>
<td>All male, 30-50</td>
<td>One is Misoolese, the others are non-Misoolese</td>
</tr>
<tr>
<td>NGOs</td>
<td>Sorong</td>
<td>4</td>
<td>All male, 40-60</td>
<td>One is an Indigenous person of Raja Ampat, the others are non-Misoolese</td>
</tr>
</tbody>
</table>

Looking at table 4.3., twenty-five participants could be perceived as ‘powerful stakeholders’: those who were government officials, traditional leaders, heads of villages, tourism business owners, and those who worked for NGOs. Government
officials have the authority to make decisions and issue regulations. Heads of villages and traditional leaders also have decision making authority in the village level and some of the traditional leaders also have spiritual authority which can be more ‘powerful’ from an Indigenous perspective. Tourism business owners and NGOs have the power of having capital and funds to develop tourism in the area. The other fifteen participants who worked in the tourism sector were employees who did not possess such ‘power’. A further seven participants who worked in Misool MPA Field Office represented Misoolse people with no direct involvement in tourism. Most of the data on Misoolse Indigenous knowledge and practices were collected from Indigenous participants, with or without ‘power’ or status, providing first hand insights into these practices. The ‘powerful’ status of some research participants did not influence the result of this research. The same condition applies to the gender imbalance showed in table 4.3. The gender of the research participants did not influence the findings of this research. This is because both Indigenous participants, with or without ‘power’, male or female, reported having similar experiences of information about Misoolse Indigenous knowledge. Hence, having ‘powerful’ stakeholders and more male participants did not reveal a difference in reported findings nor affect analysis of the fieldwork data. All responses from all research participants were treated and examined equally.

To preserve anonymity, pseudonyms are used for the names of all participants in findings and discussion chapters (Chapters Five and Six). The acronyms of IP and NIP are used after the names to identify Indigenous participants and non-Indigenous ones.

4.6. Research Methods

4.6.1. Data Collection

There are specific methods that fit well with Indigenous methodology such as participant observation, in-depth interview, and conversational method (Chilisa, 2012; Kovach, 2009, 2010; S. Wilson, 2001, 2008). In this research, primary data collection was conducted using semi structured in-depth interviews. This method is commonly used in Indigenous research (S. Wilson, 2008). Interviews should be “open-ended and dialog based, in order to allow for a mutual sharing of information”
In-depth interviewing is a qualitative research technique that involves conducting intensive individual interviews with the respondents, to explore their perspectives on a particular idea, program, or situation. In-depth interviews are useful when the researcher needs detailed information about a person’s thoughts and behaviours, or wants to explore new issues in depth (Boyce & Neale, 2006).

Using semi-structured in-depth interviewing allowed me to explore the stakeholders’ point of views on marine ecotourism development and prospects in Misool, Raja Ampat, and the integration of Indigenous knowledge into it. During my fieldwork, I conducted forty-six semi-structured in-depth interviews; one interview consisted of two research participants. The questions were informed by the research objectives, which mainly focused on their views on marine ecotourism development in the area, Misoolese Indigenous knowledge and practices, and how they acknowledged and incorporated their Indigenous knowledge and practices in marine ecotourism development. The complete list of interview questions can be seen in Appendix B. The interviews were conducted until it reached a point where the same participants were being recommended and there was repetition in the data collected and the information was deemed sufficient for discussing the research topic (Fusch & Ness, 2015).

The interviews ranged from one hour to five hours long. As some of the Indigenous participants had very little understanding of what tourism was, many asked me to explain about tourism beforehand as they wanted to understand and hopefully to get involved in the future. Being perceived as a tourism ‘expert’, almost all homestay owners asked for my advice on how to develop their premises and businesses. I also helped them where I could. One example was being a translator when they had foreign tourists who could not speak Indonesian. Most of the time, the interviews with the Indigenous participants were developed into conversations. According to S. Wilson (2008) and Kovach (2010), conversations strengthen the interpersonal relationship by sharing personal narrative. Through this sharing, reciprocity, which is one of the most important characteristics in Indigenous methodology (S. Wilson, 2008), emerged. Indigenous participants who were traditional leaders, often answered my questions with stories. A strong relationship can be built between the
person listening to the story and the person telling the story, as you are telling their (and your) side of the story and you are analysing it (Kovach, 2009). By developing storytelling through conversation, the Indigenous participants, especially the traditional leaders, were likely to convey comprehensive information on Indigenous knowledge and practices in their area, as well as their opinions on the integration of them into marine ecotourism development.

Semi structured in-depth interviews was coupled with the use of field notes. Field notes are usually full of details in describing people (including the researchers themselves), places, events, things, and contemplation on data and the research process (Brodsky, 2012). Field notes taken during my fieldwork was focused on subjects that can be observed without the need to engage in a conversation, to get an unpretentious illustration of the local community’s sensibility towards marine environment condition and their behaviours when interacting with tourists, as well as my personal reflections on certain topics including the fieldwork process. Field notes were also used with participants who refused to be recorded and those who started talking more after I turned off the voice recorder. Photographs were also taken during fieldwork as a part of data collection. The photographs taken were primarily of the marine environment conditions. This included tourist attraction potentials and the surrounding built environment in five villages, including tourism facilities.

All of my interviews and conversations were conducted in Indonesian, except for two interviews with two foreigners, which were conducted in English. However, something that is noteworthy is that while I was staying in Misool, I spoke Indonesian, but I used Misolese accent and always tried to mix it with Misolese words. This was reflected from what I wrote in my field notes: "my step mom just called me, and she said I sounded like a Papuan" (field notes, 05/11/2015). It pleased me to hear that, because I felt like I had achieved my goal to blend in with the Indigenous communities, or at least sound like them. Hence even though the interviews were not conducted fully in their Indigenous language, we still shared the same language with the same accent. I observed that when the Misolese people talked to outsiders (whether a tourist or a researcher) who spoke Indonesian with no accent, they became more formal and quieter. In my own experience, using the
same accent and incorporating some *Misoolese* words helped me to get my Indigenous participants be more open, relaxed, and understand my questions better. Even though it was not perfect, they noticed that I at least tried to speak like them and they appreciated my efforts. This shows the importance of the use of Indigenous language in an Indigenous research process, as it shows respect and promotes interaction between the researcher and the research participants (Battiste, 2008).

Secondary data was also collected from The Raja Ampat’s Department of Tourism which consisted of: a tourism development masterplan of Raja Ampat District, tourist arrivals information in Raja Ampat 2007 – 2014, reports on tourism potentials of south Raja Ampat, list of resorts in Raja Ampat 2015, map of Raja Ampat tourism profile, local regulation on scuba diving tourism development in Raja Ampat, Virtue of Decree of the Raja Ampat Regent on tourism villages in Misool, and Decree of the Head of Tourism and Culture Department of Raja Ampat regarding tourism facilitator for tourism villages in Raja Ampat. The secondary data which was gathered from The Raja Ampat MPAs Office included the management plan of marine park and small islands of Raja Ampat; policy documents on marine conservation area of Raja Ampat and fishing prohibition of sharks, manta rays, dugongs (sea cow), whales, turtles, and specific kinds of reef fish; and the Atlas of Raja Ampat’s coastal resources 2006.

4.6.2. Data Analysis

The interviews were transcribed and analysed in detail. Transcribing has been acknowledged as both a product and a methodological process, which holds a significant role in the qualitative research process (Bird, 2005). During my experience of transcribing, I often found myself paying close attention and doing interpretive thinking to make sense of the data and to get deeper meaning of a phenomenon. Bird (2005, p. 230) explains this as “transcription as interpretive analysis” where the transcriber actually begins analysing during transcription. This process allows researchers to draw deeper reflectivity, in order to produce a transcript that is useful to answer their research questions (Kvale, as cited in Bird, 2005). With this process, transcribing becomes an integral part of qualitative analysis.
Naturalized transcription was used in my transcribing process as non-verbal signals can change the tone of conversations and meanings (Oliver, Serovich, & Mason, 2005). Hence, in naturalized transcription, conversations and expressions are transcribed in as much detail as possible. Non-verbal responses such as laughter, pause/gap, and the use of expressions like ‘mmm’, ‘well...’ are taken into account (Oliver et al., 2005). With naturalized transcription, the transcribing process of almost seventy hours of interviews took about five months to finish. Most interviews were in Indonesian, sometimes mixed with Misoolese, except for two interviews with foreigners. Bryman (2016) suggests that researchers should maintain the language of the research participants as far as possible to keep the original meaning as much as possible. Transcribing the interviews was conducted in their original oral languages (Indonesian, Misoolese, English). Misoolese words/expressions were translated into Indonesian, and finally all Indonesian transcripts were translated into English for transcripts summary and the thesis (see Glossary of Misoolese-Indonesian, p. xv).

As was mentioned at the beginning of this chapter, Kovach (2009) suggests that Indigenous methodology has to have a strong narrative component as part of its method and presentation of findings, as narration is methodologically well-suited with Indigenous knowledge. In regard to the analysis process in Indigenous research, S. Wilson (2008, pp. 118 – 119) proposes [emphasis added]:

So if we try to use an Indigenous paradigm in analyzing the results of our research, the importance of relationship must continue to take precedence. ... *The method or style of analysis needs to complement the methods of data collection in order for the research to make sense.* ... Analysis from a western perspective breaks everything down to look at it. ... *you are destroying all of the relationships around it.* So an Indigenous style of analysis has to look at all those relations as a whole instead of breaking it down ... where you are looking at the whole thing at once and coming up with your answers through analysis that way.

Based on the above arguments as well as the nature of my research objectives, which is examining the complexities of integrating Indigenous knowledge and practices in
marine ecotourism development, I chose narrative analysis with a thematic approach to analyse the data. “Narrative analysis attempts to systematically relate the narrative means deployed for the function of laying out and making sense of particular kinds of, if not totally unique, experiences” (Bamberg, 2012, p. 86). Narrative analysis focuses on close readings of stories told by participants and seeks to understand human experience and/or social phenomena through the form and content of stories analysed as textual units (Kovach, 2009; The Johns Hopkins University & Fritz, 2008). Narrative analysis allowed me to interpret how the participants embraced their Indigenous culture and how it was intertwined with marine ecotourism development in the area, by also giving my perspectives to make sense of the meaning and relevance of these phenomena (Cortazzi, n.d.).

Whilst narrative analysis has been perceived as an alternative to thematic coding in the analysis of interviews (Slembrouck, 2015), Kovach (2009, pp. 131-132) argues that until the conventional qualitative approaches of coding data and presenting findings as a standardised activity prevail, researchers conducting Indigenous research will likely have to utilise a mixed method approach that offers both interpretative meaning-making and some form of thematic analysis. In narrative analysis, the attention can be engaged in analysing the narrative means or to better understand particular experiences, but likely both approaches inform each other (Bamberg, 2012). Riessman divided the narrative analysis into three analytic approaches: thematic, structural, and dialogue-performative (as cited in Bamberg, 2012). Based on Kovach’s argument above, and after reviewing the three approaches in narrative analysis, the thematic approach was chosen to complete the narrative analysis.

I conducted five stages of analysis during the analysis of data, as shown in table 4.4. As a result of the narrative analysis, the presentation of findings in this thesis rely heavily on the stories of the participants to better understand the views of the Indigenous people and more importantly, to give a chance for their voices to be heard (Tuhiwai-Smith, et al., 2016; Tuhiwai-Smith, 2012). Comprehensive quotes and narratives are used to “look at all relationships as a whole instead of breaking it down” (S. Wilson, 2008, p. 219). The thematic approach was taken to group the
findings of this study into themes, which are described in the following findings and discussion chapters (Chapters Five and Six).

Table 4.4. Stages of Data Analysis

<table>
<thead>
<tr>
<th>STAGE</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>Stage 1</td>
<td>As mentioned earlier, my first stage of data analysis began during transcription</td>
</tr>
<tr>
<td>Stage 2</td>
<td>After all transcripts were finished, I identified all <em>Misoolese</em> Indigenous knowledge and practices, including the ones not directly related to tourism such as traditional medicines</td>
</tr>
<tr>
<td>Stage 3</td>
<td>I then identified the ones that were related to tourism in general, which include traditional food, art, and craft</td>
</tr>
<tr>
<td>Stage 4</td>
<td>The next step was to identify the ones that were related to marine ecotourism in particular</td>
</tr>
<tr>
<td>Stage 5</td>
<td>The last stage was to group related ones into one theme. For example: finding schooling fish, finding nudibranch, calling the sharks, calling the manta rays, calling the dolphins, calling the lesser bird-of-paradise, and <em>solon kamum</em> are under one theme, which is finding and calling the animals</td>
</tr>
</tbody>
</table>

4.7. Ethical Considerations

When conducting research, particularly within an Indigenous community, it is imperative for researchers to consider ethical aspects. Prior to commencing the fieldwork, I sought Category A ethical clearance from the University of Otago Human Ethics Committee. The full ethical approval was received from the Human Ethics Committee on 30 April 2015 (see Appendix C). In compliance with research ethics, legal requirements to conduct research in the case study area were also sought from relevant government institutions. The scope of this research is at district level (Raja Ampat) with the marine ecotourism development area of Misool, which is one of the seven marine protected areas in Raja Ampat. Thus, research permission was sought from the Department of Tourism of Raja Ampat District and the Raja Ampat MPAs Unit under the Department of Marine Affairs and Fisheries of Raja Ampat District. Recommendation letters to conduct the research in Misool from both institutions were received prior to commencing the fieldwork (Appendix D and Appendix E).

University of Otago’s ethics approval also requires consent from research participants where researchers are obliged to inform the participants about the research, that they are being researched, and that they can withdraw their
participations from the research at any time. All this information was written on the information sheet and consent form, and both forms were then translated into Indonesian. During the first consultation with the local staff from Misool MPA Office, they explained that most people in Misool are quite reluctant when being asked to sign a form for an interview, as they feel it is too formal and it would make them feel uncomfortable. Ryen (2016) argues it is important for researchers to find out the research guidelines in their case study areas as “Western research ethical guidelines are not necessarily universal” (Riessman, Liamputtong, Mertens, et al., as cited in Ryen, 2016, p. 33). To make my participants feel as comfortable as possible, I did not use the consent form, instead I informed them about my research verbally and their oral consents were recorded using a voice recorder.

All forty-six interviews involved the use of a voice recorder, while some informal conversations occurred more spontaneously and simply involved note taking as the conversations unfolded. I always asked for my participants’ permissions to use a voice recorder before the interview started and all of them gave their permissions, except for some parts where they were talking about sensitive matters and refused to be recorded. In order to gain trust from my Indigenous participants, in nearly all cases I did not start the interviews straight after I arrived in Misool. I spent some time to first get to know the local people and adapt to the culture and the environment. This was also a way to give them time to get to know me first before I started asking questions. I often sat with a few local people just to hear them chat until they asked me some things. During this time, I also tried to learn some words and phrases in Misoolese language, especially the ones that were related to my research topic, as an effective communication tool for exploring Misoolese Indigenous knowledge.

One aspect of Indigenous research that is often found within ethical consideration discussion is respect, which must exist throughout the research process (Kovach, 2009; S. Wilson, 2008). Showing respect to the Misoolese participants, especially the traditional leaders, was done by bringing sirih-pinang (betel nut and areca nut) and presenting them before or during the conversation. One of the Indigenous customs that most Papuans are still fond to do is chewing betel nut and areca nut, sometimes mixed with caustic lime powder, especially when they are chatting. I then found out
that bringing and presenting betel nut and areca nut is one of the protocols of interviewing traditional leaders in Papua in general, and in Misool in particular. It is to show respect and also to make them relaxed, as one of the Misoolese traditional leaders mentioned: “it didn’t feel good having to tell you all these stories without sirih-pinang. Now that they are here, I can talk more relaxed. This is the way it’s supposed to be” (personal communication, August 19, 2015). Indigenous research protocols were developed not only to protect the Indigenous people from ethical misconduct, but also to “decolonize the research relationship” (Kovach, 2009, p. 143). Thus, it is important to establish research protocols based on local Indigenous community protocols.

During the fieldwork, all data and original transcripts were only accessible by me and kept secure in my laptop which is only accessible by a password. After the fieldwork and during the process of writing the thesis, all fieldwork materials were accessible by me and two staff members responsible for supervising the project when needed. All data were securely stored on my computer in my office at the Department of Tourism, University of Otago, and in my laptop. In accordance with the University of Otago research policy (The University of Otago, 2014), the fieldwork material will be securely stored in the Department of Tourism for five years. After this period all information related to this project will be destroyed by the department’s administrator.

4.8. Chapter 4 Summary

This research was qualitative, and the researcher was cognizant of Indigenous research issues, whilst informed by Indigenous methodology based on the Indigenous research paradigm. The principles of Indigenous methodology were deemed more useful for this research, as cultural protocols, beliefs, and values become integral parts of the methodology (Tuhiwai-Smith, 2012). The primary data collection method, semi structured in-depth interviews, was compatible with Indigenous methodology (Kovach, 2010; S. Wilson, 2008). It has been suggested that the method used in the analysis of Indigenous research has to complement the data collection method (S. Wilson, 2008) and it has to have a strong narrative component in both the method and the presentation of findings (Kovach, 2009). For
that reason, both field notes and interview transcriptions were analysed using narrative analysis with a thematic approach (Bamberg, 2012; Slembrouck, 2015) to explore participants’ viewpoints around the subject.

The fieldwork was conducted in five tourism villages in Misool with forty-seven research participants, including Indigenous people who worked in tourism and Misool’s MPA Field Office, marine ecotourism operators, heads of villages, traditional leaders, government officials, and NGOs. The interviews generated discussions with participants about their Indigenous knowledge and practices and their views on the integration of them into marine ecotourism development. The next two chapters will discuss the findings resulted from interviews with the research participants, in order to answer the research questions.
CHAPTER 5

MISOOLESE INDIGENOUS KNOWLEDGE AND PRACTICES

5.1. Introduction

This research intends to examine the complexities of integrating Indigenous knowledge and practices into sustainable marine ecotourism development, with a case study of Misool, Raja Ampat, Indonesia. The key findings of the fieldwork are detailed in the following two chapters. The discussions will be intertwined with the findings in these two chapters to produce a smooth-flowing narrative that also references relevant literature and the existing knowledge about the subject. As was mentioned in the previous chapter, the findings are presented in narrative because “a product resulting from research using a tribal-centred Indigenous methodology ought to have a strong narrative component as part of its method and presentation of findings” (Kovach, 2009, p. 35).

This chapter focuses on the identification of Indigenous knowledge and practices of the Misool people. This answers the first research question in this study: what kind of Indigenous knowledge and practices does the local community in Misool hold? I structured the findings and discussion on Misool Indigenous knowledge and practices into themes as an approach to the narrative analysis. The themes presented are those related to the marine environment, which consist of: 1) marine sasi, 2) petuanan adat (customary ownership right of land and/or sea area), 3) baca alam (reading the signs of nature), 4) finding and calling the animals, 5) pamali ikan (fish taboo), 6) respecting sacred sites, 7) weather shamanism, 8) traditional way of sailing, and 9) traditional ways of building.

Foundational in understanding the findings is to understand the history of the Misool people and their socio-cultural structures, as well as how they see their indigeneity. Section 5.1.1. presents background information on the Misool people that would be beneficial to provide a strong foundation for the framing of Misool culture and Indigenous knowledge from the Misool perspective. As mentioned in
the previous chapter, pseudonyms are used for the names of all participants in this chapter and the next one to preserve anonymity. To identify Indigenous participants from non-Indigenous ones, the acronyms of IP and NIP are used after their names. IP stands for Indigenous participant and NIP stands for non-Indigenous participant.

5.1.1. Background Information on the Misoolese People

Misoool is an area where the culture is shaped by a long acculturation with its surrounding islands, especially nearby islands in Maluku, as well as other islands in Raja Ampat and West Papua Province (DTRAD, n.d.). A similar explanation on the Misoolese people was also expressed by a representative from a local government institution where he explained that the acculturation in Misoool started hundreds of years ago when people from the Sultanate of Tidore (in Maluku) came to Papua for trading and spreading Islam religion⁸ (Yoga NIP, interview, August 10, 2015). Arguably, this acculturation has influenced similarities between the Misoolese Indigenous knowledge and Moluccas Indigenous knowledge. For example, the practice of marine sasi in Misoool also exists in Maluku.

The following information on the history of the Misoolese people and their socio-cultural structures, as well as how they see their indigeneity was gathered from the traditional leaders, the heads of villages, the heads of sub-districts, and the managers of NGOs, during initial interviews before asking them the research questions.

5.1.1.1. The History of the Misoolese People

As mentioned in Chapter One, the Indigenous people of Misoool consist of three groups: Matbat (People of the Mountain), Matlou (People of the Sea), and Biga (which originally came from Waigeo Island). Most people in Misoool believe that Matbat people are the ‘real’ Indigenous people of Misoool, even though Matlou people have lived there for hundreds of years (CRITC–COREMAP, 2016b). The chairman of a local Indigenous NGO, Kuswara, explained that the Indigenous ethnic group in Raja Ampat is Maya. Maya consists of subgroups spreading in all Raja Ampat, one of which is Matbat. According to Kuswara, there is only one real Indigenous ethnic group in

⁸The Sultanate of Tidore came to West Papua for trade and religious missions around the 16th–17th century (Bagaskara, 2012).
Misool which is Matbat. Matlou people are the descendants of Matbat women who got married to people from outside Misool, mostly from nearby islands in Maluku (Ternate, Seram, Kei) who moved to Misool. Therefore, Matlou people actually “still have the blood of Matbat” (Kuswara IP, interview, November 22, 2015). However, Papuan culture follows patriarchy system, only the descendants of Matbat men have the right to own. Hence, Matlou people do not have the right to own, they only have the right to live, the right to use, and the right to eat. The right to own belongs to Matbat (Kuswara IP, interview, November 22, 2015).

Most of the local people in Tomolol village (one of the tourism villages) are Matbat. The head of the village, Anto, who is also a Matbat, identified six clans in East Misool who are considered as the real Indigenous groups of Matbat: “Fadimpo, Moom, Mjam, Mluy, Falon, Faam. All mountains, waters, peninsulas, trees, birds that fly and walk on the ground, fish in the sea, and rivers were divided for these six clans” (Anto IP, interview, August 26, 2015). A Matbat traditional leader in Tomolol village, Andreas, described the complex context and relationships between Matbat and Matlou people. He acknowledged the real Indigenous ethnic group in Misool is what they called ‘People of the Mountain’, which is Matbat (Andreas IP, interview, August 25, 2015). ‘People of the Sea’, or Matlou, came to Misool a long time ago and they accepted them. They saved them by giving them clan names and “areas to eat”, areas where they could find and produce food (Andreas IP, interview, August 25, 2015).

He further explained that when the Dutch colonized Misool, the Dutch adopted a governmental system consisting of sangaji (rule maker), jojau (law maker), and kapitan laut (sea captain) who was the leader of all three. The local people had to make sure that sangaji, jojau, and kapitan laut could live a prosperous life, by giving them some area of land and sea.

After the Dutch left, the sangaji-jojau-kapitan laut system was also erased; but the descendants of sangaji, jojau, and kapitan laut still hold the tenure of those land and sea until now (Andreas IP, interview, August 25, 2015). Andreas believed that the descendants of sangaji, jojau, and kapitan laut are not the real petuanan adat (customary ownership right of land and/or sea area). Therefore, he felt the need for the local government to advise those people immediately to give these areas back to their original owners. Andreas displayed his strong opinions when he stated, “I feel
like we were still being colonized by the descendants of sangaji, jojau, and kapitan laut [who are Matlou]” (Andreas IP, interview, August 25, 2015). In his opinion, Andreas believed that all petuanan adat actually belongs to the Matbat people. This makes the petuanan adat issue in Misool more complicated, which gives a glimpse of the problems to come.

The Head of Yellu Village, Budiman, who is also the traditional leader of Yellu and Harapan Jaya villages, explained the history of Yellu people started when their ancestors moved from the big island of Misool. At the beginning, their ancestors moved out from the big island of Misool and lived in the Sacred Cave before they moved to Kafopop (old name for Usaha Jaya village). Then there was a deadly epidemic in Kafopop, where all living things died, which made them run away to Fafanlap. Budiman’s grandfather moved to Yellu from Fafanlap and he was the first person who built Yellu village (Budiman IP, interview, August 19, 2015). He further explained about the Indigenous people in Yellu village, that they consist of Matbat people (like himself) and Matlou people. The Matlou people are considered as “immigrants” even though they have lived there for a long time. He added: “but I’m not Matlou, I am Matbat” (Budiman IP, interview, August 19, 2015). The way Budiman told the story of Yellu people demonstrates how he wanted me to be clear that he is a Matbat and not Matlou, and that it was so important for him to be considered as Matbat and not Matlou. When I asked Kuswara whether Budiman’s clan is Matbat or Matlou, Kuswara answered “some clans still can’t be confirmed whether they are Matbat or Matlou. ... if we see Matbat customary structure, these clans [who claim themselves as Matbat] are not included” (Kuswara IP, interview, November 22, 2015).

A story of a deadly epidemic in Kafopop was also told by the traditional leader of Fafanlap village, Sahrul. According to him, the ancestors of Fafanlapians were from Waigeo, the largest island in Raja Ampat, located in the north. They moved to Misool and the people who were already in Misool accepted them. All of the ancestors of the people in Fafanlap, Yellu, and Usaha Jaya lived on the big island of Misool when they first arrived in Misool. When they became Islam, they moved out and lived in Kafopop, “but a disaster happened where all living things were possessed and
destroyed by demons, so they all ran away, and they found Fafanlap” (Sahrul IP, interview, September 9, 2015). They have lived there even since.

From the perspective of a non-Indigenous person who was trying to develop conservation areas in Misool, the heterogeneity of Misolese people resulting in more challenging situations. Leo, who is a senior manager of an NGO, described the conditions of Kofiau (an island north of Misool which is also an MPA) and Misool which are totally different. The people in Kofiau are homogeneous, consisting of one ethnic group with one or two immigrants. Misool is more heterogeneous where some people came from Sulawesi, Maluku, Seram, and Ternate. Hence, it took them a long time to agree on conservation areas development and zonation, because back then, the Misolese people had a very high dependency on marine resources and some of them were influenced by outside fishermen who used destructive tools. When Leo first came to Misool to introduce marine conservation, he said: “when I myself first came to Misool, I was expelled! I was chased by machetes!” (Leo NIP, interview, August 13, 2015). His words suggest how he thinks that the Misolese people are quite tense.

Leo also stated: “when we first tried to introduce conservation in Misool, the Matbat people are more approachable then the Matlou. You’ll see...” (Leo NIP, interview, August 13, 2015). On the contrary, it was not difficult for me to approach the Matlou people when I was doing my fieldwork. This might be due to my role as a university student who was doing a research about something that the Misolese people are familiar with and proud of, and not as someone who was trying to introduce a new concept. It is interesting to point out that almost every time I arrived in a new village, one of the first questions some people asked me was: what is your religion? As most Matlou people are Muslims and most Matbat people are Christians, it is possible my being a Muslim was also taking part in an easier approach to the Matlou; the same as Leo’s being a Christian resulting in his easier approach to the Matbat (even though it was not difficult for me to approach the Matbat either; probably due to more religious tolerance and understanding they now have between each other).

Religion was also the reason why the Matlou people moved out from the big island of Misool, as stated earlier by the traditional leader of Fafanlap village. This view was
also shared by the traditional leader and the Head of Usaha Jaya Village, Munir, who expressed himself as an Indigenous Misoolese and came from the descendants of the Matbat people in Tomolol village. Some of Munir’s elders are still in Tomolol and are Christians, whereas those who have moved out are Muslims (Munir IP, interview, August 24, 2015). Similar to Budiman’s position mentioned earlier, it is interesting that Munir also claimed himself as a Matbat. When I tried to cross-check it with Kuswara, he said that Munir’s clan is Matlou and he added: “that’s why we need to clarify this in our next assembly⁹” (Kuswara IP, interview, November 22, 2015). This demonstrates how acculturation has long been happening in Misool, especially through marriage, that even the indigeneity of some Misoolese still needs to be clarified.

As described in Chapter One section 1.5., the definition of ‘Indigenous people’ used in this thesis is tribal peoples who have “distinct language, culture and beliefs” and “strong link to territories and surrounding natural resources”, where they “resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities” (UN Permanent Forum on Indigenous Issues, n.d.: 1). Based on those definitions, this study considers both Matbat and Matlou as the Indigenous people of Misool, or the Misoolese, because they both inherited Melanesian characteristics that distinguish them from other Indonesian ethnic groups, they both have strong links to their territories and surrounding natural resources, and they both resolve to maintain their ancestral environments using their sasi systems. Furthermore, the Matlou people are still the descendants of Matbat women (Kuswara IP, interview, November 22, 2015).

5.1.1.2. The Connection Between the Misoolese People and Their Indigenous Traditions

From all five tourism villages, Harapan Jaya village might be the most heterogeneous of them all, as it has more ‘immigrants’ than the other four villages. The Head of Harapan Jaya Village, Adam, acknowledged that some of the villagers are the descendants of Mollucans, mostly from Seram (an island in Maluku) and from Timur

⁹This local Indigenous NGO consists of all traditional leaders from all clans in Raja Ampat and they organise a regular assembly to discuss customary matters
and Ternate (also in Maluku). Their ancestors moved from Maluku to Fafanlap first, before they moved to Harapan Jaya. Even so, most of the current villagers were born in Harapan Jaya (Adam IP, interview, September 7, 2015). Although the ancestors of most of the villagers were originally from Maluku, Adam made the following statement to show that he (and other villagers who were also born in Misool) are strongly connected to the *Misoolese* culture: “even though our ancestors came from Seram or Ternate, we follow the Indigenous culture here and we still hold that culture strongly” (Adam IP, interview, September 7, 2015).

In terms of the local community’s attachment to their traditions, the Head of South Misool Sub-district, Casmadi, thought that the local people were still relatively connected, but he also thought that the Indigenous traditions was starting to erode with acculturation and an amalgam of culture from ‘immigrants’ coming from Maluku and Sulawesi. Since outside investors opened a pearl farm and a resort in Misool, more people from outside Misool came for work. Casmadi conveyed his concerns that the next generation might not know which one their real Indigenous culture is (Casmadi IP, interview, August 20, 2015). His opinion was echoed by a few other Indigenous leaders, although some others seemed to disagree. Unlike Casmadi, Budiman thought that the local community’s connection to their traditions was still strong even with the external influences (Budiman IP, interview, August 19, 2015). It was interesting to see how two Indigenous people (Casmadi and Budiman) had totally different answers regarding their views on the connectivity between the local people and their traditions. Perhaps because Budiman was the traditional leader of two villages, he dealt with traditional and customary matters more often than Casmadi.

Being the oldest participant, Sahrul, the traditional leader of Fafanlap village, felt that the local people were beginning to forget their Indigenous traditions. He admitted that there was still quite a strong sense of kinship, but most people were starting to forget their traditions (Sahrul IP, interview, September 9, 2015). His opinion was different than that of the Head of Fafanlap Village, Yunus, who is younger than Sahrul (more than half Sahrul’s age). Yunus believed that even with the acculturation, the *Misoolese* people still strongly held on to their traditions (Yunus IP, interview, August 21, 2015). Two different opinions came from two leaders in the same village. The
different opinions may be due to the age difference between the two of them, where Sahrul has experienced himself, the changes of traditions from one decade to another for over eight decades.

In East Misool, the head of the sub-district, Frans (who is a non-Misoolese), thought that the Matbat people had a stronger connection to the Misoolese traditions compared to the Matlou people. He gave two examples: the people in Usaha Jaya (where most of the villagers are Matlou) were not really connected with their traditions anymore because many people from outside Misool came and stayed there. But in Tomolol and Folley (where most of the villagers are Matbat), the people were still very much connected with their traditions in their everyday lives. (Frans NIP, interview, November 6, 2015). In contrast, the opinions of the Matbat people themselves differ. When asked about how connected the villagers in Tomolol were to their Indigenous traditions, Andreas said: “I’d say we only have 30% left” (Andreas IP, interview, August 25, 2015). As a Matbat traditional leader, he felt that with the modern era, new culture was starting to make their Indigenous traditions deteriorated. However, he also acknowledged that there were a few traditions that they still held strongly such as a sense of strong kinship, saying greetings to other people, and maintaining their livelihood like fishing, hunting, and sago farming.

Andreas’s opinion was echoed by the Head of Tomolol Village who claimed that their Indigenous culture was not as strong as it used to because of the influences of new cultures from outside Misool (Anto IP, interview, August 26, 2015). On the other hand, the Head of Usaha Jaya Village, thought that the local people in his village were still pretty much connected with their traditions, even with the presence of many “immigrants” who came and stayed in Usaha Jaya (Munir IP, interview, August 24, 2015). He believed they still held their traditions strongly because it became their guidance in life. Every aspect of their lives was connected to their Indigenous culture. Some traditions that were still practised include sasi and protecting the sea as they believed that the sea is their mother (Munir IP, interview, August 24, 2015).

This section has provided an overview to Misoolese culture from the Misoolese people’s perspectives, as a foundation to understand their Indigenous knowledge. The next section presents fieldwork findings on Misoolese Indigenous knowledge.
and practices that are linked to the marine environment. The integration of those Indigenous knowledge and practices in marine ecotourism in Misool will be discussed in the next chapter.

5.2. Misoolse Indigenous Knowledge and Practices

Misoolse Indigenous knowledge and practices manifest a strong connection between the Misoolse people and nature. A chairman of a local Indigenous NGO explained the philosophy of the Misoolse people who consider “the land is our father and the sea is our mother” (Kuswara IP, interview, November 22, 2015). Indeed, this is evident in some of the Misoolse participants’ statements. Statements like “the sea is our lives”, “the sea is our livelihood”, “the sea is our home”, and “our lives depend on the sea since our ancestors’ time” were often mentioned during the interviews. One participant commented: “to me the sea is not only the sea ... it is like my mother. It gave birth to me, it raised me, and it feeds me” (Riki IP, interview, October 28, 2015). The use of personification in his statements, by using the words “giving birth”, “raise”, and “feed”, shows how he believes that the sea has been taking care of him like a mother. Additionally, some other participants think of the sea as more than a mother. For example, one participant said: “I think of the sea as my mother and father” (Moris IP, interview, August 29, 2015) [emphasis added] and another stated: “the sea is like mother and father as it gives us lives” (Hadi IP, interview, November 5, 2015). In one interview, a participant commented:

I want to say that the sea is more than like a mother to me. My parents are this sea. I was born on the coast, my parents’ lives are on the sea, and the sea has been guaranteeing my life since I was little. (Alam IP, interview, September 8, 2015)

How Alam used the word “guaranteeing” displays his confidence that the sea will always provide for him. This demonstrates his strong connection to his natural environment.

Interestingly, the oldest traditional leader alluded to the notion of the sea as a part of his soul:

[The sea makes me] so happy, ma’am. Because of what? When we can’t walk, we paddle. The connection between one village to another, can
[be travelled by sea]. Region to region, can [be travelled by sea]. Allah [God] has created this happiness and that is why we have to love the sea. Allah commanded us to be grateful for what we’ve got... love the nature. Everything that Allah has created, we have to love it; don’t destroy it [while crying when talking]. Really ma’am, this [the sea] is [my] soul... (Sahrul IP, interview, September 9, 2015) [emphasis added]

For Sahrul to describe the sea as a spiritual element of him is commendable. It suggests the highest connection that one can get with nature.

As mentioned in the previous section, Misoolense are very much dependent on their sea. It is noteworthy that Indigenous knowledge does not always have to be something as sophisticated as, for example, marine sasi; a simple perception or information that has been passed on from generation to generation is also regarded as Indigenous knowledge. The following narrative depicts the simplicity of Indigenous knowledge of protecting the sea:

My father told me when I was a kid: “I didn’t go to school, but I understand we live from the sea; our lunch and dinner depend on the sea. So we have to treat the fish like they are one of us. All biota in the sea have souls like us. We, humans, if we live without a house, can we live decently? During the day, fish are out to find food, but at night they have to go back to their houses: the rocks [corals]. If we damage the rocks [corals], where can they live? If the rocks [corals] are damaged, fish can’t stay there, they will go away from here. And then, where can we get the fish? What will we eat? These rocks [corals] are where the fish stay, it’s where they lay eggs, planktons stick on rocks [corals] and fish eat them. Ah... it becomes their eating place. If we damage [the corals], gradually the fish will be finished. If that happened, our lives suffer”. ... From there I thought, our parents and elders did have the ‘words of wisdom’ that made sense. (Alam IP, interview, September 8, 2015)

In the Oxford English Dictionary, the word ‘soul’ is defined as “the spiritual element of a person, regarded as immortal” (Soanes, 2003, p. 1099).
The words of wisdom on protecting the “rocks” and the fish from Alam’s father (who did not go to school), are in line with some of the principles of modern marine conservation. Protecting the corals and the fish is a part of marine conservation awareness programmes that are actively conducted by environmental NGOs (Weeks et al., 2014). But the father understood the concept of protecting the corals and the fish long before NGOs existed in Misool. As he did not go to school, it is likely that he learned about it from his parents. This is an example of how dependency on nature resulted in such a simple, yet purposeful, Indigenous knowledge.

The findings gathered from interviews with the Indigenous participants above confirm the idea of inseparable connection between Indigenous people and their nature, by the way they view the world around them (Berkes, 2012). In the case of Misool, as Misoolse people live on islands and coastal areas, they have built a strong connection with the sea. The sea has become the main identity of the Matlou people’s (People of the Sea) and a big part of the Matbat people’s (People of the Mountain) lives. The interaction between the Misoolse people and their natural environment has resulted in some attributes that can only be obtained from a strong connection between people and nature. These attributes represent their unique way of understanding their world and have become embodied practices in their everyday activities, including tourism (see section 2.4.).

As mentioned in the literature review section 2.2., many Indigenous peoples maintain a strong connection with their natural environment as a result of active learning from their life experiences in relation to their environment, to improve their livelihoods (Durán et al., 2015; Semali & Kincheloe, 1999). The way people interrelate with their environment influences how they think and who they are (Russell et al., 2013). The themes of Misoolse Indigenous knowledge and practices reflect who they are as Misoolse and showcase their interpretation of how to survive living in their marine environment, physically, socially, and spiritually. The main themes are: marine sasi, petuanan adat, baca alam, finding and calling the animals, pamali ikan, respecting sacred sites, weather shamanism, traditional way of sailing, and traditional ways of building.
5.2.1. Marine Sasi

The first theme of Misoolese Indigenous knowledge is marine sasi. Sasi is “the spatial and temporal closure of an area of natural resources in the form of agricultural fields (gardens), forests, coral reefs, and fishing locations” (Thorburn, as cited in Boli et al., 2014, p. 131 – see also section 1.3.2.5.). This definition represents a Westerner’s understanding of sasi. The Indigenous research participants’ understanding of sasi is provided below. As this study is focusing on marine ecotourism, the discussion of sasi in this section is focused on marine sasi. In the following narratives, marine sasi is referred to as just sasi by the participants.

One of the Indigenous practices that was often mentioned by the participants was sasi laut or marine sasi. One participant explained:

Sasi happens once a year for six months during the south season. We close a certain area of the sea where no one can take the sea produce. When the south season is over, changing to west season when it’s calmer, then we open the sasi. (Mahmudi IP, interview, October 24, 2015)

The sea produce that are being sasi-ed include: “sea cucumber, trocharus, turban shell, and nowadays, lobster” (Burhan IP, interview, September 4, 2015). Those species were chosen because of their economic values.

Most of the Indigenous participants have been participating in sasi opening since they were young, and they explained to me how their elders used to open sasi. This is how one of them put it:

I remember I used to follow my parents for sasi opening. When it was time for the changing of the season, from south to west, there would be an announcement, calling all traditional leaders from different clans, to manage and make a decision on when sasi opening could begin. Some people would go and check if it was safe and ready for sasi opening. When they came back, they sat together with all the traditional leaders to report the conditions, deciding whether or not we could open sasi. They sat together, ate areca nuts, then they would make a decision on when we could start. Let’s say they said Friday,...
okay, then we all went together on Friday. (Nurholis IP, interview, November 19, 2015)

From Nurholis’ explanation, the fact that some people had to go and check if the sea was “safe and ready” for sasi opening shows that those people had some traditional ecological knowledge on marine ecosystems and marine behaviour that they used to determine when the sea was safe and ready for sasi opening. This procedure is still being applied before sasi opening. Mahmudi’s explanation about sasi where they “close a certain area of the sea” also demonstrates the use of Indigenous knowledge in choosing the best area to be closed, which requires some knowledge on marine ecosystems.

All Misoolese participants displayed a sense of pride when explaining about their marine sasi tradition. One participant even expressed his admiration on his ancestors’ instinct to start practising sasi:

After I went to school, I began to understand how sasi is good for protecting the sea. I thought, “wow, my ancestors are so amazing that they used their instinct to create sasi!”. They saw that the sea produce had decreased and they started to think of a way to fix it. With sasi, people can get more produce and protect the sea at the same time. (Aris IP, interview, October 16, 2015)

The history of marine sasi was explained to me by one of the traditional leaders. He said there was more to sasi than just increasing the sea produce:

Sasi was created so that people would unite. The sea produce united us all to harvest together and the close-knit kinship was really shown. It was really beautiful! ... One boat was rationed to five trochuses to guarantee that everyone got the same. So, no envy. That’s the way we used to do sasi. (Sahrul IP, interview, September 9, 2015)

The tradition of sharing and keeping the togetherness still persisted, as another traditional leader commented: “when it’s time for sasi opening, we invite other villages, including [villages] from other sub-districts. Everyone gets an invitation. That is our custom” (Budiman IP, interview, August 19, 2015).

Another history was told by a Matbat traditional leader:
At the beginning, *sasi* was created for the welfare and prosperity of the people and the safety of three ruling positions: *kapitan laut*, *sangaji*, and *jojau*. They had a deal that the community would preserve the environment and “when you thought it was ready for harvesting or 6 months later...remember! This much for *kapitan laut*, this much for *sangaji*, this much for *jojau*. The rest is yours”. That’s *sasi*. At the end, they were happy, satisfied. And indeed, current *sasi* is not the same as the one then. (Andreas IP, interview, August 25, 2015)

He went on to say that *sasi* is not as sacred as it used to be:

The old *sasi* was sacred. Now it’s just ordinary *sasi*. Why? Because the ones who do it are not the ones who own *sasi*. It’s like imitating *sasi*. If the current *sasi* wants to be returned to be as sacred as it used to, who wants to bear the risk if someone dies? We have our protectors: first, the sharks; second, the [saltwater] crocodile. We only have to say to them “please protect our *sasi*”. If you want [to use] less predatory species, the manta ray can also protect *sasi*. Fish also can protect [it].

... We just call them and ask them to protect [it]. “When it’s time for harvesting, we will give you your share” ... *We are talking to the spirits who own the sea. We get our food from them, so we can have good harvest.* (Andreas IP, interview, August 25, 2015) [emphasis added]

From Andreas’ explanation, it appears that marine *sasi* used to involve the spirits of the sea. This shows the Indigenous belief system and that the strong connection with the natural and spiritual surroundings were reflected in the practice of *sasi*. One participant claimed that when he was young, he saw what happened to someone who violated *sasi*:

I saw it with my own eyes, someone got bitten by barracudas when he was trying to take sea produce in the *sasi* area during the closing time.

... If it were up to me, I’d say we should go back to how it used to be. Make *sasi* sacred again, use *batu gosok* [a sharpening stone], a machete, and betel-areca nuts\(^1\), so that no one will violate *sasi* because they are afraid of the consequences. Nowadays, the sanctions

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\(^1\) These three components are used for sacred rituals in Misool
Marine *sasi* not only involves the time and the area of *sasi*, but also ways in harvesting the sea produce. There are certain rules that have to be followed, as were explained by Burhan:

There are certain rules in taking sea produce. For turban shell, we can only take the shell when we can fit four fingers in its mouth. If they don’t fit, we can’t take it. ... For lobsters, we can only take the ones that weigh at least five ounces. ... For sea cucumber, our ancestors has one strict rule: sea cucumber cannot be touched or taken by hand. It can only be taken with a tool, like a wooden spear with a sharp tip from iron, to stab it. When the water is shallow, we still have to use tongs, so that we don’t touch it. The reason is: they said our hands are hot, so when we touch it, *the sea cucumber will disappear*. Someone then told me that scientifically, it is true that sea cucumber cannot be touched by hands. (Burhan IP, interview, September 4, 2015) [emphasis added]

The most striking result to emerge from the above quotation is that sea cucumber *does* have a defense mechanism where they can mutilate their bodies when feeling threatened, as shown in the description below:

> When threatened, some sea cucumbers discharge sticky threads to ensnare their enemies. Others can mutilate their own bodies as a defense mechanism. They violently contract their muscles and jettison some of their internal organs out of their anus. (National Geographic, n.d., para. 4)

Most probably, this explains why the ancestors said “the sea cucumber will disappear” when touched by hands, as some parts will be missing from its self-mutilating. This Indigenous knowledge is a result of trial and error that they learned from personal life experiences in interacting with their environment (Maclean, 2015; Ross et al., 2016; Semali & Kincheloe, 1999), including the behaviour of sea

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12 Meaning: doing some construction works to build public facilities like roads, mosques, or churches
cucumber when being touched by hands. This phenomenon demonstrates the theory of similarities and differences between Indigenous knowledge and Western science (Hikuroa et al., 2011), as explained in section 2.2.

As was pointed out in the introduction to this thesis, the studies by McLeod et al. (2009) and Boli et al. (2014) show the importance of the continuation and survival of marine sasi to support marine resource conservation efforts. The above findings from the Misoolese people confirm the association between marine sasi and protecting the sea. As Aris put it “with sasi, people can get more produce and protect the sea at the same time”. The findings are also in accord with a recent study indicating that marine sasi epitomises “socially acceptable and locally implementable environmental management solutions” (Cohen & Steenbergen, 2015, p. 286). The rules on species size and gear restrictions in marine sasi harvesting explained by Burhan are similar to contemporary resource management measures (Colding & Folke, as cited in Cohen & Steenbergen, 2015). In addition to the conservation objectives, the tradition of sharing and keeping the togetherness that is embedded in marine sasi is an essential part of the social objectives that needs to be recognised and understood by scholars and managers to conduct a better co-management practice (Cohen & Steenbergen, 2015).

Both traditional ecological knowledge and customary tenure have been acknowledged as the pillars of traditional resource management (Tobin, 2014). In the case of Misool, marine sasi and customary land/sea tenure constitute their traditional resource management. As mentioned in the literature review, traditional ecological knowledge has been used for contemporary resource management as Indigenous peoples’ concept of ‘taking care of the land’ resembles sustainability principles (Berkes, 2012). Marine sasi exhibits accumulated ecological knowledge of the Misoolese over marine biological resources and ecosystem in protecting the sea, while customary land/sea tenure manages their resource use in order to keep community harmony. However, the latter goal might have been challenged by tourism development in the area, which will be discussed further in the next chapter.
5.2.2. Petuanan Adat

A related aspect of sasi is petuanan adat. Petuanan adat is a customary ownership right of land and/or sea area that manages the right to use the natural resources. The history of petuanan adat in Misool started when the Matbat people gave some areas of coastal land and sea to the Matlou people to live. According to one of the traditional leaders, when the Dutch colonized Misool, the customary tenure system was adapted to ensure the prosperity of the three rulers: sangaji, jojau, and kapitan laut (Andreas IP, interview, August 25, 2015). From the perspective of the Matlou people, the customary sea tenure is theirs, as their ancestors were the ones who first occupied the sea. As one Matlou participant put it:

   Indeed, the Matbat people are the ones who were here first, and they have the right to rule the mountains. But the people who first came down to the sea were Matlou. So, there are boundaries of territories. From the beginning there has been distributions [of territories]. Matlous have the right to rule the sea. (Abdul IP, interview, September 11, 2015)

Abdul’s explanation logically clarifies the names Matbat (People of the Mountain) and Matlou (People of the Sea). In other words, in his opinion, Matbat has the customary land tenure and Matlou has the customary sea tenure.

Returning to the issue of customary tenure mentioned by one of the Matbat traditional leaders (see section 5.1.1.), the way he expressed his opinions, such as: “... [Matlou] still hold the tenure of those coastal land and sea until now, but actually they are not the real owners” (interview, August 25, 2015) [emphasis added] and “we feel like we are still being colonized by them [the descendants of sangaji, jojau, and kapitan laut, who are Matlou]”, shows how much he strongly believes that the Matbat people are actually the ones who own the rights of both the customary land and sea tenure. The phrase he used: “we feel like we are still being colonized by them” displays his deepest feeling of being oppressed by authoritarian Matlou leaders. His opinion is in line with the explanation from the chairman of a local Indigenous NGO who said “... Matlou do not have the right to own, they only have the right to live, the right to use, and the right to eat. The right to own belongs to Matbat” (interview, November 22, 2015 – see section 5.1.1.) [emphasis added]. A similar
sentiment regarding the customary tenure was also shared by another Matbat participant:

According to our history, my clan owns a large area, [on the east] even to the south. But we’ve already shared it [with Matlou people]. ... Before my father died, he gave me some advice: “do not get involved in customary tenure issues”. So, I don’t make a fuss about it. We are good people; we don’t want to claim this is our land. But when they lease it, they should remember us and share the profits with us (Moris IP, interview, August 29, 2015)

The Matlou people, on the other hand, believe that they have the right of customary sea tenure because the ancestors of the Matbat people have already given the ancestors of the Matlou people some areas of the coastal land and sea. Plus, they were the ones who lived in the coastal areas first. That said, a few Matlou participants did concede that the Matbat people still need to be acknowledged. As one participant said: “[even though we have the customary sea tenure] we still need to appreciate and reward the Matbat people. Because they are the oldest here, [we have to] respect them” (Abdul IP, interview, September 11, 2015).

In summary, the explanation from Kuswara perfectly portrays the condition of customary land and sea tenure in Raja Ampat in general, and in Misool in particular:

The philosophy of petuanan adat from our ancestors is to maintain harmony and kinship. The first people of Raja Ampat lived in the forests. Then the new people came and lived on the coastal areas. The first people saw that these new people were nice, so they shared the areas with them, so that they [the new people] could live. So actually, as I said, our ancestors created petuanan adat to build kinship and maintain harmony. But instead now it creates conflicts. (Kuswara IP, interview, November 22, 2015) [emphasis added]

Customary tenure systems are largely focused on “securing community harmony” (Tobin, 2014, p. 78). The Matbat people accepted the Matlou people when they first came, and gave them a place to live so both groups could leave together in peace and harmony. From the above narratives, it is clear that there is still a difference of opinion regarding the customary tenure system in Misool. This is explainable as
customary legal systems are usually informal and mainly oral (Tobin, 2014), both groups cannot legally prove their customary land/sea rights. Moreover, there are four important elements in imposing customary law: “immemorial origin, reasonableness, certainty of locality and persons, and continuity without interruption since its immemorial origin” (Tobin, 2014, p. 85) [emphasis added]. The way Kuswara explained how “a few Matlou claim themselves as Matbat, which needs to be clarified in our next traditional leaders meeting” (Kuswara IP, interview, November 22, 2015 – see section 5.1.1.) shows that the Misoolse people are still not certain about their own locality, which makes it more difficult to enforce customary legal system. Nonetheless, the customary land and sea tenure was created traditionally by the Misoolse people to manage their resource use, so that they could live in harmony with the nature and with each other.

5.2.3. Baca Alam

Another theme of Misoolse Indigenous knowledge is the ability to read the signs of nature or baca alam. Some of the participants told me how they baca alam (read nature) when they navigate the sea. The sea has become a big part of the daily life of the Misoolse people. During my fieldwork in Misool, I often saw men, women, and even adolescents skippering a boat. I felt that the ability to skipper a boat is in their blood and that they have a natural instinct to do it. The vignette below illustrates how the Misoolse read nature; how they use the sun, the stars, and their own instincts to navigate the sea, with the support of simple methods:

For example, the weather condition is foggy, our destination is that island that we vaguely see [while pointing to an island in front of us]. Because we can't see the island clearly, we can only read the surrounding situations: what wind is blowing, and what wave there is, and what current there is. Like now, the wind is south wind, the wave is still south wave, and the current is almost high tide. How do we navigate when it's foggy in front of us? We use the position of the waves and the currents. We can know from there. ... I myself still have doubts sometimes in reading the nature. But every time I'm going to go, I just say bismillah\textsuperscript{13} and be sure that I will be able to do it. Our

\textsuperscript{13} A popular expression among Muslim communities which means: in the name of Allah/God
beliefs make us stronger. When we travel far, we use the sun in day time; we use the stars in night time. On cloudy nights, we use the position of the waves and the currents, like I mentioned earlier. ... In new places that we’re not familiar with, during night time, sometimes our instincts tell us when there’s a reef in front of us, but sometimes we have doubts. At night time, to know if there’s a reef near us, sometimes we can see something like ‘sea fireflies’ in the water. But it has to be really dark. If the moon is bright, we barely see them. If our instincts tell us that there’s a reef near us but we’re not sure [and we can’t see the ‘sea fireflies’], we use a wooden paddle. Put a wooden paddle into the sea, then put an ear on top of the paddle. We can hear the fish eating the corals making a sound like like.. *kriuk..kriuk*... This can be done only when the sea is calm. ... If the boat is a wooden boat, we don’t need to use the paddle, we can just put an ear on the boat floor and the sound can be heard., oh, [that means] there’s a reef there. (Mirwan IP, interview, October 15, 2015)

Another participant explained how he reads nature for navigation by looking at the position of the stars at night time and of the sun, the wind, and the waves at day time. He also explained how he reads the currents to determine which direction should be taken and how he reads the cloud to know when a gale is coming. He then added:

Another sign to forecast a big wind coming is when we see something like glow worms on the surface of the sea. That means there will be a big wind [gale] tonight that may continue until tomorrow noon. In here, the people called that glow-worm: *gam*. (Mahmudi IP, interview, October 24, 2015)

Further on he commented:

In the old days there was no compass. We had to make our own calculation, so we use the weather, the wind, and the waves. ... So, we had to have good calculation so we wouldn’t lose our way. ... I think it’s important to pass on this knowledge to our children, so when the modern tools get broken, they still can read the nature [to navigate their way on sea]. (Mahmudi IP, interview, October 24, 2015)
Mahmudi also explained that the ability to read the nature was also used by his elders (and now him) to forecast the weather:

Back then, our parents didn't have anything [for forecasting the weather]. They only relied on the stars. When it was time for seasonal change, they knew it by looking at the stars. ... My parents taught me, when it's a south season like now, when we see the 'seven-star', that means the wind is going to end, which means south season will change to west season soon. Later when the south season is going to come again, it [the seven-star] will show up in the west facing south. The seven-star has the shape of a manta ray with the tail; there are seven stars in total. ... The elders also used the seven-star as a sign for sasi opening/closing and for travelling far to know when the sea is calm. (Mahmudi IP, interview, October 24, 2015)

When asked about how he learned about reading the nature, he said:

I learned about reading the nature from my parents. They learned it from their parents, and their parents from theirs. They passed this on to their children. Children become parents, and they will pass this on to their children again. So this became our way of life. (Mahmudi IP, interview, October 24, 2015)

Prior studies have noted the use of signs of nature for Indigenous navigation (Genz, 2014; Hendry, 2014; Richey, 1974; Varadarajan, 1980). The findings on baca alam support the idea of Indigenous knowledge that collects information about the skies and the pattern of the sea for the use of navigating the sea, which passes on from one generation to the next. As mentioned in section 2.2, it is quite common for Indigenous navigators around the world to find their ways using the sun, the stars, the clouds, and analysing the motions of the waves and currents, sometimes just by hearing them (Hendry, 2014). As the sea has become an integral part of their lives, there is a need to have the ability to 'read' the nature. This shows the ingenuity of the Indigenous people who live in coastal areas. In Misool, the ability to read the signs of nature is used not only to navigate the sea, but also to forecast the weather. The utilisation of this ability in marine ecotourism will be discussed in the next chapter.
5.2.4. Finding and Calling the Animals

Another theme that arose from Misoolese’s strong connection to nature is the ability to find and call certain species of animals which occupy the same natural environment, in this case the marine environment. There are two kinds of ability to find and call the animals: 1) finding and calling fish, such as finding schooling fish, calling dolphins, manta rays, and sharks, and 2) finding and calling the lesser bird-of-paradise, the native bird of Misool which occupy the same marine environment setting.

Some of the participants know exactly where to find certain kinds of fish because they have been practising an Indigenous practice called *molo* (an Indigenous practice of free diving using goggles that are made from wood and glass to collect sea produce, normally during marine *sasi* opening). As one participant stated: “I know that near that peninsula there are napoleon, pygmy, wobbegong [shark] because we used to *molo* there” (Alam IP, interview, September 8, 2015); another commented:

> We know because we [used to] *molo*. We know the sites of sharks, close to here, but we keep them to ourselves, we leave them be. [In there] you don’t have to dive to see them, just snorkelling [and you can see them]. … As for mantas, near Fafanlap there are mantas, but small ones. When they swim together, maybe there are thirty of them, [they’re] like planes [in flying formation] (Hadi IP, interview, November 5, 2015)

Another participant received the information about the sites of schooling fish from local fishermen. Even though he is a native son, he believes that local fishermen have the best knowledge on where to locate certain kinds of fish:

> For example, a site for sharks. There’s information from a fisherman that there are many sharks there [while pointing with his index finger]. … And then, in between Kaleidoscope [a dive site] and Harfat [hilltop], someone saw lots of manta rays. This kind of information I got from the local people, fishermen. Also, in the strait near Namlol [lagoon], I was told that someone saw huge mantas playing in the surface at different times. (Agus IP, interview, October 7, 2015)
One participant found a site for giant trevallies (GTs) himself: “In Balbulol, near a place we called ‘the mosque of the spirits’, I found one spot that has a lot of GTs. Especially for GTs, I know lots of sites [where you can easily find them]” (Hendra IP, interview, October 21, 2015).

The above vignettes on finding the animals came from Indigenous participants and most of their knowledge was gained from practising the Indigenous practice, *molo*, and from their parents. This kind of knowledge is a result of having unique ties and connections to ancestral territories (Hinch & Butler, 2007), which resulted in detailed knowledge of their native floras and faunas. This knowledge showcases the Indigenous Peoples’ exceptional understanding of their environment, necessary for them to survive living in that environment (Berkes, 2012; Hendry, 2014) and maintaining the harmony with their natural environment (Grim, 2001). The knowledge to locate specific animals is indeed very useful in marine ecotourism development, which will be discussed further in the next chapter.

Commenting on the subject of calling the animals, one participant explained how his parents taught him how to call dolphins, manta rays, and sharks. In Misool, the ability to call certain animals is a skill that is passed down from generation to generation. One participant explained how he calls dolphins:

My parents taught me how to call the dolphins. I was still in primary school, second grade, paddling a small boat to take some mangoes with my parents. There were four of us. Then we saw dolphins playing.
Immediately my parents told us to shake the coconut shell onto the edge of the boat to make the sound ‘krrkkk.., krrkkk.., krrrkk..’. When they [the dolphins] heard the sound, they came near us and played around our boat. When we continued paddling while still shaking the coconut shell, they kept on following us. This is the traditional way to call the dolphins. (Hendra IP, interview, October 21, 2015)

Hendra also learned to call manta rays and sharks from his elders:

Never before people saw mantas there [while pointing with his index finger], but I did. Six big ones! I found them unexpectedly. Now they always play there, because there is a technique; the technique to make them play there. There is a way to make them closer. ... Sharks too can [be called]. Like in a site where sharks usually pass by, when they cannot be seen, we can call them. Well..., it’s because I have the experience. Here, our elders used to do what we call goyang tempurung [shake the coconut shells] to bring in sharks, ... . Oh, so many of them. Shake [the coconut shells] from the edge of the boat, sharks will come near us. We arrange the shells, ... dried coconut shells, ... using a small rope. ... We put one shell like this [using his hand to show an upside down bowl] and another one after that like this [using his hand to show a bowl], and continue putting one after another in that order, so they will make a sound when we drop them in [to the water] and shake them. So, at the bottom of the rope we use a weight, like a heavy bottom tin, then we drop the rope with the shells in [to the water], then we shake it krrkkk.., krrkkk.., krrrkk.. The sharks [that came], wow, they’re big! Small, big, everything. It’s like that from generation to generation, since our ancestors. (Hendra IP, interview, October 21, 2015)

As Hendra is also a dive guide, our conversation continued with how he modified the above technique for scuba diving, which will be discussed further in the next chapter.

Alongside relationships with fish, the Misoolese people have also formed a strong connection with their native bird, the lesser bird-of-paradise. There is a population
of lesser bird-of-paradise living on the main island of Misool, that also occupy the same marine environment setting. Some people know exactly where this bird can be found because their parents told them:

Near Gamta River there are remains of an old village, from there we continue walking about 100 meters until we see big trees. That’s the place where the lesser birds-of-paradise play. They are always there. ... The best time to see them is either early morning or late afternoon..., that’s when they perch on the lower branches. ... So since I was little, I’ve heard from my parents about this place where we could find the lesser birds-of-paradise. (Apriansyah IP, interview, November 16, 2015) [emphasis added]

The lesser bird-of-paradise has long been one of the prides of the Misoolse people. As one traditional leader put it: “here in Papua, one of our treasures is this bird. We’ve been protecting it since a long time ago. [We trusted] some families to take care of them [the birds] and they [the birds] belong to them” (Andreas IP, interview, August 25, 2015). The lesser bird-of-paradise means more than just a pride to the Papuans/Misoolse. The connection between them and the bird forms an emotional bond. The following description illustrates how that emotional bond is created between the Misoolse and the birds:

When they [the birds] play..., we, humans, can cry. Because [you can see] the affection between a bird and its mate. They have a king. When he is not present, it means the others won’t come. But when he is present, at least fifty-sixty birds will come. They play..play..play, until the female bird goes under his armpit like this, she immediately becomes weak and falls. When we see the lesser birds-of-paradise playing and dancing, people who watch it can cry. (Andreas IP, interview, August 25, 2015)

The strong bond between the Misoolse and the lesser bird-of-paradise has translated into a way of calling them in order to observe their quantity:

These lesser birds-of-paradise, we just call them [and they will come], after that they go back again. This season is not the time yet. When the season changes, we [call them and] count them [again]. On the
previous count maybe there were seventy, eighty, or sixty, thirty or twenty, compare it with the current count, from there we'll know that in this season maybe some people have killed this many birds. We will know that. So call, come, and observe. Before the windy season, call them and count. Later when the season changes, call them again and check. We will find out when their number has reduced and if some have been shot here, [and] here. We'll know everything. In the past, we used to have a big penalty [for killing the bird without permission]. For killing one bird, the penalty is [to give] a big plate like this [while using his hands to show the size of the plate]. So when someone wanted to shoot a bird, he has to get the permission from the keeper. So he has to come and inform him [the keeper], “sir, I want to find this bird”. The keeper would then direct him “you can take one from here, but protect the rest. (Andreas IP, interview, August 25, 2015)

Related to their strong connection to the lesser bird-of-paradise, the Misool people developed an Indigenous practice called solon kamum which means ‘sitting in a hiding house’. It is an Indigenous practice that takes place in a marine setting in Misool. Solon kamum is a part of Misoolse bird hunting tradition as was explained by one participant:

Now, we have this traditional custom called solon kamum, where we sit inside a little traditional house that is only big enough for us to sit, and we make a small hole in the front to watch the birds. Solon means sit, kamum means a hiding house. It used to be built not only for watching the birds, but for shooting arrows from. So we only sit there. During the hot season, the birds need water to drink, and when they are about to drink, that’s when we shoot them. The solon kamum tradition exists in Misool to shoot the birds during hot season when they are thirsty. ... A long time ago, one of the traditional leaders of Magey Village was one of the best archers. He shot by feeling. He shot the lesser bird-of-paradise to be sold. But he has passed away and he didn’t pass on this skill to his children or grandchildren. Some people in my village are still doing solon kamum. Last hot season, some
villagers did solon kamum to find Victoria crowned-pigeon birds. They built the kamum from palm leaves, they made it like little honai\textsuperscript{14}, then they made a trap. So this practice still exists. (Apriansyah IP, interview, November 16, 2015)

The above vignette reveals that the Misoolese people still have a tradition of bird hunting using their traditional techniques. The bird hunting tradition has too been practised by Indigenous Peoples all over the world, such as the Miao (Hmong) in Hainan, China (Liang, Cai, Yang, 2013) and the Piro of Amazonian Peru (Alvard, 1993). Their bird hunting traditions are mostly for sustenance, whereas the Misoolese bird hunting is for trade. As Apriansyah explained that “ ... He [Magey's traditional leader who was the best archer in the area] shot the lesser bird-of-paradise to be sold”. Consistent with this finding, a study by Pangau-Adam and Noske (2010) on wildlife hunting and bird trade in northern Papua, Indonesia suggests that bird hunting in Papua has shifted from a purely subsistence form towards a more commercial form. In the next chapter, the discussion on solon kamum will continue with its application in marine ecotourism context.

The different natural settings where Indigenous peoples are living created their own understandings about their relationships with their environments (Berkes, 2012) [emphasis added]. The strong connection between Indigenous peoples and nature resulted from a long history of interaction with their natural surroundings and of relationship with living beings [emphasis added] (see section 2.2.). These living beings include animals who also occupy the same natural setting, which in this case, is the sea and the seaside forest. The above detailed accounts on how that connection with animals translates into a way of calling them shows the strong connection between the Misoolese people and their natural surroundings including the animals.

5.2.5. Pamali Ikan

The strong connection between the Misoolese people with the fish that occupy the same marine environment is also transformed in their belief of pamali ikan or fish taboo. Taboo is a part of the Indigenous belief system that has been practised by

\textsuperscript{14} Honai is a Papuan traditional house
Indigenous peoples from all over the world, such as the Ningo people in Ghana with the taboo of killing or capturing turtles (Ntiamo-Baidu, 2008), the Tagbanuwa in the Philippines with the taboo of swiddening\(^\text{15}\) their sacred groves (Olofson, 1995), and the Makushi and Wapishana in Guyana with the taboo of consuming certain meat (Luzar, Silvius, & Fragoso, 2012). Fish taboo is a prohibition of consuming certain kinds of fish/shellfish. When doing my fieldwork, one of the most exciting topics to talk about with the *Misoolese* participants was their Indigenous belief of fish taboos. I was always fascinated by their stories on the subject. The story of fish taboo was told by all of the *Misoolese* participants. I always could feel their enthusiasm when they were explaining to me how the fish taboo works.

Fish taboo of the *Misoolese* people is an Indigenous practice where each clan has its own taboo of one or more species of fish/shellfish. Some of the fish/shellfish that are tabooed by *Misoolese* people are: grouper fish, shark, and lobster. Depending on their clans, some people may have more than one fish taboo. In addition to fish taboo, Matbat people, or People of the Mountain, usually also have a taboo of consuming certain kinds of fruits, vegetables, and animals living on land (Andreas IP, interview, August 25, 2015). Some of my male participants do not have fish taboos because, according to one of them, only their mothers have the fish taboo, and *Misoolese* culture follows the patriarchy system (Mahmudi IP, interview, October 24, 2015). Hence, they do not have fish taboos. But a couple of my male participants *do* have a fish taboo that they got from their mother (see table 5.2.). There is one case where, from six siblings, only three have a fish taboo that they got from their mother; one is female and two are male (Irwansyah IP, interview, October 10, 2015). Therefore, the story about the patriarchy system in getting a fish taboo is not always true.

Most of the participants told me the history of fish taboo and almost all of their explanations were the same: that particular fish/shellfish once helped their ancestors when they were having problems (almost drowning) in the sea, and in return, their ancestors made a promise to the fish/shellfish that all of their

\(^{15}\) Swiddening is temporary cultivation by cutting and burning the vegetation
descendants would not eat that fish/shellfish. For example, one *Misoolese* participant who has a taboo of grouper fish said:

My ancestors were almost drowned in the sea once. Then this grouper fish came and helped them, and brought them to the nearest land. Because of that, my ancestors swore that they and their descendants would never eat grouper fish again. (Miki IP, interview, October 19, 2015)

In the case of people who have more than one fish taboo, such as Hendra who has three fish taboos (Spanish mackerel, lobster, and marlin), he explained: “those three fish/shellfish helped my ancestors when they had, like, accidents at sea. So they made a promise that their descendants would never eat those three fish/shellfish again” (Hendra IP, interview, October 21, 2015). The oldest traditional leader, whose one of the taboos is lobster, told me that: “for lobster, [my clan cannot eat them] because they [lobsters] have their water [lake] here in Wayaban [an island in Misool]. So they [their spirits] are the ‘occupants’ here” (Sahrul IP, interview, September 9, 2015).

As the fish taboo is a promise made by their ancestors to one or more fish/shellfish, there will be consequences when someone tries to eat his/her tabooed fish/shellfish. They will become sick, usually something related to skin diseases and toothache/oral problems. Responses to the question of ‘what happens when you eat it’ include: “I ate it by mistake when I was young, I got scabies all over my body” (Susip IP, interview, October 27, 2015), “we will have problems with our teeth or get cysts all over our bodies” (Abdul IP, interview, September 11, 2015), and “[our] tooth/teeth will fall out” (Moris IP, interview, August 29, 2015). Some participants believed that when you eat the tabooed fish/shellfish by mistake, the consequence will not be as bad as when you eat it intentionally. Some *Misoolese* people are very sensitive to their tabooed fish/shellfish; they cannot even smell its aroma when it is being cooked. As one participant whose taboo is shark said:

When there's someone cooking a shark in this house, guaranteed, everyone in this house will get cysts all over his/her body that we get from the smoke. I’m also amazed, ma’am, the evaporation from the ashes used to cook the shark... we can still get it. Even the pan or fry
pan that was used to cook sharks has to be washed several times [before we use it]. (Andreas IP, interview, August 25, 2015)

For some people, the taboo is not just for eating the fish/shellfish, but also for touching it and seeing it being killed. As Andreas explained: “when someone kills our tabooed fish, we can’t see it, otherwise we will be possessed [by its spirit]” (Andreas IP, interview, August 25, 2015). One participant who has a taboo of lobster was trying to get into the lobster business once, because of its promising profits: “I can’t eat [take] the money I got from the lobster business. After the first sale, I got sick. My body couldn’t move. I tried again for the second time, I got sick again. Since then, I stopped” (Hendra IP, interview, October 21, 2015). Another interesting story came from Munir whose taboo is shark and once got into shark-finning business:

It was so difficult for me. When they were weighing the sharks, I had to be far away from the scale. I couldn’t come close. But back then, it was my livelihood. And then.., I had a dream. The [shark] spirit came to me and said: “you cannot buy and sell sharks anymore”. So since then, I’ve never done it again. (Munir IP, interview, August 24, 2015)

When someone gets sick after eating/touching/smelling/selling/looking at his/her tabooed fish/shellfish, all the Misoolese participants expressed the belief that the only medicine is to drink the sea water that has been blessed by a shaman. One participant added: “the shaman has to be from the same clan as the sick person, cannot be from another clan” (Jeri IP, interview, September 10, 2015), and another one commented: “the shaman has to be someone who knows the prayers [to bless the water] because only certain prayers can cure the sickness” (Miki IP, interview, October 19, 2015).

The complete list of the kind of fish/shellfish taboo the Misoolese participants have can be seen from the below table.
Table 5.1. Fish Taboo of the Misoolese Participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Excerpts from Interviews on the Type of Fish/Shellfish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andreas IP</td>
<td>For the fish taboo, we [my clan] cannot eat shark.</td>
</tr>
<tr>
<td>Munir IP</td>
<td>My taboos are shark, oyster, snakehead fish, lobster and shrimp.</td>
</tr>
<tr>
<td>Sahrul IP</td>
<td>All clans have their own fish taboo. My taboos are marlin, and lobster, and also shrimp. For spanish mackerel, I can eat it, but my clan cannot.</td>
</tr>
<tr>
<td>Adam IP</td>
<td>I don’t have fish taboo, but my mother does. She cannot eat grouper fish.</td>
</tr>
<tr>
<td>Miki IP</td>
<td>My fish taboo from my father is grouper fish, from my mother is shark.</td>
</tr>
<tr>
<td>Kardi IP</td>
<td>In here, some people have taboos of shark, and others of grouper fish. I personally don’t have taboos, but my mother’s taboo is shark.</td>
</tr>
<tr>
<td>Hendra IP</td>
<td>My taboos are spanish mackerel, lobster, and marlin.</td>
</tr>
<tr>
<td>Husni IP</td>
<td>I don’t have fish taboos, but two of my children have taboos. They got it from my mother. Their taboo is grouper fish. This taboo also goes down to my grandchildren.</td>
</tr>
<tr>
<td>Apriansyah IP</td>
<td>My taboo is lobster.</td>
</tr>
<tr>
<td>Susi IP</td>
<td>My taboos are manta ray and clam.</td>
</tr>
<tr>
<td>Supri IP</td>
<td>My taboos are marlin and octopus.</td>
</tr>
<tr>
<td>Aris IP</td>
<td>I don’t have fish taboo, but my mother and my two sisters cannot eat grouper fish. They can’t even smell its smoke when someone’s cooking it.</td>
</tr>
<tr>
<td>Irwansyah IP</td>
<td>I don’t have fish taboo, but my sister and my two brothers cannot eat grouper fish.</td>
</tr>
<tr>
<td>Doni IP</td>
<td>My taboo is lobster.</td>
</tr>
<tr>
<td>Ricky IP</td>
<td>My fish taboo is trevally.</td>
</tr>
<tr>
<td>Turiman IP</td>
<td>My fish taboo is mullet.</td>
</tr>
<tr>
<td>Hadi IP</td>
<td>My taboo is lobster.</td>
</tr>
<tr>
<td>Alam IP</td>
<td>My taboo is grouper fish.</td>
</tr>
<tr>
<td>Nurholis IP</td>
<td>My fish taboo is shark.</td>
</tr>
<tr>
<td>Awaludin IP</td>
<td>I don’t have fish taboo, but my mother and sister cannot eat lobster and oyster.</td>
</tr>
<tr>
<td>Mirwan IP</td>
<td>My taboo is grouper fish.</td>
</tr>
<tr>
<td>Mahmudi IP</td>
<td>My taboo is <em>lili</em> fish.</td>
</tr>
<tr>
<td>Agus IP</td>
<td>I don’t have fish taboo, but my mother’s taboos are lobster and grouper fish.</td>
</tr>
<tr>
<td>Faisal IP</td>
<td>My taboo is grouper fish.</td>
</tr>
<tr>
<td>Ana IP</td>
<td>My taboos are grouper fish and lobster.</td>
</tr>
<tr>
<td>Abdul IP</td>
<td>My taboo is grouper fish.</td>
</tr>
<tr>
<td>Jojo IP</td>
<td>My fish taboo came from my mother’s side, which is barracuda.</td>
</tr>
<tr>
<td>Wisnu IP</td>
<td>My taboo is batfish.</td>
</tr>
<tr>
<td>Jeri IP</td>
<td>My taboo is grouper fish.</td>
</tr>
<tr>
<td>Moris IP</td>
<td>My fish taboos are barracuda and mullet.</td>
</tr>
<tr>
<td>Burhan IP</td>
<td>My fish taboo is barracuda.</td>
</tr>
</tbody>
</table>

Source: interviews, August-November 2015

The most interesting thing about the above list was explained to me by a non-Indigenous resort owner, who was also fascinated by the Misoolese fish taboo: “it’s
interesting that a lot of them are bigger fish. fish that actually could have bioaccumulated mercury, or reproduce more slowly, so it’s kind of lucky for the ecosystem” (Molly NIP, interview, October 23, 2015) [emphasis added]. Indeed, it is interesting how most of the fish mentioned above have bioaccumulated mercury (Scientific American, n.d.) and the fact that the Misoolese cannot eat them is actually beneficial for their health in the long run. Moreover, it can conserve the ecosystem too. In Zanzibar, Tanzania, tourism-related fish trade contributes 15.5% of total tourism contribution to Zanzibar economy (Gössling, Kunkel, Schumacher, & Zilger, 2004). However, there has been a reported decline in the quantity of fish and the disappearance of some fish species. The fish taboo of the Misoolese people might prevent such a thing from happening in Misool. The variety of fish/shellfish that are being tabooed could limit extraction caused by tourism-related fish trade as well as fishing tourism.

5.2.6. Respecting Sacred Sites

To the Misoolese people, there are two kinds of sacred sites: the ones that are totally prohibited or taboo to visit (place taboo) and other ones that are sacred but not taboo to visit. The sacredness is related to the spirits that are believed to occupy those places. Place taboo is a taboo to visit certain places in Misool, as the Misoolese people believe that those places are sacred. One of the places that is usually tabooed in Misool is a peninsula. As one traditional leader said: “that peninsula is taboo [while pointing with his index finger].., the elders said it’s taboo. We can’t go there. So I protect it” (Budiman IP, interview, August 19, 2015). The place taboo is also acknowledged by a non-Indigenous resort owner: “some places are taboo..., you don’t disturb them” (Bradley NIP, interview, October 26, 2015). Another participant alluded to the notion of taboo particularly in two marine sites: rumah goyang (shaky house) and one of the peninsulas in Lenkalogos:

... Rumah goyang in Dapunlol, is a sacred place. It is taboo for us to molo there. When a place is forbidden, we can’t molo there. Some people have tried and they went missing. ... Now, some of the villagers still molo there but only on the edges, never inside. Rumah goyang is a house under the sea. There is another one in Gamta [village] too. The place is taboo because of the spirits who live there.
... Lenkalologos means coral sand. It’s located near Banos [island]. Once a villager *molo* there, he got sick and died. He was taken for treatments, but none worked. Many people got an attack of cramp when *molo* there. So you cannot [*molo* there]. When you get the cramp, you can’t move at all, all you can do is just lie down... Why [they got the cramp]? Well,, maybe because they met underwater ‘people’... the spirits under the sea. Maybe a long time ago there was something bad happened there,. *wallahu’alam*... But these places have been tabooed since our ancestors’ time. (Hendra IP, interview, October 21, 2015)

![Figure 5.2. Banos Island (Photo by: Nurdina Prasetyo, November, 2015)](image)

For places that are sacred but not taboo, people are still allowed to visit, as long as they follow some protocols. The *Misoolese* people believe every place has its guardian spirit, especially in caves and uninhabited islands, hence the need to do some protocols before entering. One participant explained:

[I believe every] land has its occupant, whether it be a house or an empty island. When we enter someone’s house, we can’t just open the door and come in, right? That means we can be considered as thieves. Ah,, so we have to introduce ourselves, even though we can’t see them. But they [land, an empty island, a house] do have one [invisible] occupant, like *tuan tanah* [landlord]. So we are obliged to introduce ourselves to them. ... We have to ask permission by taking the sand

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16 A popular expression among Muslim communities which means: only Allah knows
with a finger then put it on our forehead. It’s like asking permission from the spirits to enter their area and showing that we, in Misool, appreciate our traditions. I got this [tradition] from my parents and elders. We don’t want this kind of thing to disappear. The side effect [of not doing this] or if someone said [or did] the wrong thing [that offended the spirits] is he/she will suffer. So, before we enter [the place] we have to introduce ourselves, and ask for permission. (Irwansyah IP, interview, October 10, 2015)

When asked about where he does this protocol, he answered:

Sacred places like caves and [uninhabited] islands that I’ve never been to. Of course before entering the Sacred Cave, people who visit it for the first time have to be told to take the sand with their finger then put it on their forehead. Basically, every time we go to an island that we’ve never visited before, we have to do this. Even I, a native son, also do this. When I go to an island that I’ve never been before, I still have to ask permission. (Irwansyah IP, interview, October 10, 2015)

![Figure 5.3. The Sacred Cave (Photo by: Nurdina Prasetyo, November, 2015)](image)

There are different ways the *Misoolese* introduce themselves or ask permission from the guardian spirit of a place. Irwansyah’s way is by taking the sand with a finger and put it on the forehead. When I visited the Sacred Cave with some other *Misoolese* for the first time, they asked me to wash my face three times with the sea water before we got off the boat. It is their way of “seeking permission from the spirits there” (field
notes, 12/11/2015). They also asked me to take the sand with my finger and put it on my forehead when we visited the Crying Princess Cave (field notes, 10/11/2015).

Figure 5.4. Crying Princess Cave (Photo by: Nurdina Prasetyo, November, 2015)

A strong relationship between Indigenous peoples and the spirits has been described in the literature review chapter. Indigenous knowledge is a part of a cultural system where spirituality plays a big part in its entirety (see section 2.2.1.). Indigenous beliefs in the spirits have been studied by many scholars from different fields (e.g. Appiah-Opoku, 2007; Kaartinen, 2016; Robbins, 2004). One of the three kinds of spirits that was studied by Kaartinen in Eastern Indonesia was the guardian spirit, which is the “‘owners’ or ‘guardians’ of trees, springs, and various sites in the forest and along the coast” (2016, p. 220). The above findings show that the Indigenous people of Misool, which is located in Eastern Indonesia, also believe in these guardian spirits. In the first vignette, Irwansyah used the word “tuan tanah” (landlord) to describe the spirit who guards the land or the empty island. This idea is consistent with that of Kaartinen (2016) who suggested that the overall concept of spirits as tuan tanah (landlord) indicates the belief of Eastern Indonesians that places and landscapes are not only owned by humans, but also owned by the spirits. As Irwansyah works as a tour guide, he then explained how he integrated his Indigenous beliefs into his work, which will be discussed further in Chapter Six.
5.2.7. Weather Shamanism

Another theme that is related to *Misoolese* Indigenous spirituality is the practice of weather shamanism. Some *Misoolese* people still ask for the help of a weather shaman to control the weather when they need to voyage to somewhere quite far from Misool, such as Sorong, in bad weather. Shamanism refers to phenomena where a person is regarded as controlling spirits, exercising his/her mastery over them in socially recognised means (Pharo, 2011). In regard to weather shamanism, it is a native control of the weather (Fenenga & Riddell, 2012) that represents the legacy of ancestral knowledge which consists of “a path of spiritual relationship with the seen and unseen, with the creative forces and spirits of the weather” (Moss & Corbin, 2008, p. 5). The *Misoolese* people believe that some people, mainly the traditional leaders, are gifted with the ability to control the weather. The practice of weather shamanism still exists in Misool, as one traditional leader reported:

> Here we have the rain shaman, the wind shaman, as well as the storm shaman. They have the special skill that is related to reading the nature. Normally it’s hereditary, but people can also learn to do this, although they won’t be as strong as by inheritance. In here, my clan has the inheritance. ... Especially for my clan, when the wind is not blowing right, in the next one to two days we raise up the cloud, we make them go, we make them run. That means the wind will blow stronger and it will rain. ... That’s wind shaman. This is normally used for long trips, for example to Sorong. How many days do you need? If it’s a return travel, you need at least three days. Even that still depends on the wind. Or if you only want to lessen the waves, there’s no need to do anything with the wind. Or you want both? The hereditary right of weather shaman goes to the oldest son. He has it until he dies, and then it passes on to his younger brother. (Andreas IP, interview, August 25, 2015)

Since almost all *Misoolese* people are either Muslims or Christians, the practice of weather shaman is being questioned especially by the imams, priests, and pastors. This was explained by Andreas:
We have to see [when we practise weather shaman]. If we do it, people will talk., especially the imams, priests and pastors. [They say] “that means you control God”. Well, it’s not that we want to argue., no. But we are only able to do it if God allows it to be. (Andreas IP, interview, August 25, 2015)

Weather shamanism has been practised by Indigenous peoples in other parts of the world, such as the Tübatulabal Indian in south-central California (Fenenga & Riddell, 2012) and the Inuit in north-eastern Canada (Laugrand & Oosten, 2010). The above narrative by Andreas demonstrates a similar case with the Inuit shamanism. Since the Inuit was introduced to Christianity, the shamanism practice has gradually disappeared as some people associate it with evil (Koperqualuk, 2012). However, a study by Laugrand & Oosten (2010) suggests that despite the contradictions between Christianity and Inuit beliefs, the practices of shamanism continued; although some have merged with Christianity. In the case of Misool, the findings reveal that people still often come to ask for help from weather shamans to control the weather, even when the religious leaders are against it. Being a Christian himself, Andreas’ statement “we are only able to do it if God allows it to be” displays his Indigenous beliefs has also been merged with Christianity.

In the context of tourism, Jianying (2007) views shamanism as a cultural tourism resource which can be developed as a special interest tourist attraction. In Indonesia, the Sakaliou people in Siberut Island have been practising shamanism as a part of their Indigenous religion. Tourists who visit the Sakaliou people’s village are interested in their practice of shamanism, as tourists “seem to be looking for something they have lost, a kind of secret knowledge that … is possessed by the shaman” (Hammons, 2015, p. 549). Both Jianying (2007) and Hammons (2015) suggest shamanism as a cultural resource that has potential to be developed for tourism. However, as noted earlier in the findings, the contradiction between the religious leaders (who are parts of the community’s leaders) and the practice of shamanism (usually by traditional leaders) may induce a more complex situation in developing shamanism tourism in Misool. The negotiation of developing shamanism tourism between traditional and religious leaders may result in a less authentic and more contemporary presentation of shamanism, as is the case in Sápmi theme park,
Norway. Here, the Sámi people present Sámi shamanism using modern digital technology combined with the shaman’s narratives (Mathisen, 2010). The potential use of weather shamanism in marine ecotourism will be discussed in the next chapter.

5.2.8. Traditional Way of Sailing

Misoolese traditional way of sailing is reflected in the use of their traditional boat called *semang* boat. It is a traditional wooden boat that uses an outrigger and a sail. During my fieldwork in Misool, I only saw a *semang* boat twice in four months. It shows that not many people are using *semang* boats anymore. With the arrival of more advanced technology, more people prefer to use motor boats. However, during an interview with one traditional leader, he expressed his opinion on how a *semang* boat is better than a motor boat:

I was given a boat with two engines by the government, I sold it. I asked a shipbuilder to make me a boat with *semang* [outrigger], install the sail, and make the thatch. People were wondering. [They said] it was good that I was given a boat with engines, but instead I wanted a *semang* [boat]. I said: “[it’s] our traditions, I will never abandon it!” Why? When we use a boat with engine, we cannot move [freely]. Sitting for hours to our destination. Just sit, cannot move [freely]. But when we use a *semang* boat, oh.., from the front to the back [of the boat] we can walk. And then, when the sun is hot, we can use the thatch. When the wind blows from behind, we can use the sail. Heeeyy…, when the engine stops working, we have the sail [to use]. That is why.. I don’t want to leave it behind. Look.., we are already leaving it behind. In Misool now, no one uses *semang* anymore, when in fact the wind blows really well. It [the sail] leads us with speed too. But everybody chooses the engine. When you run out of petrol, what are you going to do? When one of the engine screws is missing, what are you going to do? But paddles and sails, they do not break [like engines do]. When the wind is slow, we paddle. When it blows from behind, we raise the sail. No sound…, until finally we anchor. (Sahrul IP, interview, September 9, 2015)
The words that Sahrul used “[it’s] our traditions, I will never abandon it!” displays his devotion to his tradition of using traditional technologies. From his descriptions above, one can tell that he does not believe that modern technology works better than traditional technology. He relies on simple technology (like “paddle” and “sail”) more than modern machinery, as one small broken thing can break the whole engine. He believes that using a semang boat is the Misoolese way of sailing as the boat uses the components that nature has to provide, such as the wind and the (calm) sea. This represents a part of his interactions with his natural surroundings (Berkes, 2012).

5.2.9. Traditional Ways of Building

The last theme of Misoolese Indigenous knowledge and practices is related to their knowledge of building a house in a marine environment. Traditional ways of building a house include the traditional designs, materials, and techniques the Misoolese people use, as well as the rituals of building. Commenting on traditional house designs, one of the participants said: “back then, our elders usually built the wall only on the inside, so when it was hot inside in the evening, they could sleep outside [the open-air part of the house]” (Aris IP, interview, October 16, 2015) and another commented: “in terms of its shape, our traditional houses usually were built on stilts” (Apriansyah IP, interview, November 16, 2015). In one case, the participant thought that it is important to use building materials that were used by the elders: “for roofing, it has been a tradition for us to use sago leaves like this [while pointing at his roof]. ... For the pillars, old houses in Misool use coconut trunks” (Hendra IP, interview, October 21, 2015). Talking about using traditional materials, he alluded to the notion of the usefulness of sago trees: “the usefulness of sago tree is huge: the inside is for food, the skin can be used for house floor, the leaves are used for roofing, and the leaves’ midribs are used for house walls” (Hendra IP, interview, October 21, 2015).
The findings illustrate a long interaction between Misoolese people and their marine environment, which has resulted in specific building designs, materials used, and different style of construction. The effectiveness of using Indigenous knowledge for building houses has long been acknowledged. A long interaction between Indigenous people and their natural surroundings has generated the knowledge in choosing a location to build and materials to use, which comes from a holistic understanding of surviving in a particular environment (Hendry, 2014). Moreover, there are historical relationships between Indigenous culture and architecture, its
impact on Indigenous concepts of space and place, and the role of Indigenous material culture expressed through art and architecture within the Indigenous peoples’ houses (Proverbs, 2011). Some traditional houses (e.g. Dayak's longhouse) also represent the social organization (Hong, as cited in Bratek, Devlin, & Simmons, 2007). The architectural style of the Misoolese traditional house and the materials chosen symbolise the ingenuity of the Indigenous people of living and surviving in a marine environment, informed by their deep knowledge of island landscapes, that represent their concept of their natural place (Proverbs, 2011).

In the context of tourism, traditional house of Indigenous people in some places serve as one of the main tourism attractions. For example: the Tongkonan traditional house of the Torajanese people in Toraja, Sulawesi, Indonesia. It has been suggested that not only can using natural materials maintain the authenticity of the traditional house that the tourists seek, it can also support the cultural and environmental sustainability of the tourism development in the area (Junaid, 2015). The traditional houses of the Misoolese is yet to be a tourism attraction, but with constant and consistent use of the Misoolese traditional house design and building materials, it may become more than a tourism attraction. It may become a means to convey Indigenous architectural ingenuity based on a holistic understanding of surviving in a marine environment.

Misoolese traditional ways of building a house always follow certain procedures and rules. Some of these rules are connected to Indigenous beliefs in the spirits which are transformed into rituals before building. The construction starts with the ritual called ‘putting the first stone’ or ‘ground-breaking ceremony’, followed by giving offerings to the spirits. When the construction starts, there are some rules regarding the house structure that need to be followed by the owners/builders, in order to avoid bad things from happening. The Indigenous tradition of building in Misool starts with staying up from the night before, followed by putting the first stone (ground-breaking ceremony) the next day, and then some prayers:

When we are about to build a house, we don’t sleep from the night before. We must not sleep, we have to stay up all night. We have to guard it. The lights are on for preparation for construction. This is our tradition from a long time ago, [our] custom. Our elders said we have
to stay up all night until we start the construction at dawn. (Hendra IP, interview, October 21, 2015)

One participant stated “yes, we still use our own custom system here. Like when we’re about to build, we call it ‘putting the first stone’ that is followed by prayers. ... During the ground-breaking ceremony, the customary land owner has to be present” (Irwansyah IP, interview, October 10, 2015), and another commented “putting the first stone has to be followed by prayers and the elders have to be present too. ... One of the elders has to lead the prayer, one that can do it, because not anyone can [lead the prayer]” (Apriansyah IP, interview, November 16, 2015).

The ground-breaking ceremony is followed by providing offerings to the spirits:

... [we have to] give food to the *tuan tanah* [landlords] like betel nut and areca nut. We still do that here. ... The betel nut and areca nut are the offerings for the *tuan tanah* or the [invisible] occupants here. ... And when the building has already started to be constructed, on the ‘king of pillar’ [the main pillar] we put a white fabric, it’s like giving a prayer, aaah..., we still do that. (Irwansyah IP, interview, October 10, 2015)

Another participant explained that the location to put the offerings has to be chosen thoughtfully:

In here it’s our tradition to make betel nut—areca nut offerings, tie them up on the wooden stick’s branches, and put them in a place where the spirits reside. Cut a wood that has many branches, then tie the cigarettes, tie the areca nuts, tie the betel nut, and then put it in the place where the building is going to be built. (Kardi IP, interview, October 14, 2015)

During construction, there are certain rules that have to be followed in order to avoid consequences:

This pillar [while pointing to a pillar] cannot be exactly by the door, it has to be leaned a bit. Otherwise, it can cause disturbance to the lives inside the house. Another thing, the house connections cannot be in the centre, they have to be on the edges. [It] cannot be exactly on [top of] the window, it has to be on the edge. When there is a connection, it has
to be covered by a wood, so you can't see it. So, those are the prohibitions, the taboos. These building and construction custom and traditions do exist in many regions in Indonesia, including Misool. (Husni IP, interview, October 5, 2015)

He then went on to say about the consequences for not following those rules:

For a house, the consequences are illness, even death, and it can disturb our income. ... This is true! My wife’s health is disturbed, that’s why I’m changing all these [his house’s structures]. People who understand these things are senior builders. So, regarding our custom and traditions, we also have one that is related to building a house. (Husni IP, interview, October 5, 2015)

Interestingly, one participant tried to explain the rule logically:

According to the elders, a connection cannot be placed in the top center of a door because if the position of a connection is there, it will be right on top of our heads. If it falls, it will hit someone’s head. But if the position of a connection is not in the centre, if it falls, it will hit the shoulder, we still can stand it. But if it hits the head, it’s heavy, we won’t be able to stand it. That is the purpose [of this rule] (Kardi IP, interview, October 14, 2015)

The above findings display a long interaction between the Misoolese people and their marine environment, including the spirits occupying the place. It has resulted in certain rules they have to follow before and during the constructions. For the Misoolese people, the holistic understanding of their surroundings consists of not only the physical, but also the spiritual elements of the place. This also shaped their beliefs in strictly following the traditions of building and constructions, as they believe it is a part of living in harmony with their natural and spiritual environment (Grim, 2001) [emphasis added]. However, the way Kardi tried to explain the logical reasons behind the construction rules showcases how modernisation has influenced the way the Misoolese people think. When the Misoolese people start to rationalise their Indigenous knowledge and practices related to their spirituality, the standard of ‘living in harmony with the spirits’ might change and some practices might be modified or even stopped. After all, Indigenous knowledge and practices are
dynamic and they evolve with the way of thinking of the Indigenous people who own the knowledge and practices. The use of Misoolese traditional ways of building in marine ecotourism development will be discussed in the next chapter.

5.3. Chapter 5 Summary

With respect to the first research question, what kind of Indigenous knowledge and practices the local community in Misool holds, it was found that there are nine key themes of Indigenous knowledge and practices related to the marine environment that still exist in Misool: 1) marine sasi, 2) petuanan adat, 3) baca alam, 4) finding and calling the animals, 5) pamali ikan, 6) respecting sacred sites, 7) weather shamanism, 8) traditional way of sailing, and 9) traditional ways of building. Marine sasi and petuanan adat are examples of traditional ecological knowledge and resource management, which complement western principles of conservation, biodiversity preservation, and sustainable development. Baca alam also represents traditional ecological knowledge, which showcase the strong connection between the Misool people with nature. Finding and calling the animals embodies both traditional ecological knowledge in finding and calling fish and the lesser bird-of-paradise, and traditional techniques in the practice of solon kamum. Pamali ikan, respecting sacred sites, and weather shamanism are related to Indigenous spirituality, which demonstrate the importance of maintaining a good relationship, not only with the natural world, but also with the spiritual world. Traditional way of sailing represents traditional technologies and techniques in the use of the semang boat. Traditional ways of building encompass Indigenous spirituality in the traditional building rituals and traditional technologies and techniques in the use of traditional house design, building materials, and techniques.

Traditional ecological knowledge (TEK) combines an Indigenous way of doing within a particular ecosystem and Indigenous belief in interactions between people and their natural environment (Berkes, 2012). Traditional resource management is based on TEK which came from a long history of resource use in a particular area (Menzies & Butler, 2006). It consists of four aspects: “harvesting methods, enhancement strategies, tenure systems, and worldview and social relations” (Lepofsky & Caldwell, 2013, p. 1). In the case of Misool, marine sasi is a theme that
falls within the realm of TEK that manages the use of marine resources in the area, and *petuanan adat* represents the tenure system and social relations aspects of traditional resource management. Using Berkes’ classification of the use of TEK (see table 2.2.), marine *sasi* could be used in resource management, stewardship of biodiversity, and environmental monitoring and assessment. For *petuanan adat*, it is a social component in resource management. As a local social system is necessary in conducting social impact assessment (Sadler & Boothroyd, as cited in Berkes, 2012), *petuanan adat* could also be used for monitoring and assessment.

Other themes that represent TEK are the ability to read the signs of nature and the ability to find and call certain species of animals. Based on Berkes’ classification of the use of TEK in the contemporary natural resources and ecology (table 2.2.), finding and calling the animals offers biological information and ecological insights. This could be utilised for monitoring the population of flora and fauna and their habitat, which has been practised by the Misoolese people to monitor the population of lesser bird-of-paradise. Comparison of the findings on *baca alam* (reading the signs of nature) with those of other studies (Berkes, 2012; Hiwasaki et al., 2014) confirms that the Indigenous people’s ability to read the signs of nature could be developed to identify early warning signs for natural disasters.

*Misoolese* Indigenous practices of *pamali ikan*, respecting sacred sites, weather shamanism, and building rituals are parts of Indigenous spirituality which represents their Indigenous traditions and values. Indigenous tradition is a lifeway concept that characterizes Indigenous communities (Grim, 2001). It consists of interrelations between individual, community, natural and spiritual life, to *maintain the harmony with “larger cosmological forces”* (Grim, 2001, p. xxxv) while also *creatively adapting with their environmental and social conditions* [emphasis added]. Taken from the findings, the practice of taboos, weather shamanism, putting sand on the forehead, washing face three times, giving offerings to the spirits, and following certain rules when building a house display *Misoolese* traditions in maintaining the harmony with larger cosmological forces around them; the spiritual life.
Traditional technologies and techniques showcase Indigenous ingenuity. The use of traditional technologies and techniques for the *semang* boat, building traditional houses, and *solon kamum* embody practical applications that were gained through living experience and interacting with natural surroundings which manifested into actions. They epitomise Indigenous ways of doing which were gained from “the actual facilitation of learning from a cultural and/or traditional place – the land, the language, with the elders and knowledge keepers” (Hill & Arlene, 2002, p. 283). The Indigenous knowledge is essentially connected with “doing” as it transforms into “operating traditions” and “practical applications” of that knowledge (Angioni, 2004, p. 243). Traditional technologies and techniques are the combination of things and ideas, of know-how and action, and of body and soul. The findings display *Misoolese* technologies and techniques which represent “a way and a means for acting on nature” (Angioni, 2004, p. 246).

This chapter has explained and discussed the kinds of Indigenous knowledge and practices that still exist in Misool. The importance of integrating *Misoolese* Indigenous knowledge and practices into marine ecotourism development from the perspective of the *Misoolese* people and other tourism stakeholders in Misool, as well as how they incorporate them, will be discussed in the following chapter.
CHAPTER 6
MISOOLESE INDIGENOUS KNOWLEDGE AND PRACTICES FOR MARINE ECOTOURISM

6.1. Introduction

This chapter addresses the second research question in this study: have the local community, marine ecotourism operators, and other tourism stakeholders in Misool, Raja Ampat acknowledged and incorporated Indigenous knowledge in the existing marine ecotourism development? If yes, why and how; if not, why not? The first section of the chapter reveals whether the Misool people, marine ecotourism operators, the local government institutions, and NGOs have acknowledged Misool Indigenous knowledge and practices, and whether the supporting programmes and regulations issued by the local government institutions and NGOs have incorporated those knowledge and practices. The local government institutions consist of one in charge of marine affairs and another one in charge of tourism development in Raja Ampat District. The NGOs consist of two international NGOs and a local Indigenous NGO who support conservation and tourism projects in Raja Ampat District. The second section of this chapter describes if and how the Misool Indigenous knowledge and practices are incorporated into marine ecotourism development in Misool, mainly by Indigenous community members and marine ecotourism operators. The presentation of findings and discussions in the second section follows a structure that is based on basic themes of marine ecotourism, which became apparent during the analysis of findings.

6.2. The Acknowledgment of Misoolese Indigenous Knowledge and Practices by Tourism Stakeholders

As the local Indigenous people are the real owner of the marine resources where marine ecotourism takes place, they are considered to be the most important stakeholder in marine ecotourism development (C. Cater, 2014). This section is going to illustrate the acknowledgment of Misoolese Indigenous knowledge and
practices by tourism stakeholders. Starting with the Indigenous communities’ opinions regarding the integration of their Indigenous knowledge and practices in marine ecotourism development, it will then continue with marine ecotourism operators, local government institutions, and NGOs.

6.2.1. Indigenous Communities in Misool

Ideally, Indigenous people should have the right to decide how they want to use their Indigenous knowledge or even if they wanted to use it at all (Tuhiwai-Smith, 2012). Should other stakeholders, such as tourism agencies and the government, start utilising Indigenous knowledge and practices, it may either empower or disempower Indigenous peoples. It may empower Indigenous people when they opt for using their Indigenous knowledge for tourism development, and it may disempower them when non-Indigenous people use the Indigenous knowledge without their permission. When the Indigenous communities in Misool were asked about their opinions on using Misoolinese Indigenous knowledge and practices for marine ecotourism development, they all supported it. The Indigenous communities who participated in this study consist of those who worked in tourism sector and Misool MPA field office, the traditional leaders, and the heads of villages.

All Indigenous research participants acknowledged the importance of incorporating Indigenous knowledge and practices in marine ecotourism development. As one participant stated: “I agree that Indigenous knowledge and practices must be used for tourism development” (Supri IP, interview, October 15, 2015) and another commented: “I think tourism has to include Indigenous knowledge and practices, otherwise there will be problems with the communities” (Riki IP, interview, October 28, 2015). An Indigenous dive guide and tour guide, Nurholis, saw that NGOs in Raja Ampat have been incorporating Indigenous knowledge and practices in their programmes: “Actually the NGOs have been incorporating Misoolese Indigenous knowledge and practices in their marine conservation programmes in Misool, which is also affecting marine ecotourism by preserving the marine environment” (Nurholis IP, interview, November 19, 2015).
An interesting story was told by an Indigenous tour guide, Irwansyah, on how visitors appreciated the integration of Misoolese Indigenous knowledge and practices in marine ecotourism:

During dinner yesterday, one of my guests said that he has been to north Raja Ampat several times and visited some marine ecotourism sites, but the local people there never introduced him to the local Indigenous knowledge and practices. He said: “that’s what makes Misool special, different than north Raja Ampat. People here still hold their Indigenous traditions strongly”. Visitors can see that, and it makes a difference to them. (Irwansyah IP, interview, October 10, 2015)

Even though all Indigenous research participants have acknowledged the importance of incorporating Indigenous knowledge and practices in marine ecotourism, they also thought it was still not maximized, as conveyed by one of the Indigenous participants: “some of us have used Indigenous knowledge and practices in marine ecotourism, but it's not maximum yet” (Agus IP, interview, October 7, 2015). Faisal, an Indigenous participant who worked as a civil servant, shared his opinion on the use of Indigenous knowledge and practices in marine ecotourism development: “Besides offering the beautiful nature, we also offer the people through their culture. ... But I think for Misoolese Indigenous knowledge and practices specifically, we haven’t really highlighted them enough” (Faisal IP, interview, November 14, 2015).

Some Indigenous research participants had clear perceptions on the importance of integrating Indigenous knowledge and practices when introducing a rather new concept, such as tourism, to the Indigenous communities. For the Misoolese people, tourism is a somewhat new kind of development, which has only been introduced to them since the opening of the first resort in Misool in 2008:

To me, Indigenous knowledge [and practices] are very important because when we don’t use them, when we don’t include them, then we will face many obstacles. Because, when we impose something new from outside, the local community is not used to it and they will reject it. There will be obstacles. But when we put Indigenous knowledge
first, and then later on, during the process, we want to try to combine them together, that's a different thing..., which is acceptable. The most important thing is that we do not lose this local identity so that the local community can accept it. (Faisal IP, interview, October 19, 2015)

Faisal really understands the importance of integrating Indigenous knowledge and practices into tourism development. His opinions corroborate the importance of this study, which also resonate with the ideas of Gorjestani (2000), Tuhiwai-Smith (2012), and Nuryanti (2016) who suggested using Indigenous knowledge for development, as the local community is familiar with it.

6.2.2. Marine Ecotourism Operators in Misool

Another key tourism stakeholder included in this study is the owners of local accommodations who operate marine ecotourism activities in Misool. At the time of my fieldwork, there were five Indigenous people (Kardi, Miki, Hendra, Husni, and Apriansyah) and a non-Indigenous couple (Bradley and Molly) who owned local accommodation and marine ecotourism operations in Misool. Kardi realised that Misoolse Indigenous knowledge and practices are precious heritage from the elders: “we follow what our elders did in the past. ... By using Indigenous knowledge and practices in tourism, we can revitalise those that almost disappear” (Kardi IP, interview, October 14, 2015). Miki seemed to have a clear vision regarding the implementation of Indigenous knowledge and practices in marine ecotourism development:

In my opinion, Indigenous knowledge and practices can be an asset, a potential. Every region has its own characteristic, which can be a great potential and an asset because when we are using Indigenous knowledge [and practices], we are involving the local community in the process, in all development in general and in tourism development in particular. When we develop a community’s Indigenous knowledge, automatically they will be directly involved in the process. But when we abandon that knowledge, the community will not be involved. (Miki IP, interview, October 19, 2015)
Bradley, one of the non-Indigenous owners, commented about the importance of Indigenous knowledge and practices, and the necessity to still be objective about “looking at the past”:

Of course, there is really important traditional knowledge, mmm..., but we have to be very careful not to look at the past with like, rose-tinted spectacles, not to romanticising the past, to say well, oh...this is all wonderful, and then it was partly wonderful ‘cause there weren’t many people here. But of course, there is very very important Indigenous knowledge that has been developed, like the sasi system, which is amazing. ... So, you know the sasi system in here, is super important, you know, and that is an example of Indigenous knowledge that’s incredibly important, ‘cause otherwise you have tragedy of the commons. (Bradley NIP, interview, October 26, 2015)

One of Bradley’s statements above: “oh...this is all wonderful, and then it was partly wonderful ‘cause there weren’t many people here” supports Low’s argument in regard to the ecologically noble savage stated in section 2.3.: “ecological impact is found to be low within a traditional society, it is not because of conservation-mindedness, but rather from conditions of low population density ...” (as cited in Fennel, 2008, p. 137). However, Bradley also acknowledged the importance of marine sasi to avoid “tragedy of the commons”. As was mentioned in section 3.2.3., traditional communal ownerships may effectively manage the commons (C. Cater & Cater, 2007). Bradley acknowledged that marine sasi can become a solution in managing common marine areas.

Molly, another non-Indigenous owner, shared how she thought using Indigenous knowledge and practices is practically beneficial for marine ecotourism operations: “I think from a practical side, there are a lot of things..., [because] we’re also pendatangs [immigrants] here..., so there’s so much that we need to know that’s critical to the operation of our resort and dive center” (Molly NIP, interview, October 23, 2015). On the other hand, she also mentioned that when she tried to incorporate an Indigenous Misoolese practice of using traditional herbs for skin treatments in the spa facility at the dive resort, the result was not favourable:
When we were developing our spa, we tried to incorporate some sort of local massage techniques, and also skin treatments made of coconut oil mixed with chopped shallots and onions. However, they [the skin treatment mix] weren’t really appropriate...hahaha... I’m not really sure what the end result was meant to be, but it definitely kind of made you really teary and you smell kind of like a hamburger afterwards...hahaha... *There are some things that work and things that don’t.* (Molly NIP, interview, October 23, 2015) [emphasis added]

Molly acknowledged that non-Indigenous operators could benefit from local Indigenous knowledge and practices for the practical side of marine ecotourism operation. However, she also admitted that not all Indigenous knowledge and practices are suitable to be used for tourism. As Molly said: “there are some things that work and things that don’t”.

The findings of this study suggest that marine ecotourism operators in Misool have acknowledged the importance of incorporating Indigenous knowledge and practices in marine ecotourism development, even though not all Indigenous knowledge and practices are appropriate. Not only could it preserve the intangible cultural heritage of Indigenous knowledge, but it could also increase the local community’s involvement in marine ecotourism development.

### 6.2.3. Local Government Institutions

There are two local government institutions that support marine ecotourism development in Raja Ampat District, including Misool. One of them oversees the marine affairs in Raja Ampat District and another one is in charge of tourism development. These two institutions are responsible for making regulations on the use of marine resources in Raja Ampat for conservation and marine ecotourism. Their offices are located in Waisai, the capital city of Raja Ampat District. During the interview, the representative of the unit in charge of marine conservation (Armando) explained how the unit supports the development of marine ecotourism in Raja Ampat:

> It protects the marine resources and provides monitoring results and recommendations to the tourism stakeholders in order to maintain the quality of the marine environment. For example, if one area needs
to recover, the given recommendation would be to close that area for a certain amount of time for any kinds of activities including tourism. (Armando NIP, interview, August 7, 2015)

One of the problems for the local communities in Raja Ampat in protecting their marine resources is outside fishermen who come to fish using bombs, dynamite, and cyanide (see section 1.3.2.4.). This was also mentioned by Armando who said: “foreign boats like from Vietnam and local boats from outside Raja Ampat, mostly from Sorong, Maluku, and Sulawesi, often come without a valid license to take our fish” (Armando NIP, interview, August 7, 2015). Armando acknowledged the importance of local community participation in marine conservation by involving the local communities in its programmes, one of which is the MPA local patrol. Together with the MPA field staff, the local communities regularly patrol their area: “this way, everyone will be involved. Because what they protect is their own marine resources. ... When the MPAs are well-protected, the tourism sector will be able to use the marine resources for the benefit of the local communities” (Armando NIP, interview, August 7, 2015). As mentioned in the literature review in section 3.2.3, participation of the local community is one of the key principles in sustainable marine ecotourism development (Hoctor, 2003). By involving the local communities to patrol the MPAs, an active participation of the local communities in determining the quality of their environment and living conditions is expected, especially in geographically scattered areas like Raja Ampat, where they are not used to be put as a central attribute. This will increase the sense of belonging of the local communities, which is necessary to make marine ecotourism practice works in the long run (Garrod & Wilson, 2003; Hermansyah & Sunaryo, 2016).

Armando also acknowledged that safeguarding the marine environment has been a part of the Raja Ampat people’s culture, in the form of marine sasi practice: “overall, marine sasi is the tradition that is still being practised in all Raja Ampat” (Armando NIP, interview, August 7, 2015). The unit, in collaboration with NGOs, has been using marine sasi in their conservation programmes. As Armando explained:

We incorporated marine sasi in our routine [marine conservation] programme. We’ve already made marine sasi map in all areas [MPAs]. Sometimes the communities from outside conservation areas ask us
to survey their areas to recommend the best location for marine sasi.
... For example, south-east Misool is a conservation area, but north
Misool is not. Because they [local people in north Misool] saw that
marine sasi programme in south-east Misool was successful, they
asked us to also survey their areas, which are outside the MPAs, for
marine sasi. (Armando NIP, interview, August 7, 2015)

Another Indigenous practice that was recognised by Armando is petuanan adat,
along with the customary law that goes with it. The unit acknowledged that
customary land and sea tenure should be respected in the establishment of MPAs. In
several areas, one of the approaches in maintaining the principles of sustainability
in marine ecotourism development is the designation of marine reserves, maritime
parks, and MPAs (Orams & Carr, 2008). This is also the case in Raja Ampat. The
acknowledgment of Misoolese Indigenous knowledge and practices is reflected on
the Local Regulation of the Raja Ampat District Number 27 Year 2008 regarding the
establishment of local MPAs in six areas in Raja Ampat District. It is stated that:

MPA management needs to respect and follow customary sea tenure of
the local communities for whom Indigenous knowledge still applies in
their area. The local communities have the right to set their sea tenure
areas and sacred islands in the MPA zonation. (Legal Affairs Division of
Raja Ampat District Secretariat, 2008) [emphasis added]

The integration of petuanan adat and place taboo in MPA zonation regulations
indicates that the local government institutions acknowledge the significance of
Indigenous knowledge and practices. This view is in accordance with this research
objective which is integrating Indigenous knowledge and practices into sustainable
marine ecotourism development in Misool, Raja Ampat.

Furthermore, Armando commented:

I believe using Indigenous knowledge and practices is one of the most
effective ways of communication between my staff and the local
community. [It’s] how to use the mechanism of their Indigenous
knowledge and practices that have been embodied in them since the
olden days, to conserve the marine environment. (Armando NIP,
interview, August 7, 2015)
To support marine conservation and marine ecotourism development in Raja Ampat, the district government issued a Local Regulation of the Raja Ampat District Number 9 Year 2012 that prohibits the fishing of sharks, manta rays, dugongs (sea cows), whales, turtles, and specific kinds of reef fish. Using a similar approach to the regulation on local MPAs, this regulation gives “the right to the local communities to preserve their traditional cultural values by enforcing customary law sanctions for people who violate this regulation” (Legal Affairs Division of Raja Ampat District Secretariat, 2012) [emphasis added]. In addition, the local government encourages the local communities to be actively involved in protecting these sea creatures.

Participation of Indigenous communities may be fully supported by the government policy, but sometimes it can be discouraged by other existing legislation or regulations (Sofield, 1993). In Indonesia, even though The Indonesia Constitution of 1945 does not mention hukum adat (customary law) in its articles, in 2000 there was an amendment to the 1945 Constitution, created to acknowledge the validity of adat law (although with special conditions), and in 2004 the Act No. 14 on Regional Autonomy legitimately recognised customary law as a valid resource in creating new acts and ordinances (Marzali, 2013) [emphasis added]. Therefore, the act supports the local regulations above, where they regulate the use of customary law sanctions and customary sea tenure in marine conservation. Using Indigenous knowledge and practices for marine conservation is one of the ways to conserve traditional cultural values of the Raja Ampat and Misoolese people.

A representative from a local government institution which oversees the tourism development in Raja Ampat (Yoga), explained that the tourism sector was starting to attract the attention of the local government in 2007–2008, when more people started to come to Raja Ampat for its natural beauty. It was then that the local government realised that Raja Ampat had the potential to attract tourists, despite some challenges in developing tourism in Raja Ampat (see Appendix F). At that time, the leading economic sector in Raja Ampat was fisheries, as Raja Ampat used to be the fishing ground for all fishing industries in Sorong (Yoga NIP, interview, August 10, 2015). The development of tourism was coupled with the development of education, health, and infrastructure as the local government believed these three elements were essential in supporting tourism development, especially in preparing
the human resources needed. The first four to five years were focused on building
the local community's awareness that tourism played a significant role in developing
Raja Ampat and that it could be the future of Raja Ampat (Yoga NIP, interview, August 10, 2015). To maintain the ‘eco’ development of marine tourism in Raja
Ampat, the local government issued a regulation on the tourism permit system: only
forty liveaboards and twenty resorts are permitted to operate in Raja Ampat (Yoga
NIP, interview, August 10, 2015). Legislation or formal government regulations may
be used to strike a balance between the development of marine tourism and the
principles of ecotourism (Orams & Carr, 2008).

Yoga acknowledged the value of Misoolese Indigenous knowledge to the local region:
“I think using Indigenous knowledge and practices in marine ecotourism
development is very important. If we can do this in Raja Ampat, it will be
remarkable! Because it can be the uniqueness of Raja Ampat” (Yoga NIP, interview,
August 10, 2015). He noted two Indigenous knowledge and practices that still exist
in Misool, the strong connection to nature and the practice of marine sasi. As he
explained:

Raja Ampat people consider the nature as their mother, a place where they
breastfeed, a place where they eat. If they damaged the nature, that means they hurt their mother. ... From generation to generation they have been taught by their parents: “we have to love the sea”. There is a philosophy or motto that the local people here uphold: “we live from the sea”. They always remember that. ... I know exactly that the Misoolese still hold their tradition in preserving the nature. Still, it’s their number one priority that they keep until now. It has never changed. ... [Another one is] sasi. Our colleagues from conservation are starting to revive [marine] sasi [for marine conservation]. (Yoga NIP, interview, August 10, 2015)

Talking about whether his unit has incorporated Indigenous knowledge and
practices in their programmes, Yoga commented: “if it’s purely from the tourism
aspect, not yet” (Yoga NIP, interview, August 10, 2015). Yoga admitted that the
tourism unit has not yet incorporated Indigenous knowledge and practices in their
programmes, but he did not provide a specific reason as to why the tourism unit has
not done it. He only stated, “only our colleagues from conservation has done it with marine sasi. When marine sasi has become local people’s habit, then it can be an asset for tourism” (Yoga NIP, interview, August 10, 2015). Yoga’s statement implicitly suggested that in his opinion Misoolese Indigenous knowledge and practices were not fully ready to be incorporated into government tourism programmes. This showcases the lack of attention from his institution on Indigenous knowledge and practices in the area, as the Misoolese people have already been incorporating their Indigenous knowledge and practices into marine ecotourism development (which will be presented in section 6.3.).

This section has shown how local government institutions acknowledged and incorporated Misoolese Indigenous knowledge and practices, even though the Indigenous knowledge and practices have yet to be incorporated into government tourism programmes. The Misoolese Indigenous knowledge and practices that have been incorporated into government marine conservation programmes and regulations are marine sasi, petuanan adat, and respecting sacred sites. Both institutions have been getting full support from international NGOs in Raja Ampat, especially in initiating MPAs and marine ecotourism programmes in Raja Ampat. NGOs support is in the form of grant provision, mentoring field staff and management staff, working together in MPAs monitoring, and drafting the rules and regulations. The next section discusses NGOs’ acknowledgment of Misoolese Indigenous knowledge and practices.

6.2.4. NGOs in Raja Ampat

As mentioned in section 3.2.2., NGOs play an important role in developing marine ecotourism, especially in developing countries as a part of their marine conservation programmes. In Raja Ampat, there are three international NGOs who have been working together with the local government and local community groups in conducting marine conservation programmes. Interviews were conducted with two international NGOs. In addition, an interview was also conducted with a local Indigenous NGO (see section 4.5.).

Anton, a representative from one of the international NGOs in Raja Ampat that cooperates with the local government institutions in promoting marine
conservation, realises that the success of tourism and conservation development in Raja Ampat depends on all stakeholders involved. Hence, it continuously cooperates with them, especially with the local communities in drafting the customary law for the use of natural resources (see Appendix G). When drafting the customary law on the use of natural resources, his NGO encourages Indigenous knowledge and practices to be incorporated. This is reflected in the use of marine *sasi* practice in the management of the MPAs. Another Indigenous practice that was mentioned by Anton was “*gelar senat*”, which is an Indigenous practice where the traditional leaders, religious leaders, and village leaders get together to discuss something concerning their village. He explained:

> At the beginning, the local communities were very resistant to the word ‘conservation’. Conservation was a word that was perceived as something that will close their access to fishing because fishing will be prohibited.... So it was very difficult to bring in the word ‘conservation’ to their points of view. So from 2004 to 2007 our work was to make them understand that conservation is not a scary word that would close their access to their livelihood spaces, but it was a term where they would be involved in managing their own natural resources. It took three years of intensive socialisation to start changing the local communities' perception on conservation. One of the key approaches was to use a cultural approach, which was called ‘*gelar senat*’ or ‘*bicara di para-para pinang*’ or ‘*para-para adat*’. ... After we showed them the natural destructions caused by dynamite fishing and the use of potassium, they remembered that they could catch more fish in the old days. When they saw the benefits of conservation, then they started to support us. (Anton, interview, August 13, 2015)

The above quotes show that this NGO has been incorporating marine *sasi* in its programmes and using Indigenous gathering, *gelar senat*, in socialising marine conservation to the local communities. After the Marine Rapid Assessment in 2001 to estimate the marine and coastal biodiversity level in the area, it was found that Misool and Kofiau were also ecologically important with natural resources that needed to be protected. As Raja Ampat waters are so vast, this NGO then
collaborated with another international NGO that was funded by the same foundation. In 2003, the two NGOs agreed that one was going to be responsible for four MPAs in north Raja Ampat: Ayau-Asia Islands, Wayag-Sayang Islands, Dampier Strait, and Mayalibit Bay; the other one was responsible for two MPAs in south Raja Ampat: Kofiau-Boo Islands and South East Misool.

As stated in an interview with Leo, the senior manager of another international NGO which operates in Raja Ampat and focuses on marine conservation in Misool and Kofiau, cooperation with other stakeholders is also important for his NGO, as the staff realise they cannot work alone. Appendix H shows this NGO’s cooperation with other stakeholders. The same challenge in introducing conservation to the local people was also faced by Leo. The narrative below displays the approach used to develop conservation areas in Misool and his acknowledgement on the importance of having the support from traditional leaders. Leo also acknowledged the Indigenous practice of musyawarah (negotiation for consensus) and petuanan adat as critical components in no-take zone (NTZ) management:

First, we tried to build their awareness and add more information from their local knowledge. ... For instance, based on our survey, there is one area that meets all the criteria to become an NTZ area. On the other hand, that area is their fishing area since their ancestors' time. We had to negotiate with them that we would still accommodate their activities. ... This kind of negotiation took a long time. Another thing that made the zonation process longer was to find out the real owners of the areas. Because of high acculturation in Misool, we had to find correct information on the customary sea tenure. If we were wrong, there would be conflicts. So first we had to identify the real customary owners, and then we had to negotiate with the right people. ... We also developed village regulations so that our zonation can be acknowledged, supported, and managed by the villagers. ... We also cooperate with religious leaders to convey conservation messages during their sermons. (Leo NIP, interview, August 13, 2015) [emphasis added]
The above finding displays the importance of integrating Indigenous knowledge and practices, and cooperating with traditional and religious leaders when introducing a new programme to an Indigenous community.

Leo’s NGO also incorporated marine sasi practice in the management of the MPAs in Kofiau and Misool. They use some interventions, such as conducting a survey to find new marine sasi areas and to decide when it is ready for harvesting. They also train the sasi owners and the local people, so they can do the monitoring themselves. The following excerpt exemplifies the significance of conservation based on something that is familiar to the local community:

I have an analogy: ‘kampung’ [village] knowledge and ‘kampus’ [campus] knowledge. ... Sasi is a way of conservation..., traditional conservation, right? ... So we just continue what they have been doing, but with a modern touch and bigger approach. ... Hence, why don't we just continue and support the existing traditional knowledge, to be developed with a little intervention without changing the basic principles. (Leo NIP, interview, August 13, 2015.) [emphasis added]

The findings from both international NGOs illustrate that international NGOs acknowledge using Indigenous practice is the most effective way to introduce a new concept to a community, such as modern marine conservation. This excerpt again resonates with the idea of using Indigenous knowledge for development involving Indigenous communities considered to be effective because they are familiar with it and it is one of the few, if not the only, asset they control (Gorjestani, 2000; Nuryanti, 2016; Tuhiwai-Smith, 2012). It is evident from the research findings that NGOs have become progressively interested in marine ecotourism projects, since marine ecotourism can endorse the marine conservation, as well as improve coastal livelihoods (C. Cater & Cater, 2007; Clifton, 2013). Anton’s explanation is consistent with that idea, as he stated that Raja Ampat could have chosen extractive activities as its main source of income, but in twenty years they could lose their fisheries, forestries, and other environmental services. Therefore, marine ecotourism has been viewed by international NGOs in Raja Ampat as the best alternative for Raja Ampat. The above findings from Anton and Leo support previous research in the importance of using marine sasi in marine conservation programmes (Boli et al.,
2014; McLeod et al., 2009) and in using marine ecotourism as a vehicle for positive transformation of coastal areas, as this type of tourism is evidently supported by international environmental NGOs (Atmodjo et al., 2017; Clifton, 2013; Halpenny, 2003; Romero-Brito et al., 2016).

Another important NGO in Raja Ampat is a local NGO consists of traditional leaders from all Indigenous clans in Raja Ampat. Their main task is to advise and supervise the use of natural and cultural resources in Raja Ampat. During my fieldwork, this NGO was in the process of establishment. The first step was drafting the customary structure in all Raja Ampat, including Misool. A representative of this NGO (Kuswara) pointed out: “in Papua, the highest authority belongs to clans, hence there needs to be a clear and concise customary structure” (Kuswara IP, interview, November 22, 2015). As was mentioned in the previous chapter, the Misoolése people have a philosophy that considers the land is their father and the sea is their mother (see section 5.2.). Kuswara also explained that:

The land and the sea do not belong to an individual or a particular clan or family clan, they belong to the big clan [which consists of several clans]. The land and the sea guarantee the life continuation of the next generations of Papuan people. Hence, they cannot be sold; they can only be leased. (Kuswara IP, interview, November 22, 2015)

The next step is to elect and induct the head of clans, the traditional leaders, and the head of ethnic groups. These people will be responsible for managing the use of their natural and cultural resources:

When tourism is developed, we must have a strong customary structure, otherwise the Indigenous people will only be spectators. They will be spectators of their resources being used by non-Indigenous people. … It will be meaningless if the Indigenous people cannot benefit from tourism development or any other kinds of development. … So we are building this system by developing people’s awareness, so they won’t release their customary ownership so easily. At the same time, we also need to improve our human resources capacity by encouraging Indigenous people to provide better education for their children, so that they will be able to participate in
tourism development in Raja Ampat. (Kuswara IP, interview, November 22, 2015)

The last stage was to create a map of petuanan adat territories in Raja Ampat, with customary mapping experts:

There will be an assembly of all clans of Raja Ampat, where each clan will tell their side of the story regarding their customary tenure, proved by strong evidence. If there is a disagreement from other clans, there will be a thorough investigation of the genealogy of all related clans. Once they are all agreed on the ownership of all customary areas, each area on the map will be marked with different colours. When an area is what they call ‘area makan bersama’\(^\text{17}\), there will be more than one colour on the map. Each clan or clans who own(s) a customary area has the full right to decide its use, whether it be for tourism or other kinds of use. Once the map is finalised, it will be distributed to all related local government institutions, such as the department of tourism, the department of marine affairs and fisheries, the land agency, the investment coordinating board, and to all villages in Raja Ampat (Kuswara IP, interview, November 22, 2015).

The need for a customary land and sea tenure map arose because of misunderstandings between investor/developer and the Indigenous people in Raja Ampat. An example of this misunderstanding happened in Pianemo, one of the notable geographical landmarks in north Raja Ampat:

... Of course, investors must deal with the local people there as well, but more importantly they also have to deal with the real owner(s) of the area. When it comes to customary land and sea tenure, you must be thorough in finding out who the real owner(s) is/are, so there won’t be any conflict in the future. (Kuswara IP, interview, November 22, 2015)

This kind of misunderstanding happened because of investors’ lack of knowledge on ‘who the real owner(s) is/(are)’, as Raja Ampat is highly acculturated. Therefore, the

\(^{17}\) A ‘shared resource area’ which is an area of land and sea where more than one clan or village can use the area for fishing or planting crops
map of customary land and sea tenure territories will help people who want to invest in Raja Ampat, including Misool, by knowing whom they should ask permissions from.

The above findings have explained how international and local NGOs in Raja Ampat acknowledged and incorporated *Misoolese* Indigenous knowledge and practices into their programmes. Same as the local government institutions, the Indigenous knowledge and practices that have been incorporated into NGOs programmes mainly consist of marine *sasi* and *petuanan adat*.

The findings presented in this first section show that the Indigenous communities in Misool, marine ecotourism operators, local government institutions, and NGOs have acknowledged *Misoolese* Indigenous knowledge and practices, which answer the first part of the second research question. Despite the fact that the Indigenous knowledge and practices have yet to be incorporated into government tourism programmes and not all Indigenous practices are suitable for tourism purpose, all stakeholders acknowledged the added value and benefits of integrating *Misoolese* Indigenous knowledge and practices in marine ecotourism development. The next section is going to focus on if and how they incorporate those knowledge and practices in marine ecotourism development.

### 6.3. The Integration of *Misoolese* Indigenous Knowledge and Practices in Marine Ecotourism Development

This section discusses if and how *Misoolese* Indigenous knowledge and practices are integrated in marine ecotourism context. Findings from fieldwork on the integration of Indigenous knowledge and practices in marine ecotourism development were mainly gathered from the Indigenous community members who were tourism business owners and employees, conservation officers, as well as traditional leaders and non-Indigenous tourism business owners. Interestingly, most of the Indigenous participants did not realise that they have been incorporating their Indigenous knowledge and practices in marine ecotourism development, as it is something that comes naturally for them and has turned into normal practices. For example, when the local owner of a homestay was asked whether he has incorporated *Misoolese* Indigenous knowledge and practices in his operation, he answered “no, I have not”...
(Husni IP, interview, October 5, 2015). But as the conversation unfolded, Husni told me stories on how he built his homestay where he incorporated Misoolese building rituals. This illustrates how Indigenous knowledge and practices have been embodied in the way of life of the Misoolese people.

As an approach to the narrative analysis in this section, themes of marine ecotourism development are used. There are three themes being discussed which emerged from the narrative analysis of findings gathered from fieldwork. As Misool is renowned for its rich marine biodiversity, the key marine ecotourism activity in Misool is scuba diving. From seventeen Indigenous participants who worked in tourism sector, eight of them were dive guides and five of them were tour guides. From those five tour guides, three of them had dual roles as a dive guide and a tour guide. This shows that scuba diving is thriving as the main marine ecotourism activity in Misool. Thus, the first theme is scuba diving. The second theme is other marine ecotourism activities, which describes how Misoolese Indigenous knowledge and practices are incorporated into non-diving activities such as viewing coastal seascapes/landscapes, sightseeing/island hopping, birdwatching, recreational fishing, and dolphin-watching. The third theme discusses how Misoolese Indigenous knowledge and practices affect the establishment of marine ecotourism’s supporting facilities.

6.3.1. Scuba Diving

As Misool’s water offers healthy corals and abundant fish, the marine ecotourism activity that was often mentioned by the participants is scuba diving. In this study, the scuba diving theme also includes snorkelling, as the two activities usually share the same marine sites, and snorkelling can turn into a free diving activity, which is similar to the Misoolese Indigenous practice of molo. As mentioned earlier, scuba diving has become the key marine ecotourism activity in Misool, thus the Misoolese people who work as dive guides have naturally been integrating their Indigenous knowledge and practices into their scuba diving activities. Misoolese Indigenous knowledge and practices are used in some elements of scuba diving, as conveyed by the participants. One Indigenous participant, Doni, is a local scuba diving guide who works in a resort and dive operator in south Misool. He learned to read the signs of
nature (baca alam) from his elders when he was young. Now that he is a scuba diving guide, his ability to baca alam is very useful to choose the dive sites to go to:

Our elders said when it’s new moon, the current is strong. When it’s full moon, [the current is strong] too, because the water drop is very strong. So that knowledge is what we have been using for diving. If we see new moon or full moon, [that means] the current is a bit strong, so we can choose dive sites that are safer for the scuba divers, especially for older ones. (Doni IP, interview, October 29, 2015) [emphasis added]

Jojo is a boat skipper who also uses nature as his guide, following the same methods for reading the signs of nature that was discussed in section 5.2.3. Like many other Misoolese, he learned to read the signs of nature when he was a little boy: “as a skipper, I know how to read the nature. I can read the wind and the current since I was a little boy because I often saw how my uncle skippered” (Jojo IP, interview, September 7, 2015). Jojo often takes scuba diving guests to go to the dive sites and he reads the current to decide which dive sites to go to:

For diving, I read the current to determine the best sites to go to. When there’s current, that means lots planktons, which means lots of fish. But the current on the surface is not always the same as the current below. So, we must check first. When the changing of tides becomes calmer, it means underwater current is already calm. But it still depends on the wind. (Jojo IP, interview, September 7, 2015)

Doni and Jojo’s stories represent the use of Indigenous knowledge of reading the signs of nature in scuba diving tourism. Even though nowadays most boats are equipped with modern technologies for navigation, Misoolese skippers and dive guides still rely on their instincts and signs from nature in navigation and in choosing which dive sites to go to.

Mahmudi is a Misoolese who is employed by a dive resort in south Misool as a liaison with the local communities, and to advise the non-Indigenous owners on Misoolese custom and culture. As was discussed in the previous chapter, Mahmudi reads the signs of nature to navigate and to forecast the weather by looking at the ‘seven-star’ (see section 5.2.3.). The conversation continued with using his ability in scuba
diving. Commenting on the topic, Mahmudi said “now we can use it [the seven-star] as a sign for diving trips, [to tell] when the time is good to go to farther sites” (Mahmudi IP, interview, October 24, 2015). Mahmudi’s statement is another example of using the Indigenous knowledge of *baca alam* in scuba diving tourism. Reading nature is an Indigenous knowledge which accumulates over generations of living in a particular environment (Hendry, 2014; Semali & Kincheloe, 1999), which, in Mahmudi’s case, it is a marine environment. This kind of knowledge has been used by Indigenous navigators around the world to travel the sea (see section 2.2.). Doni, Jojo, and Mahmudi pointed the possibilities of using that knowledge for scuba diving operations.

Molly, one of the non-Indigenous owners of a local accommodation and dive operator, also used the *Misoolese* Indigenous knowledge of *baca alam* in forecasting the weather for scuba diving trips. As she explained:

> Like we’re talking yesterday with *Bapak* [Mister] Mahmudi about when the wind is gonna stop. [And I asked him] “have you seen *bintang tujuh* [the seven-star] yet?” ’Cause we can read all the weather reports that we want, but they all seem to be wrong. (Molly NIP, interview, October 23, 2015)

Molly’s last statement shows that she believes in the abilities of the Indigenous peoples to read the signs of nature. Being a westerner, her western perspective did not seem to interfere with her understanding and appreciation of the Indigenous worldview, which reflects a sincere intention in utilising *Misoolese* Indigenous knowledge and practices in her scuba diving tourism operation.

During a conversation with Andreas, one of the Matbat traditional leaders, he mentioned weather shamanism as one of the Indigenous knowledge that is still being practised in Misool (see section 5.2.7). Our conversation continued with the possibility of using weather shamanism for scuba diving trips, to control the weather when it is not good for scuba diving, which could jeopardise scuba divers’ satisfaction (considering that they have come a long way just to dive in Misool). As I have experience working as an event planner in Indonesia, I know that in Indonesia it is common to hire a weather shaman for outdoor events to prevent the rain. Having a long conversation with Andreas (the conversation lasted for almost five
hours), I learned that sometimes he equivocated when answering a few questions, including this one. When I brought up the idea of using weather shamanism for scuba diving trips, he did not comment directly to the idea. Instead, he was telling me about how members of his families often ask him to control the weather:

The problem is, when we have a family asking for our help [to control the weather], we help. But then the next week, they ask again, the next week, ask again..., oh it cannot [be like that]! One time in a month [is acceptable]. In the future when they need it again, we’ll help them again. (Andreas IP, interview, August 25, 2015)

As mentioned in section 5.2.7., he highlighted how some religious leaders have negative views on the practice of weather shamanism: “if we do it, people will talk... especially the imams, priests and pastors. [They say] “that means you control God”“ (Andreas IP, interview, August 25, 2015). From his comments, I could tell that he was not too keen on the idea of using weather shamanism for scuba diving tourism.

This story portrays that not all Indigenous knowledge and practices can be utilised in marine ecotourism development. The Indigenous communities have to agree on the types of Indigenous knowledge and practices to be used for marine ecotourism. They must feel comfortable and safe when their knowledge and practices are being used for things that are outside their regular use.

Misoolese Indigenous knowledge of finding and calling the animals is used by Hendra, an owner of a local accommodation in south Misool and a scuba diving guide. In the previous chapter (section 5.2.4.), he explained some traditional techniques for calling the sharks and the mantas. He went on to say how he uses these techniques for scuba diving:

Actually, we can use the old techniques. Our elders used to do what we call goyang tempurung [shaking the coconut shells]. [Now] we use it for scuba diving [to call the sharks]. [Instead of using coconut shells] we use an empty water bottle, we fill it with water until full. Once we are at the bottom, point the regulator into the bottle to empty the water, then close it immediately. Then make a sound [using two hands, start crackling the bottle] krrkkk..., krrkkk..., krrrrkk.., the sharks will come. When they come we just stay still, don’t move a lot. That’s a
technique, but we have to be agile and to have sharp eyes. ... For mantas, if my guests want to see them from the boat, I know a way to make them closer [to the surface] and play around the boat. Mantas will be scared if you make too much noise. (Hendra IP, interview, October 21, 2015)

In the previous chapter, Hendra also mentioned about his knowledge to find sites for giant trevallies (GTs). He continued to say:

I take my scuba diver guests there to see schooling GTs. I had a female Chinese scuba diver once, I took her there and she was sooo happy, that she gave me her dive computer. (Hendra IP, interview, October 21, 2015)

Wisnu, a Misoolese from East Misool who works as a field officer in Misool MPA office and a freelance dive guide, uses his field experience and his native knowledge to take his scuba diving guests to their preferred specialised dive sites:

I know a lot of spots in East Misool area, both above and under the sea. Once a scuba diver wanted to see nudibranch, I took her to a spot near Yapap [which is not a regular dive site], where I knew has a lot of nudibranch. We saw so many kinds of nudibranch there and she was happy. (Wisnu IP, interview, September 10, 2015)

Another dive guide, Hadi, uses the knowledge of underwater sites he got from molo to locate potential new dive sites. As he put it: “I know a lot of spots that I think have potential to be new dive sites. For now I keep them to myself; I will only take my
guests there” (Hadi IP, interview, November 5, 2015). From Hadi’s statement, there is a feel of exclusivity by taking only his guests to those new dive sites. The knowledge of new dive sites will give him added value as a dive guide.

Moris is another Misoolese from East Misool, whose clan belongs to Matbat. Even though he is not a dive guide, his job as a field officer in Misool MPA office coupled with his native knowledge makes him a good source for finding out information about the best time and place to spot certain marine animals. He commented:

If we want to find sharks, the best time is during windy season. So, during the south season, we’ll see plenty of sharks. ... There is an island called Fenkanan, just in front of my village, it has plenty of fish around the island. A lot! There’s one spot [around the island] where all you can see is fish. Another side of the island is where turtles normally find food. There are also manta rays and sharks. On the island, there are birds, big monitor lizards, terrestrial hermit crab..., everything can be found on that island. In our language, fenkanan means a place where turtles lay eggs. There are so many turtles there. Usually just before the south season they come there to find food, but they can’t go out again because of the big waves, so they stay there. (Moris IP, interview, August 29, 2015)

Nurholis is another local dive guide. He explained the importance of asking permission from the spirits before scuba diving, which displays the integration of respecting sacred sites in scuba diving:

My parents and elders reminded me that [when scuba diving] I will go down to another world that is not the human world, so I have to respect that. ... So before I decided to become a dive guide, I had already learned those things and asked my parents. Because this [under the sea] is a different world, this is not my world, this is the fish’ world, which can give me livelihood. So I have to think about the spirits that take care of that world. That is my guideline. ... In the old days, what our elders did was throw coins into the sea. It’s a symbol of sharing what you get with the spirits of the underwater world. If you don’t have coins, you can also throw seven cigarettes and seven
[pieces of] red fabrics and seven [pieces of] white fabrics all together. But using coins is better. [Doing] that is also for safety, that the underwater spirits will keep them safe. So now, I also do the same. When I take my scuba diver guests to places that my parents said are sacred, like in Balbulol, I always bring coins with me. Just before we get out of the boat, I give each guest a coin and ask them to ‘talk’ to the spirits through the coin with their own belief, and then throw it into the sea. They key is to speak [to the spirits]. We pray for our safety. Before we start diving, I always speak to them [the spirits] in Misoolese: “these [coins] are a part of my income that I share with you. Please do not harm my guests. They are good people, the came here just to see. Hopefully in the future they will bring more people to come”. Every guest that I took scuba diving with me never had any accidents, in fact they’d be more curious and said they wanted to come back when they have money (Nurholis IP, interview, November 19, 2015)

As noted in the literature review section 3.3.1., Townsend (2008/2011) found that the local Indigenous beliefs about the sea, and the dangers of swimming in it, made it more difficult to train local Indigenous people to become dive guides. However, this finding demonstrates that there are certain Indigenous protocols that could be utilised to overcome these restricted Indigenous beliefs about the sea, provided that the spirits of the sea are respected. Thus, such an issue would not hinder the empowerment of the local Indigenous communities in scuba diving tourism.

This study supports the idea of utilising Indigenous knowledge and practices for tourism development as it offers a means for the Indigenous communities to rediscover their sense of pride in their Indigenous heritage and thus regain their self-esteem (Smith & Richard, 2013). However, when Nurholis was asked whether he also followed the same procedure to foreign scuba divers, he said: “No. Because they don’t believe in these kinds of things. And also, because it relates to [my English] language. I don’t know how to explain it to them” (Nurholis IP, interview, November 19, 2015). His answer shows that he understands about the difference between western worldview and Indigenous worldview, which prevents him to follow his
Indigenous tradition. If the pattern continues, it might jeopardise the continuity of practising certain Indigenous traditions. So, instead of preserving Indigenous knowledge and practices, marine ecotourism development might discontinue them. The above finding has demonstrated that the use of Indigenous knowledge and practices does not always provide a good impact to the Indigenous people, in terms of (re)gaining their self-esteem and sense of pride in their Indigenous knowledge. In this case, Nurholis was unwilling to share his beliefs with foreign scuba divers as he thought that they would not comprehend. This phenomenon depicts the complexities of integrating Indigenous knowledge and practices in marine ecotourism development. On the one hand using Indigenous knowledge and practices for marine ecotourism development could offer a means for the Indigenous people to rediscover their sense of pride and self-esteem, but on the other hand marine ecotourism development might jeopardise the continuity of practising certain Indigenous traditions.

Commenting on the integration of respecting sacred sites in scuba diving, Hendra explained the place taboo in two marine sites: *rumah goyang* (shaky house) and one of the peninsulas in Lenkalagos (see section 5.2.6.). He continued to explain how this place taboo belief affected scuba diving tourism:

In here there are two sites that are forbidden for scuba diving: *rumah goyang* [shaky house] and one of the peninsulas in Lenkalagos. Lenkalagos means coral sand, which means, the place is perfect for scuba diving as [I assume] there are plenty of corals there. But we can’t dive there. As I told you before, many villagers got cramp when going *molo* there. One time, there was a scuba diver who went there with his own boat and he went scuba diving there. He also got cramp. ... In *rumah goyang*, it’s already proven, as some foreign divers went missing there. They went scuba diving there because they didn’t believe. That time they were with a liveaboard. They [the liveaboard managers] had to go to the traditional leaders [to try to find the missing divers]. When a place is forbidden for diving, you just don’t dive there. Because it’s a sacred place. (Hendra IP, interview, October 21, 2015)
As a homestay owner and a dive guide, Hendra understands the importance of tourist satisfaction for his business. When asked what he is going to do if his guests ask him to take them diving in *rumah goyang* or the peninsula in Lenkalogos, he answered:

Well..., if they really insist to go there, that’s all right, I’m still going to take them there, but we’re not going to dive in the exact tabooed spot. Only I know where they are exactly. I will take them diving to a site next to it. I’m not going to tell them, so they won’t be disappointed. For example, if they ask me to dive in Lenkalogos, we will go and dive there, but we are diving next to the tabooed spot, not in the sacred spot. But if they really-really insist to dive exactly in that sacred spot, I will reject it! The risk is too high. (Hendra IP, interview, October 21, 2015)

The above finding displays that the Indigenous belief system still plays a big role in Indigenous peoples’ lives even in the modern era. Hendra’s belief of place taboo represents his strong cultural and spiritual connections to his natural habitats (Carr, 2007). Unlike Nurholis, Hendra would rather jeopardise his guests’ satisfaction than sacrifice his own belief. This is a very commendable quality; one that is needed to preserve Indigenous knowledge and practices.

Doni, the local dive guide, alluded to the notion of how his Indigenous belief of *pamali ikan* (fish taboo) affects his job as a dive guide:

In here, all other dive guides know that my fish [shellfish] taboo is lobster and when I’m guiding I can’t see [afraid of] lobsters. So, when I see a lobster and my guests want to take photos, I point the lobsters from far, like two-three meters, using my [underwater] flashlight. So, my guests go nearer to the lobster, I go away as fast as I can and find other animals, hahaha... So, I don’t want to take risks. I mean..., it’s our tradition and we believe in our ancestors. Mine said lobster is taboo.

(Doni IP, interview, October 29, 2015)

Fortunately, in scuba diving, one of the rules is scuba divers are not allowed to touch anything underwater (Macdonald, 2014). Doni’s limitation on having a close contact
with lobsters does not make him a bad dive guide. On the contrary, he shows high respect to both his Indigenous belief and the marine life.

Riki is an Indigenous patrol ranger whose job is to protect the no-take-zone area surrounding a dive resort in south Misool. He truly believes that the Indigenous practice of marine sasi is beneficial for marine ecotourism, especially scuba diving tourism:

*Sasi* was created to protect everything around us for a couple of years or for a certain amount of time. That gives the chance for all kinds of [marine] ecosystem to grow, right? The fish are given the time to lay eggs, and so on. I think the benefit [of marine sasi] is huge for tourism. Because *sasi* and tourism have the same objectives. *Especially for scuba diving tourism*, if there are no fish left, no other marine ecosystems either, who would want to dive here? ... I want my children and grandchildren, our next generations, not just hearing stories like “according to our elders, there used to be this fish here, that fish there”, [and then they will say] “but how come we never see them now? Oh, turns out that our parents or grandparents lied to us”, but actually they were telling the truth. So I think the existence of *sasi* is really important. It needs to be maintained forever. (Riki IP, interview, October 28, 2015) [emphasis added]

Riki understands how marine *sasi* supports scuba diving tourism development. He believes that marine *sasi* can give time for marine biota to grow and reproduce. As a result, the condition of the marine ecosystem will be protected, and this will benefit scuba diving tourism which relies on the good condition of the ecosystem. He also believes that marine *sasi* needs to be continued so that the next generations will be able to see the existing marine biota in the future.

As mentioned earlier, the scuba dive guiding industry has become a form of livelihood for many Misoolese people. Interestingly, Nurholis, an Indigenous dive guide, provided an alternative opinion of how marine *sasi* could affect scuba diving tourism:

*Sasi* used to be more sacred. I have to respect it because it’s the people’s decision and I respect the norms that my elders made. Before
NGOs [came], before tourism [came], our elders already made sasi areas. They already managed it [from a long time ago]. So we have to respect sasi. I think when it is time for sasi closure, all diving activities must be stopped, even though the sites are far from the sasi area. Because customary sasi is the communities’ sasi, which means all areas in Misool cannot do any activities related to molo [like diving]. This is just an example on how I think marine sasi can affect tourism. Because in the old days, no one can molo [dive] during sasi closure. When it’s already opened, then we can dive again. That’s how our elders managed sasi. We have to respect that. But this takes process, if we want to make sasi like it used to be. (Nurholis IP, interview, November 19, 2015)

As mentioned in section 5.2.1., some traditional leaders have conveyed their concerns on the lack of sacredness in marine sasi practice. The above finding confirms that concern. It was quite interesting to hear Nurholis’ opinion because dive guiding has become his livelihood. When asked about his opinion that acknowledging elders’ wishes might impact directly on his income as a dive guide, he answered:

Yeah well…, but sasi is our tradition, which has been decided by the traditional leaders, religious leaders, youth leaders, all communities. Maybe I can find other things to do to support my life during the south season [when sasi closure usually happens]. This is to respect sasi. Tourists are varied. Maybe we can take them to the forests, or just sightseeing [or island-hopping]. (Nurholis IP, interview, November 19, 2015)

This finding provides insight into how Indigenous knowledge could impede the development of scuba diving tourism, whilst also creating the need to consider other opportunities that are land based or not related to diving.

This section has discussed how Misoolse Indigenous knowledge and practices of baca alam, finding and calling the animals (marine animals), respecting sacred sites, pamali ikan, and marine sasi have been integrated in scuba diving tourism. Baca alam is used for choosing dive sites to go to, and forecasting the weather before
scuba diving trips. Finding and calling the animals (marine animals) are used to find new or specialised dive sites and to recommend the best time and place to see certain marine animals. Respecting sacred sites is used as protocols before scuba diving and to avoid forbidden dive sites. Pamali ikan could become a limitation for Indigenous dive guides, but fortunately there are ways to manage it. With marine sasi, the marine biota will be preserved. However, marine sasi could also become a potential restriction for scuba diving activities.

The next section discusses the integration of Misoolse Indigenous knowledge and practices in other marine ecotourism activities in Misool.

6.3.2. Other Marine Ecotourism Activities

Misool’s beautiful marine landscapes also attract visitors who are non-scuba divers. Non-diving activities available in Misool include: viewing coastal seascapes/landscapes, sightseeing/island hopping, birdwatching, recreational fishing, and dolphin-watching. Two potential activities that have yet to be developed which will also be discussed in this section are glass-bottom boat tours and watching marine sasi ceremonies.

Many non-scuba diving visitors are interested in viewing Misool’s coastal seascapes/landscapes. Research participants who worked as tour guides conveyed how Misoolse Indigenous practice of respecting sacred sites has been used in that activity, in terms of establishing protocols in visiting marine ecotourism sites and keeping forbidden sites from tourists. Irwansyah, a homestay manager who is also a tour guide, explained the tradition of visiting sites for the first time, as was described in section 5.2.6. He also expected his guests to do the same:

   Every time we go to an [uninhabited] island or a cave for the first time, we always ask our guests to grab the sand with their finger then put it on their forehead. As I said earlier, it’s like asking permission from the spirits to enter their area and [we show the guests] that we in Misool appreciate our Indigenous traditions. ... I explained to them that we are obliged to introduce ourselves to the spirits; [that] you cannot just enter someone else’s ‘house’ without permission. You have to ask permission by putting the sand on your forehead. It’s like a permission
that you have arrived in Misool and you respect Misoolese custom and traditions. ... I also introduce my guests to the spirits, speaking [quietly] in Misoolese saying “grandfather, grandmother, I am your grandson. These are my guests, they came nicely, please don’t let any disturbance happens to them”. That’s something that we need to communicate to them. ... I apply this to tourists who visit Crying Princess Cave, Banos [island], the Sacred Cave. ... This tradition was from the elders. Don’t let it disappear. (Irwansyah IP, interview, October 10, 2015)

This is consistent with earlier studies (Carr, 2007; Coria & Calfucura, 2012; Hinch & Butler, 2007; Ntiamo-Baidu, 2008). In sacred groves like The Nkodurom and Pinkwae in Ghana, entry is only allowed after performing purification rites and with the company of royal guides (Ntiamo-Baidu, 2008). As described in section 2.3.1., Carr (2007) explored the relationship between New Zealand’s Māori nature tourism businesses with the land. Relating personal family or tribal history to visitors was viewed as a chance to acknowledge their identity and sense of place by conveying their ancestral and spiritual connections with culturally important lands. From the cultural background and geographical perspectives, the Māori people in Aotearoa/New Zealand are Polynesian and the Misoolese people in West Papua, Indonesia, are Melanesian. Both Polynesians and Melanesians are Pacific Peoples (South Pacific Organizer, 2017), hence similarities arise. Irwansyah was conveying his ancestral and spiritual connections with culturally important lands by explaining to his guests about “asking permission from the spirits” and asking them to perform it too, which was highly appreciated by the guests as something unique that represents Misoolese identity.

Commenting on the integration of respecting sacred sites in viewing coastal seascapes/landscapes activity, Bradley, one of the non-Indigenous owners of a local accommodation and marine ecotourism operation in Misool, mentioned the importance of respecting the local culture by not going to places that are tabooed. As he said:

Different people told me stuff like “there is a ghost inside the cave there, there was someone entered the cave but never came out”. ... I
mean if the *adat* [customary] community tells us like, we can't go to that cave on that island, we don't go there. We don't go to sacred places. That's respect for that culture. It's really important. (Bradley NIP, interview, October 26, 2015)

Bradley realises that place taboo is a part of *Misoolese* Indigenous belief system that needs to be respected and followed. It is a part of Indigenous spirituality which has to come to consideration when choosing marine ecotourism sites to go to.

Another Indigenous practice that is seen suitable to be integrated in marine ecotourism development is the traditional way of sailing. Two Indigenous participants shared their visions on using *Misoolese* traditional boat, the *semang* boat, as water taxi, glass-bottom boat, and for sightseeing/island hopping. Apriansyah, an Indigenous homestay owner shared his idea of using a *semang* boat to take tourists around:

> We need to bring back our old distinctive feature, like using a *semang* boat. Don’t leave it behind; instead, we have to bring it back like the old days. But we can adjust the shape, make it wider. We can develop it as water taxi. So every homestay has its own water taxi. So at least there is a new business development. Just a small size, like for 1-2 people. The tourists can use it to go around. We can even modify it by putting the *molo* glass on the bottom of the boat so that tourists can see the corals from the boat. (Apriansyah IP, interview, November 16, 2015)

Apriansyah’s idea is what is called 'glass-bottom boat' activity. As was mentioned in section 5.2.8., a few *Misoolese* people still favour the *semang* boat as it is a part of their tradition. This is an example of using the traditional way of sailing for marine ecotourism development, which also can become a means to preserve Indigenous traditions. As mentioned in Chapter Three, to a certain degree, marine ecotourism could contribute to environmental degradation. One contributor is the use of marine vessels that expell toxic emissions into the sea and the air from their engines (Orams & Carr, 2008). With more people using engineless traditional boats, like the *semang* boat, it might contribute in minimising the environmental degradation triggered by marine ecotourism development.
Nurholis, an Indigenous dive guide as well as tour guide, also shared a story about his experience when he offered his guests to take a ride on a *semang* boat:

> When I was in Tomolol - I happen to speak Matbat language a little bit - I spoke to a friend of mine [who is a Matbat] about my plan on taking my guests to try a *semang* boat ride to go to some places nearby. So, we did it. My guests were so happy! They sat in the middle, the skipper was only using paddles, and they went from one island to another. They liked it very much! Those guests of mine wanted to come back on the 4th of December. (Nurholis IP, interview, November 18, 2015)

As a tour guide, Nurholis saw the opportunity to create a unique experience for his guests by using a *semang* boat, which is a ‘trademark’ of the Misoolese people as it represents *Misoolese* way of doing (Angioni, 2004). Similar to Apriansyah, Nurholis believes that using a *semang* boat is a way to incorporate Indigenous practices into marine ecotourism development.

*Baca alam* is another Indigenous knowledge which has been integrated in sightseeing/island hopping activity. For Jojo, an Indigenous boat skipper, tourist safety is the most important thing in taking tourists sightseeing/island hopping. He explained how his skills in *baca alam* are useful for sightseeing/island hopping:

> Even though nowadays we use motor boats, we still need to read the wind, the current, and the waves. We don’t want our guests to get wet, so we need to play with the waves. To avoid a bumpy ride, we can’t go against the current; we need our guests to feel comfortable. A skipper’s intuition [in reading nature] determines how good he is. (Jojo IP, interview, September 7, 2015)

The Indigenous knowledge of finding and calling the lesser bird-of-paradise and the practice of *solon kamum* are perceived to be appropriate for birdwatching activity. Apriansyah has the knowledge to find the lesser birds-of-paradise, which he acquired from his parents (see section 5.2.4.). He had an idea of using his knowledge on finding the lesser birds-of-paradise and the Indigenous practice of *solon kamum* for an activity for tourists:

> In the future, I want to use *solon kamum* not for shooting the birds, but only for watching them. We’ll make it nicer; we’ll make the footpath
and the hiding house. We'll make it more comfortable, but still using typical traditional house and materials. ... In the future, I want to develop it as a tourist attraction to see the birds and take pictures of the birds. (Apriansyah IP, interview, November 16, 2015)

Like Apriansyah, Andreas also saw the potential of solon kamum to be developed for tourists who want to see the lesser birds-of-paradise:

I have mentioned [to the family who takes care of the lesser birds-of-paradise]: “you should build nice places like honai for people to do kamum..., build [small houses] like that, so that people can come and see the birds closer. Maybe some people want to take pictures or video”. (Andreas IP, interview, August 25, 2015)

Both Apriansyah and Andreas have not heard of the term ‘birdwatching’ before. Birdwatching is included in one of the marine ecotourism activities (Orams & Carr, 2008; J. C. Wilson & Garrod, 2003). Misool has the potential for it, as there is a population of lesser bird-of-paradise that live on the main island of Misool and occupy the same marine environment setting. Their ideas on using solon kamum to see the lesser birds-of-paradise represent how to integrate Indigenous knowledge and practices into the marine ecotourism activities of birdwatching and photography.

In addition to birdwatching, dolphin-watching and recreational fishing are other marine ecotourism activities which have been integrating the Indigenous knowledge of finding and calling the animals. The ability to find and call the dolphins was used by Hendra in non-diving activities:

Goyang tempurung can also be used to call the dolphins with a slightly different technique [see section 5.2.4.]. I use it when I’m on the boat with my guests and I know there are dolphins around. I make the sound so the dolphins come near us and play around the boat. (Hendra IP, interview, October 21, 2015)

The above quote demonstrates how the Indigenous knowledge and practice of calling the animals, in this case the dolphins, can be used for a dolphin-watching activity. Hendra’s knowledge to find sites for giant trevallies (GTs) discussed in section 5.2.4. is also used for his guests who want to fish. As he said: “I use that...
knowledge to take my guests who want to do recreational fishing of catch and release” (Hendra IP, interview, October 21, 2015). His response reveals that the Indigenous knowledge of finding specific kinds of fish is useful to develop recreational fishing activity. Since there is a significant debate that most recreational fishing activities should or should not be considered as ecotourism (Holland, Ditton, & Graefe, 1998; Orams & Carr, 2008), it is worth mentioning that the recreational fishing activity here is catch and release. Hendra made sure that I was aware of that.

The findings display the use of Misoolese Indigenous knowledge and practices in marine ecotourism, that are gained from having a strong connection to nature (Coria & Calfucura, 2012) and having unique ties and connections to ancestral territories (Hinch & Butler, 2007). All Indigenous participants were enthusiastic to share their ancestral landscapes and seascapes to the tourists. These findings corroborate the ideas of Carr (2007) who suggested that the chance to work on their Indigenous lands is a privilege for Indigenous peoples as they could share their natural and cultural heritage which becomes a part of their personal identity. The strong connection between the Indigenous people and nature is also recommended to be used in protecting outstanding natural and cultural landscapes from degradations caused by development, including tourism (Berkes, 2012; Campolo et al., 2016). In a world heritage site, the holistic relationship between the human world, nature, and the spirits itself is considered as an outstanding universal value (see section 2.4.). The use of Indigenous knowledge and practices in marine ecotourism context could result in the development of new marine ecotourism sites. On the contrary, it could also result in a decision to protect certain ancestral landscapes and seascapes from tourism development, if the local Indigenous people think it is necessary.

The potential of marine sasi ceremonies as a marine ecotourism attraction was suggested by representatives from the local government (Yoga) and NGOs (Anton). On the day of the opening ceremony of marine sasi, local people from surrounding villages gather in a designated place. After praying, led by the traditional leaders, everyone goes to marine sasi areas to harvest, using their colourful boats. The colourful boats and the Indigenous method of harvesting called molo, in the eyes of several tourism stakeholders in the region, have the potential to be an interpretation experience or tourist attraction in itself. Yoga noted:
Marine *sasi* ... can be an asset for tourism, especially when we tell the local people that tourists can come to see *sasi* opening. They will be happy and eventually they will realise that it can bring in money for them. Not only from *sasi* harvesting, but also from tourists who want to see the *sasi* opening activities. ... People come to Raja Ampat not only for diving, they also want to see other unique things in Raja Ampat. One of them is *sasi*. At the moment, the focus on *sasi* is for marine conservation efforts; it hasn’t been packaged for tourism yet. ... if we can know the exact time for *sasi* opening, actually we can sell a [tour] package to all resorts, that we will have a *sasi* opening ceremony in Raja Ampat. I think this can be a wonderful attraction and it will be so interesting to see all local people go to the sea for harvesting. If we can do that, make *sasi* as an attraction, it will be amazing. I think this is one of the important things in Raja Ampat for tourism development, because preserving the sea has become a part of the local people’s lives, but people [tourists] have never seen it. With *sasi*, people can see that it is one of the real practices local people do to preserve the nature. And this can have an impact to two things actually: [marine] ecosystem and local people’s economy. If we can do this, I’m sure people [tourists] would want to see it, the *sasi* tradition in Raja Ampat. ... I think this is one of the Indigenous knowledge and practices that needs to be preserved. (Yoga NIP, interview, August 10, 2015)

Anton also recognised the potential of marine *sasi* ceremonies to be developed as a tourist attraction. However, he also thought that there is more to *sasi*:

*Sasi* – when it is time for closing or opening – has the potential to be developed as a tourist attraction. But, *sasi* is more than that. *Sasi* is a means of peace, because *sasi* area is made by two Indigenous groups or more. (Anton NIP, interview, August 13, 2015)

From the above responses, it is clear that the local government and NGOs showed full support in the integration of Indigenous knowledge and practices in marine ecotourism development. In their opinions, marine *sasi* can be developed as an interesting tourist attraction and with proper packaging, it can be sold as a tourism
product. However, careful approaches need to be undertaken because although this may bring positive impact to the local people’s economy, one thing that needs to be prevented is the commodification of culture (Erb, 2015; Johnston, 2006; Petterson & Viken, 2007). Intensive consultations with the Misoolense people would be advised before offering marine sasi experiences to tourists, as getting permission (and participation) from the Indigenous communities is vital to avoid ethical issues and intellectual property rights violation (Johnston, 2006). Intensive consultation is also needed to avoid any misrepresentations of Misoolense Indigenous culture and, more importantly, to avoid the commodification processes that might happen in order to meet the needs of the tourists and the tour operators (Holmes et al., 2016; Petterson & Viken, 2007), especially when some Misoolense people have already voiced their concerns about the sacredness of marine sasi (see sections 5.2.1. and 6.3.1.). Therefore, one possible approach that acknowledges marine sasi in the marine ecotourism context would be achieved by using marine sasi not as a tourism product, but rather as a part of visitor education experience where the local Misoolense guide could interpret marine sasi to explain the holistic resource use (C. F. Butler & Menzies, 2007), thus also providing employment opportunities to local peoples.

The aim of this study is to examine the complexities of integrating Indigenous knowledge and practices into sustainable marine ecotourism development. This section has discussed how Misoolense Indigenous knowledge and practices are incorporated into non-scuba diving activities. Respecting sacred sites is integrated in viewing coastal seascapes/landscapes, where there are protocols in visiting certain sacred places and places that are totally forbidden. Traditional way of sailing are used for sightseeing/island hopping and potentially, for glass-bottom boat tours. Finding and calling the birds and the Indigenous practice of solon kamum are used for birdwatching. Finding and calling fish (dolphins, schooling GTs) are used for dolphin-watching and recreational fishing. Marine sasi ceremony has the potential to be an interpretation experience or tourist attraction in itself.

As marine ecotourism development cannot be separated from the development of tourism facilities, the next section is going to discuss the use of Misoolense Indigenous knowledge and practices in establishing marine ecotourism’s supporting facilities.
6.3.3. The Establishment of Marine Ecotourism’s Supporting Facilities

This section discusses if and how Misoolese Indigenous knowledge and practices are integrated in the establishment of marine ecotourism’s supporting facilities. The establishment of supporting facilities in Misool requires developers to lease the site from the Indigenous communities and negotiate with the owner(s) of petuanan adat, unless the developers are the owners of petuanan adat themselves. From six owners of marine ecotourism facilities in Misool (five being Indigenous people and one being a non-Indigenous couple), only one owner has the customary right of the area where he built his homestay and dive centre. The local government of Raja Ampat has issued a regulation that prohibits the petuanan adat owner(s) to sell small islands/areas outside of the four big islands (Waigeo, Batanta, Salawati, Misool – see Appendix F) to developers, hence the need to lease the site for building the marine ecotourism facilities. Yoga from a local government institution explained:

There is a local government policy which ... prohibits the sale of small islands because it is against the local adat law [customary law]. According to Raja Ampat’s adat law, the islands cannot be sold; they can only be leased or contracted. ... a mutual agreement between all tribal clans involved in the ownership and the use of the land/sea has to be obtained and they have to sign an agreement to waive their customary land/sea tenure rights. Only then can the National Land Agency issue a land certificate. (Yoga NIP, interview, August 10, 2015)

As mentioned in the previous chapter (section 5.2.2.), there are still different opinions regarding the customary tenure system in Misool, as there is no legal proof of the ownership. In section 6.2.4., Leo suggested the importance of finding the correct information on the real customary owner(s) and negotiating with the right people. Agus, an Indigenous local dive guide, has the similar experience with developers who were interested in opening two resorts in Misool. They asked Agus’ help to be their mediator to assist in dealing with the local communities, especially the owner(s) of petuanan adat. After looking at some places, they found two islands that they were interested in. They then asked Agus to negotiate with the owner(s) of the customary tenure. Agus’ story below illustrates the conflict between
developers and the Misoolese people which arose from marine ecotourism
development that took place in a customary territory:

I helped developers once. They were interested in leasing two islands:
Lenmakana and Olobi. For Olobi, I gave the responsibility to Udin
[whose father is the customary owner of Olobi Island]. For
Lenmakana, I gave the responsibility to Burhan [whose clan is Wijil,
who is one of the customary owners of Lenmakana Island]. ... A
problem came up with the payment of Lenmakana leasing, as there are
about four tribal clans who own the petuanan adat of that island: Wijil,
Moyon, Sunduk, and a few clans in Tomolol village. All the money from
leasing payment only went to the Wijil clan, so the other clans
demanded their shares. ... We have had a customary trial in Folley
[village] between Wijil clan and Moyon clan. I think the mistake was
when contacting the owners of petuanan adat. ... The money should
have been equally shared with other clans. If you include all those
clans, sit together nicely, share the money equally, then there won’t be
any problems. ... In the future, if there’s another developer who wants
to lease an island, there has to be representatives from the local police,
from all traditional leaders, from all villages, and they all have to sign a
letter of agreement that acknowledges these people, or these clans, have
the customary right of that island. (Agus IP, interview, October 7, 2015)
[emphasis added]
The above narrative is a perfect example of what was stated by one participant: “actually, our ancestors created *petuanan adat* to build kinship and maintain harmony. *But instead now it creates conflicts*” (Kuswara IP, interview, November 22, 2015 – see section 5.2.2.) [emphasis added]. For areas that are in the ‘shared resource areas’, finding out the owners is more complicated, as it involves more than one clan in several villages. Developers need to properly investigate who the customary owners are, which might involve going to several villages and meeting with all traditional leaders in every village. From Agus’ story, the developers were willing to follow the customary procedure, but because there was no guideline nor information as to who the local contact is, they asked for help from someone who might not have accurate information on whose clans have the customary right of the island. The last statements from Agus indicated that there needs to be a proper guideline for investors in Misool to avoid such conflict.

Agus’ story is a common occurrence in Indigenous culture worldwide. Fennel (2008) describes that conflicts over marine resource use “has only intensified as a result of ecotourism” (p. 144). This finding can be compared to another study in Anuha Island, Solomon Islands (Sofield, 2003). When a foreign developer wanted to build a resort on the island, conflicts arose amongst Solomon Islanders who claimed the customary ownership of the area. In the short term, these conflicts have made negotiations between developers and the local people more unachievable. But in the long term, the conflicts have resulted in a clear and legitimate identification of the customary owners, and the legalisation process has “effectively empowered” the villagers (Sofield, 2003, p. 239). In my opinion, what happened in Misool and Anuha Island is a part of the process of developing tourism on Indigenous lands. Although the conflict over customary ownership seems chaotic at first, it provides a clarity in the end. As discussed in section 6.2.4., a local Indigenous NGO was in the process of drafting a map of customary land and sea tenure territories with customary mapping experts. This infers that, arguably, the journey of marine ecotourism development in Misool, Raja Ampat is on the right track.

When asked about the procedure of leasing the area from the Indigenous communities, Bradley, a non-Indigenous owner of a dive resort, requested that I turned off my voice recorder. Apparently, this was a sensitive subject to him, but he
did allow me to take notes. When Bradley wanted to lease the area to open the resort, he had to go through a series of meetings. First, he had to go to the district’s land agency where he was told to go and see the head of south Misool sub-district. From there, he was told to meet with the head of Yellu village because the resort is in his customary sea tenure area. In addition to the owner of the customary tenure, he also invited other elders of two different clans in the village, to make sure that all related clans were represented. After several meetings with them, the elders agreed to lease the area to him and they produced a letter of customary agreement that stated he could lease the area, signed by the owner of customary sea tenure and representatives from other clans (field notes, 26/10/2015). In 2010, Bradley and Molly were approached by community leaders from another village to create a conservation area in their tenure area as well. As Molly explained:

They came and basically said like, more or less, if you want to take your guests into our area, we want you to do the same like you did with Yellu, that we make a contract area like this area. So that’s what we did for Daram Islands which are way-way-way out there. And that was, like I said, with Fafanlap and Usaha Jaya, quite a difficult negotiation to figure out. (Molly, interview, October 23, 2015)

The difficulties in negotiation arose because there were more than one clan who claimed they owned the area. This normally happens when the area is what they call area makan bersama/shared resource area. Arguably, the concept of communal ownership embodied in Indigenous peoples’ lifeway is not compatible with the western concept of ownership. Bradley shared the difficulties he was having:

Dealing with three families, it was much more complicated than dealing with one. So it was much more complicated because again, the problem was, each of those three families say that they have the exclusive right. So when you talk to them separately, they’re like “oh yeah you need to talk to me, you don’t need to talk to others”. So it took me like a year and a half to negotiate the deal, and that was really about not having, not getting all the right people around the table. (Bradley, interview, October 26, 2015) [emphasis added]
As discussed in the literature review section 3.2.3., issues arise when marine ecotourism is developed in Indigenous territories without fully recognising Indigenous rights (Higgins-Desbiolles, 2008; Higham & Lück, 2007; Jennings, 2008; Lemelin, 2007). Bradley’s explanation is another example of conflicts caused by marine ecotourism development which takes place in a customary territory. The communal ownership was never an issue in the past, but when the concept of western individual ownership and capitalism through tourism infiltrated in the life of Indigenous people, it started to divert Indigenous people’s attention from community well-being to individual benefit (Hillmer-Pegram, 2016). What Bradley said about “getting all the right people” is the key in incorporating the Indigenous practice of petuanan adat into marine ecotourism facilities development in Misool. Developers must find the correct information regarding the petuanan adat owner(s) of the desired locations and negotiate with all tribal clans who have the customary right together, to avoid any potential disputes.

Petuanan adat is a part of traditional resource management, together with Indigenous knowledge of biological resources, landscapes and ecosystem, and customary law, which controls the use of that knowledge and customary land and marine territories (Tobin, 2014). It has been suggested that the customary tenure and Indigenous knowledge should be interlinked with customary law for traditional resource management to work optimally (Tobin, 2014). Looking at the history of petuanan adat in Misool (see section 5.1.1.), the Matbat people gave some of the areas to the Matlou people for their livelihood. When the Dutch came and colonized Misool, the Dutch adopted a governmental system with its own law and regulations, where the communal ownership in petuanan adat was infiltrated by the western concept of ownership. Arguably, the tenure system is a western concept devised to explain traditional resource use which is usually communal in nature. Even with the western concept of customary tenure, the Misoolese Indigenous concept of communality is still embodied in the implementation of customary tenure, e.g. some customary tenure areas are area makan bersama where more than one clan/village can use the area for fishing or planting crops. Hence, when capitalism through tourism is introduced, a clear and legitimate identification of the customary owners is needed. Having a map of customary land and sea tenure territories not only could...
support investments in marine ecotourism development (if the local Indigenous people agree), but more importantly the process of making the map could bring all clans together and discuss any disputes they might have, which, as mentioned earlier, could potentially lead to the empowerment of Indigenous people (Sofield, 2003).

As mentioned in section 6.2.2., there were five Indigenous people and one non-Indigenous couple who owned local accommodations and marine ecotourism operations in Misool. All of them incorporated Misoolese traditional ways of building, when building their facilities. Hendra, one of the Indigenous owners, explained the importance of following Misoolese tradition in building and construction (see section 5.2.9.). He then explained how he applied rules in putting the first stone and offerings to the spirits when building his own homestay, located on a small private island:

I called my ‘old father’ [elder] for putting the first stone, because this is our [customary] area. ... We spent a night here. He prayed for the construction process to run smoothly. He told me to prepare a white rooster to be sacrificed here. When putting the first stone, the first wood that was planted under the pillar in the front, we buried some gold with it. That’s our custom here, a tradition [that has been passed on] from our ancestors. ... all those things are to open the door of prosperity. We don’t have to use new gold, no..., just gold that has been used. Or we can use old coins. So, gold and old coins are parts of the requirement. We use [sacrifice] white rooster to build the house. It’s for the functioning of these four corners, so that the woods would ‘come to life’ again. We say: so that it [the house] has the ‘attraction’; the attraction for guests or anybody. It’s like we ‘bring this house to life’, because this is for business. So we sacrificed the white rooster in the middle of the house, its blood was rubbed on those pillars, when it was almost dawn. ... After that we also made offerings from betel nut and areca nut. We put them at the tip of that peninsula [while pointing to a peninsula next to the homestay]. That was for anticipation, so that the spirits would not be surprised with [the existence of] a new
building, [they would think] like “oh, why those people chose my place to build a house here?” Our elders said where there’s a reef, there’s an ‘occupant’ [the spirit]. So, we have to ask permission first. (Hendra IP, interview, October 21, 2015)

Husni, another Indigenous owner of a homestay in Misool, incorporated the traditional rules of construction, and emphasised the importance of following those rules correctly when building marine ecotourism facilities such as his seaview cottages and restaurant:

When we were about to build this place, we had to follow the procedure of our tradition in building and construction. We had to do it right. If there was something wrong, it will affect our prosperity. That's why we just had a big renovation as we had many mistakes, including the restaurant and the cottages; we had to follow the rules. Because a house is a place of life..., the life of living and the life of business. If we didn't follow the rules in building this accommodation, the impact would be that not many guests want to come. ... So we can't do it carelessly, this needs to be built following the traditions of house building. (Husni IP, interview, October 5, 2015)

The above findings show that owners of marine ecotourism facilities in Misool incorporated the Indigenous practice of building rituals in the process of building the facilities.

Other research participants, such as Aris and Molly, incorporated the Misoolse traditional ways of building in the process of building their accommodation. Aris, the manager of a homestay, pointed the importance of preserving the past. As he put it:

In the old days, the design of the house is like this [while pointing at the homestay]. That’s why I built it like this, not using other styles, because I remember that this is our tradition. Our old houses were like this. Because what I’m seeing now, most houses are modern, including homestays. There is no building that reaches out to the past. So I saw, and I remembered; I wanted people to remember our elders’ tradition. So, I hired the builders from here, from our own village. I told them:
“you build according to the things that you normally do. Nothing fancy”. (Aris IP, interview, October 16, 2015) [emphasis added]

Molly, one of the non-Indigenous owners of a local accommodation in Misool, also utilised Misolese traditional technologies and techniques in constructions when building the premises:

When we started, we had a team of five local guys and we also had a German guy who was a carpenter and quite experienced, [and] another guy, a British guy..., but none of them [the foreign builders] knew how to build on sand and had any experience building with grass roofs. So things like that... And also the kind of wood that we have here. In Europe, if you try to like, hammer two pieces of wood together, you just get a nail and a hammer. But of course, the wood here is so hard, that you have to drill holes first, and then use a hammer and nail. It’s just a totally different style of construction, which really helpful to have somebody that’s from here to tell you how to do those things. (Molly NIP, interview, October 23, 2015)

These findings are examples of how following Indigenous knowledge and practices in building and construction that were discussed in section 5.2.9 is essential in establishing marine ecotourism facilities, and to have a successful business, as it creates harmony in living in their natural and spiritual marine environment (Hendry, 2014). The findings suggest that Indigenous knowledge and practices in building and construction could be utilised as a part of marine ecotourism development in areas where Indigenous people reside, because they know their natural environment better. One participant, Aris, also suggested that it could be a means to preserve their traditions, especially in the use of traditional house designs.

In regard to the role of marine sasi in the establishment of marine ecotourism’s supporting facilities, a dive resort in Misool has been incorporating marine sasi in their no-take-zone surrounding the resort since it opened. Over time, local people could see the benefits of having a no-take-zone which made an Indigenous homestay owner interested in following the dive resort’s steps by establishing a no-take-zone surrounding his homestay (Apriansyah IP, interview, November 16, 2015). At the
beginning, the dive resort developed a no-take-zone area surrounding the resort as a locally protected marine area, rather than a formal marine protected area (MPA). According to NOAA, no-take-zone areas prohibit the extraction or significant destruction of not only natural resources, but also cultural resources (NOAA, 2017b). Talking about how the Indigenous practice of marine *sasi* can be used in marine ecotourism development, Doni, an Indigenous dive guide, saw the no-take-zone as functioning according to marine *sasi* principles:

> Actually the system that we use in this area, that we call no-take zone [NTZ] area, the people in the village know it as marine *sasi*. So we protect the NTZ, but the villagers say we protect their *sasi* area. So we close this area for two years, and then we open the *sasi* and the people from the village can come here for harvesting. In my opinion this is one of the ways in using Indigenous knowledge and practices for marine ecotourism. (Doni IP, interview, October 29, 2015)

By applying marine *sasi* in a no-take-zone area around the resort or dive sites, the local communities understand that the marine *sasi* area needs to be protected and are willing to do so, because they are familiar with marine *sasi*. By acknowledging the local approach (i.e. Indigenous knowledge), the dive resort's practices serve as a means of gaining support and enabling active participation from the local communities in protecting marine ecotourism sites in their area.

The dive resort’s owners mentioned the importance of marine *sasi* in the management of the no-take zone area that they developed surrounding the resort:

> “I mean honestly, the [marine] *sasi* system that’s in Papua and parts of Maluku is really one of the main reasons why we can do this, have this no-take-zone and things like that” (Bradley NIP, interview, October 26, 2015). To incorporate marine *sasi* in the no-take-zone, the dive resort owners had to meet with the traditional leaders and the head of village to negotiate the duration and the size of marine *sasi* area. After they reached a concession agreement, the no-take-zone could then be established. As Molly explained: “We had series of like town-hall-style meetings before the lease contract was drafted. ... And it is written into the contract that *sasi* is still allowed, one time every two years” (Molly NIP, interview, October 23, 2015).
She continued to explain the importance of marine *sasi* in the management of the no-take-zone:

> At the very beginning, before we had our patrol, we would just send out a little construction boat at night and chase away any long-liners, and one of our Indigenous staff said to me: “these are fishing boats from outside here, who haven’t asked our permission or paid us anything, and they’re stealing our fish”. There was really this idea that it was a theft from their birthright. So the way we kinda got our heads around it was if you facilitate a ranger patrol and you have the infrastructure and the boats and the fuel and you have local people, the local people become the stewards of their own area. (Molly NIP, interview, October 23, 2015)

The above findings suggest that the integration of marine *sasi* in marine ecotourism management can potentially benefit both the Indigenous community, where they can become the guardians of their own marine *sasi* area, and the marine ecotourism developers, where they can offer well-protected reefs to the tourists. It can also safeguard the Indigenous rights of the community and their cultural identity. These findings corroborate the ideas of Smith and Richard (2013) who suggested that the recognition of Indigenous knowledge strengthens Indigenous peoples’ self-esteem and sense of pride in their natural and cultural heritage, which are the sea itself and the practice of marine *sasi*, and their identity as *Misoolese* people. As was mentioned in the previous chapter, a few studies on marine *sasi* show the importance of the continuation and survival of marine *sasi* to support marine resource conservation efforts (Boli et al., 2014; McLeod et al., 2009). This study shows that marine *sasi* plays an important role in supporting marine ecotourism development by enabling marine ecotourism operators to join in active participation with the local communities in protecting marine ecotourism sites in their area.

This section has displayed the crucial role of *petuanan adat*, traditional ways of building, and marine *sasi* in the establishment of marine ecotourism’s supporting facilities, which demonstrates how Indigenous knowledge and practices are incorporated into one of the components of marine ecotourism development. *Petuanan adat* plays a crucial role in leasing the site for establishing tourism
facilities in Misool. The *Misoolese* traditional ways of building are incorporated into the process of building marine ecotourism facilities in Misool. Marine *sasi* is utilised in establishing no-take-zone areas surrounding accommodations as locally protected marine areas.

### 6.4. Chapter 6 Summary

In regard to the second research question, the findings suggest that the Indigenous communities, marine ecotourism operators, and other tourism stakeholders in Misool, with the exception of a local government tourism unit, have acknowledged and incorporated Indigenous knowledge in the existing marine ecotourism development. A local government conservation unit acknowledged the importance of local community participation in marine conservation, which supports marine ecotourism development. To increase active participation from the local communities, the conservation unit has been involving them in patrolling the MPAs and incorporating Indigenous knowledge and practices in the marine conservation programmes and regulations. Using Indigenous knowledge and practices could also establish an effective way of communication with the local community. Marine *sasi* has been integrated in the management of MPAs; *petuanan adat*, place taboo, and *hukum adat* (customary law) were included in the local regulations. As for the tourism unit, even though it has yet to incorporate Indigenous knowledge and practices in its tourism programmes, it acknowledged the potentials of using marine *sasi* for marine ecotourism development. There was no specific reason as to why the tourism unit has not incorporated *Misoolese* Indigenous knowledge and practices, however findings indicate a likely explanation that there was a lack of attention from the unit on using Indigenous knowledge and practices for marine ecotourism development.

The international NGOs acknowledged the importance of incorporating Indigenous knowledge and practices in marine conservation development. Both NGOs consider utilising Indigenous knowledge and practices to be the most effective way to introduce a new concept to a community, such as modern marine conservation, as they are already familiar with it. When they first introduced the concept of modern marine conservation to the Indigenous communities, both NGOs utilised Indigenous
methods of negotiation: *gelar senat*, which is an Indigenous practice where the traditional leaders, religious leaders, and village leaders get together to discuss something concerning their village, and *musyawarah*, which is a negotiation for consensus. They also incorporated marine *sasi* and *petuanan adat* when establishing marine conservation areas in Misool and other areas in Raja Ampat. The paramount importance of *petuanan adat* in marine conservation and marine ecotourism development in Misool was also seen by a local Indigenous NGO, thus it created a map of *petuanan adat* territories in Raja Ampat, including Misool. The need to produce such map was triggered by the occurrence of misunderstandings between non-Indigenous developers and the Indigenous people in Raja Ampat regarding the real owner(s) of *petuanan adat*.

Marine ecotourism operators in Misool are of the opinion that using Indigenous knowledge and practices represents a way to revitalise those that almost disappear and to involve the local communities in the process. Using Indigenous knowledge and practices is also considered to be practically beneficial for the operation of their businesses. The Indigenous communities in Misool supported the integration of their Indigenous knowledge and practices in marine ecotourism development. Even though they have been using their Indigenous knowledge and practices in all aspects of their lives, including in marine ecotourism development in their area, most of the Indigenous participants did not realise it, as it is something that comes naturally for them and has turned into normal practices.

The findings from this study display that *Misoolese* Indigenous knowledge and practices of *baca alam*, finding and calling the animals (marine animals), respecting sacred sites, *pamali ikan*, and marine *sasi* have been incorporated into scuba diving activities. For other marine ecotourism activities, the *Misoolese* Indigenous knowledge and practices that have been used by Indigenous research participants consist of *baca alam*, finding and calling the animals, respecting sacred sites, traditional way of sailing, and marine *sasi* ceremony. Marine ecotourism developers and business owners ought to follow certain procedures prior to establishing marine ecotourism’s supporting facilities. Unless the developers are the owners of *petuanan adat* themselves, marine ecotourism facilities development in Misool requires developers to lease the site and negotiate with the owner(s) of *petuanan*
Thus, *petuanan adat* plays a crucial role in leasing the site for supporting facilities. All local accommodation owners in Misool also incorporated traditional ways of building during the process of building their facilities. Using traditional ways of building could also be a means to preserve Indigenous traditional house design. A few accommodation owners have been or planning on using marine *sasi* in no-take-zone areas surrounding the accommodation as a locally protected marine area. The integration of marine *sasi* in no-take-zone management can potentially benefit both the Indigenous community and the marine ecotourism developers.

The findings of this study also suggest that not all Indigenous knowledge and practices are suitable for tourism purpose. Due to controversies between religious leaders and Indigenous weather shamans, weather shamanism may not be integrated in marine ecotourism development. As for marine *sasi*, it could be either supporting or disrupting the development of marine ecotourism activities. If the *Misoolese* people desire, marine *sasi* has the potential to be developed as a tourist attraction, which could provide a unique cultural experience for visitors. On the other hand, if the Indigenous people wish to follow the strict rule of marine *sasi* where all diving activities are forbidden during the marine *sasi* closure, it could restrict scuba diving tourism development in the area.
CHAPTER 7
CONCLUSION AND RECOMMENDATIONS

7.1. Introduction

This study set out to examine the complexities of integrating Indigenous knowledge and practices into sustainable marine ecotourism development in Misool, Raja Ampat, Indonesia. There is a dearth of work on marine ecotourism that focuses particularly on Indigenous knowledge belonging to local Indigenous communities in marine ecotourism destinations. Yet, local community participation is underlined as one of the most important factors in successful marine ecotourism development (E. Cater, 2003; Hoctor, 2003; Garrod & Wilson, 2003). This research project thus added new insights on how Indigenous knowledge can optimally be integrated in marine ecotourism development.

This research study was qualitative, informed by Indigenous methodology. The method applied was semi-structured in-depth interviews as it complemented Indigenous methodology (Kovach, 2009; Tuhiwai-Smith, 2012; S. Wilson, 2001, 2008). Using narrative analysis with a thematic approach, this research specifically sought to answer two research questions. The first research question was: what kind of Indigenous knowledge and practices does the local community in Misool, Raja Ampat hold? The second research question was: have the local community, marine ecotourism operators, and other tourism stakeholders in Misool, Raja Ampat, acknowledged and incorporated Indigenous knowledge and practices in the existing marine ecotourism development? If yes, why and how; if not, why not? This study has identified nine key themes of Indigenous knowledge and practices the local Indigenous communities in Misool hold, which are: 1) marine sasi, 2) petuanan adat, 3) baca alam, 4) finding and calling the animals, 5) pamali ikan, 6) respecting sacred sites, 7) weather shamanism, 8) traditional way of sailing, and 9) traditional ways of building. In regard to the second research question, the local Indigenous communities, marine ecotourism operators, the local government institutions, and NGOs in Misool, Raja Ampat, have acknowledged and incorporated Misoolese
Indigenous knowledge and practices in the existing marine ecotourism development, with the exception of a local government tourism unit. The local Indigenous communities and marine ecotourism operators have been incorporating eight out of nine Misoolese Indigenous knowledge and practices in scuba diving and other marine ecotourism activities, as well as into the establishment of supporting facilities. The NGOs and a local government institution have been using marine sasi and petuanan adat to support marine conservation and development programmes.

The following section discusses the research findings by combining the themes and connecting the key messages. This chapter also highlights the study's contribution to broader knowledge of marine ecotourism, Indigenous knowledge, and Indigenous tourism. The implications and limitations of the study and suggestions for future research will be outlined afterwards.

7.2. Indigenous Knowledge and Practices for Marine Ecotourism Development

In the past two decades, a number of researchers have studied the importance of involving the Indigenous community in sustainable tourism development (e.g. Carr, et al., 2016; Fletcher, Pforr, & Brueckner, 2016; Hillmer-Pegram, 2016; Hinch & Butler, 1996, 2007; Johnston, 2006; Stevens, 2014a; Zeppel, 2007). Special interest has been drawn to Indigenous knowledge and customary practices as some of their aspects are found to be relevant with the conservation principles (Aswani & Hamilton, 2004; Berkes, 2012; Shultis & Heffner, 2016), which are used in the sustainable tourism development (C. F. Butler & Menzies, 2007), and their utilisation helps to increase the sustainability of the development itself (Gorjestani, 2000; Tuhiwai-Smith, 2012). In marine ecotourism development, cultural sustainability is certainly as important as natural sustainability. As one of the local cultural aspects, the Indigenous knowledge can be of vital importance to maintain a sustainable relationship with the marine environment (J. C. Wilson & Garrod, 2003), and the utilisation of it can be an effective way to involve the Indigenous community in marine ecotourism destinations that have often been overlooked (C. Cater, 2014).

In order to effectively develop marine ecotourism, consulting with the stakeholders is necessary. In Misool, Raja Ampat, the primary stakeholder is the local Indigenous
communities as they are the ones who own the traditional rights to use the marine resources (Erdmann, 2014; B. Jones & Shimlock, 2014), and they are also the ones who get impacted first. The other stakeholders are the marine ecotourism industry, the local governments, and local/international NGOs. As the primary stakeholder, local Indigenous communities need to be treated as equal because negotiation for the right to use their reef for marine ecotourism is necessary before starting a marine ecotourism operation (B. Jones & Shimlock, 2014). Respect needs to be shown to the local communities in order to gain their trust for future cooperation. It is important for marine ecotourism operators to understand the mind-set and the customs of the local Indigenous communities and adopt them when possible (B. Jones & Shimlock, 2014) [emphasis added]. By involving the local communities, marine ecotourism development is more likely to bring positive impacts to the environmental and social conditions of the area. The management strategy of marine ecotourism development not only needs to be based on conservation and sustainable use of natural resources, but more importantly, be guided by the Indigenous knowledge, culture, history, and the aspiration of the Misoolese people (Department of Marine Affairs and Fisheries of the Raja Ampat District, 2012).

Misoolese Indigenous knowledge and practices demonstrate a strong connection between the Misoolese people and nature, which combine traditional ecological knowledge (TEK), Indigenous ways of doing within a particular ecosystem, and Indigenous beliefs in interactions between people and their natural and spiritual environment (Angioni, 2004; Berkes, 2012; Grimm, 2001). The Misoolese people think of the land as their father and the sea as their mother (Kuswara, interview, November 22, 2015). The sea has “given birth”, “raised”, and been “feeding” them (Riki, interview, October 28, 2015). The sea is also a part of their identity. The strong connection between the Misoolese people and their natural environment has generated some attributes that can only be acquired from a deep relationship between people and nature.

The most recognisable use of TEK is for the resource management and safeguarding of the natural environment (Schultz, Folke, Olsson, as cited in Hernández-Morcillo et al., 2014). The role of TEK has been acknowledged as an important factor of any culturally and environmentally sustainable tourism development (C. F. Butler &
Menzies, 2007). As explained in Chapter One, the use of marine sasi for marine conservation has been studied by McLeod et al. (2009) and Boli, et al. (2014), and both results show that marine sasi effectively supports marine conservation programmes. In regard to marine ecotourism development, this study has demonstrated that the integration of marine sasi into government’s marine conservation regulations and programmes, NGOs’ programmes, and locally managed NTZs help keep the marine ecosystem intact, which is the main asset for marine ecotourism. Findings also suggest that marine sasi could be either accommodating or hampering the development of marine ecotourism activities. It has the potential to be developed as an interpretation experience or tourist attraction in itself for niche ecocultural tourism market segments. However, as was pointed out earlier, if the Indigenous people wish to follow the strict rule of marine sasi where all diving activities are forbidden during the sasi closure, it could restrict scuba diving tourism development in the area. This restriction could be viewed as a negative effect, but it could also offer other opportunities. Marine ecotourism developers could then focus on other marine ecotourism activities such as viewing coastal seascapes/landscapes, sightseeing/island hopping, dolphin-watching, recreational fishing, and birdwatching. This is when TEK on finding and calling the animals plays an important role in developing new non-diving attractions.

Customary ownership right of land and/or sea area in TEK represents the relationship of humans with one another and with their natural environment (Berkes, 2012). It is one of the pillars of traditional resource management which function is to maintain harmony in the community (Tobin, 2014). As noted in section 6.2.3., the local regulation for the establishment of local MPAs acknowledges the local communities’ rights and states that MPA management needs to respect and follow customary sea tenure of the local communities for whom Indigenous knowledge still applies in their area. The local communities have the right to set their sea tenure areas and sacred islands in the MPA zonation. This represents the recognition of Indigenous knowledge and practices by the the local government (marine conservation unit), and how they incorporate that into their regulations on managing local MPAs. Customary ownership rights of land and/or sea area are also very crucial for marine ecotourism investments because it is one of the first pieces
of information that investors need to find out. Both traditional knowledge of ecosystems and customary systems of the Indigenous people are useful for marine ecotourism development and assessment in the area. Negotiation between marine ecotourism operators with the Indigenous people on the use of traditional knowledge of ecosystems and customary systems is of paramount importance to increase the benefit for the Indigenous people, conserve the natural environment and cultural tradition, and minimise the negative impact and potential conflict between Indigenous groups.

Another TEK that could be useful for marine ecotourism is the ability to read the signs of nature. This ability has become a part of the natural instinct of Indigenous peoples who live in coastal areas, where they use the sun, the stars, the sea waves, the wind, and the ocean currents to navigate the sea (Genz, 2014; Hendry, 2014; Richey, 1974; Varadarajan, 1980). In the context of marine ecotourism, this ability would make them competent to skipper boats, providing a safe and smooth journey for tourists, to choose marine/dive sites to visit and managing dive routes for scuba diving trips, and to forecast the weather for boat trips. A strong connection to nature has also resulted in a strong bond between the Indigenous people and the living beings in their surrounding environment (Berkes, 2012), including the animals who also occupy the same natural setting. This bond creates the understanding of the animals’ behaviours and the knowledge of their locations. For example, TEK of the local fishermen can provide key information for monitoring the condition of the ocean, the health of corals, and the location of certain fish species.

The findings reveal that some Indigenous people have the knowledge of locating certain kinds of marine animals that the recreational scuba divers might find interesting, e.g.: sharks, manta rays, giant trevallies, napoleon, wobbegong, pygmy seahorse, and nudibranch (see section 5.2.4.). This kind of knowledge has been acquired from practising *molo*, and from local fishermen. In addition to finding the fish, some *Misoolese* people also have the ability to call sharks, manta rays, and dolphins by using simple methods taught by their parents. The knowledge to find and call the animals also includes the ability to find and call their native bird, the lesser bird-of-paradise. This ability in finding and calling certain species of fish and birds could be useful for marine ecotourism activities, such as finding new and
specialised dive sites, choosing fishing spots for recreational fishing, determining good sites for dolphin-watching and for birdwatching.

Spirituality is an integral part of Indigenous knowledge (Appiah-Opoku, 2007; Kaartinen, 2016; Robbins, 2004). The Indigenous beliefs in the spirits has also been embodied in marine ecotourism practices. Findings suggest that the *Misoolese* practice of fish taboo could limit guided scuba diving activity. However, this limitation actually supports one of the principles of scuba diving, which is keeping distance from the marine biota. The *Misoolese* people also respect the sacredness of several sites as they believe in the spirits that occupy those places. There are two kinds of sacred places. The first one is places that are taboo, where any kind of visit is forbidden. In this case, the practice of place taboo could limit marine ecotourism activities in terms of forbidden marine/dive sites to visit. The deep knowledge of marine/dive sites and island landscapes could be the solution for this issue by finding other interesting sites. The second one is places that are sacred but can be visited, but visitors have to follow protocols in visiting sacred sites as a symbol of respecting the spirits that occupy those places. In this case, these sacred places still can be developed as marine ecotourism attractions, using Indigenised code of conduct for tourists who visit these places (Holmes, et al., 2016) in the form of traditional procedures done before conducting some activities (visitor code of conduct), such as scuba diving, sightseeing trips, and viewing coastal seascapes/landscapes. The Indigenous beliefs in the spirits has also resulted in a series of Indigenous building rituals and rules that have to be performed and followed before and during the construction of marine ecotourism’s supporting facilities.

Much of the research on Indigenous taboos has been focusing on the relationship between taboos and biodiversity conservation, natural resource management, and environmental stewardship (Appiah-Opoku, 2007; Chaudhry & Murtem, 2016; Ntiamo-Baidu, 2008; Olofson, 1995). The results of those studies show that the taboo system plays a significant role in natural resource conservation and environmental stewardship, as it fits local cultural and social context. The findings of this study have demonstrated that the taboo system also plays an important role in marine ecotourism development in Indigenous coastal areas. Indigenous taboo
systems are usually related to cultural and spiritual connections with natural habitats and wild animal species (Ntiamoa-Baidu, 2008). Indeed, this reflects on the taboo systems in Misool where fish taboo is related to animal species and place taboo to natural habitats. Taboos on particular animal species and on sacred sites are argued to be useful strategies in biodiversity conservation, as they can protect particular animal species and ecosystems (Ntiamoa-Baidu, 2008).

For the practice of weather shamanism, some studies show that there is a growing interest in shamanism tourism (Hammons, 2015; Jianying, 2007; Mathisen, 2010). In the context of marine ecotourism, weather shamanism could potentially be used to control bad weather which could interrupt scuba diving trips, sightseeing/island hopping, and other boat trips. However, its utilisation in marine ecotourism fully depends on the Indigenous people’s point of view. As noted in section 5.2.7., weather shamanism is a controversial subject for some Indigenous communities where the religious leaders are opposed to the shamanism practices. Hence, weather shamanism might not be suitable to be utilised in supporting marine ecotourism activities.

The incorporation of traditional technologies and techniques in marine ecotourism development is useful in creating unique attractions and experiences. The use of traditional semang boats has the potential for tourism business development in Misool: it could be used as a water taxi or modified for glass bottom boat activity. The traditional techniques of ancient bird hunting could be used in a more environmentally-friendly way for birdwatching. The traditional ways of building are useful for the establishment of marine ecotourism supporting facilities. The architectural style of Misool traditional house and the materials chosen symbolise the ingenuity of the Indigenous people of living and surviving in a marine environment, informed by their concept of natural place and social space (Hendry, 2014; Proverbs, 2011). When building on island landscapes, foreign builders are often unfamiliar with the characteristics of local marine environment, hence the knowledge of Indigenous techniques of building is useful in this situation. Using traditional designs, local materials, and building techniques could be the best methods for building marine ecotourism’s supporting facilities. In addition, the
integration of building rituals embodied in traditional ways of building is also suggested to respect the Indigenous beliefs.

In response to the debate on the myth of Indigenous environmental stewardship where Redford (1991) and Krech (as cited in Hames, 2007) argue that deliberate attempt of conservation by Indigenous peoples is non-existent (see pp. 42-43), this study shows that this does not appear to be the case in Misool. The Misool people have been practising marine sasi as their traditional marine conservation. There have been some arguments that Indigenous knowledge can be of use only occasionally and when it is being modified (Fennell, 2008; Redford, 1991). The findings reveal that the tourism stakeholders who have incorporated marine sasi to support marine conservation and marine ecotourism operation, also incorporated little interventions, such as conducting a scientific survey to find new marine sasi areas and to scientifically support the decisions on when to open marine sasi, and extending the duration of marine sasi with the consent of local Indigenous people. This suggests that modification is indeed a part of incorporating traditional ecological knowledge of Indigenous peoples in modern conservation. But, it is not necessarily a bad thing, and it certainly does not mean Indigenous environmental stewardship is only a myth. Indigenous environmental stewardship is very contextual; hence the argument cannot be generalised.

Figure 7.1. summarises the integration of Indigenous knowledge and practices in marine ecotourism development in Misool, Raja Ampat, Indonesia.
<table>
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<tr>
<th>SCUBA DIVING</th>
<th>OTHER MARINE ECOTOURISM ACTIVITIES</th>
<th>THE ESTABLISHMENT OF SUPPORTING FACILITIES</th>
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<td><strong>Baca alam</strong> → Sightseeing/island hopping</td>
<td><strong>Petuanan adat</strong> → Leasing agreement</td>
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<td><strong>Finding and calling the animals (marine animals)</strong> → Finding new/specialised dive sites → The best time and place to see certain marine animals</td>
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<td><strong>Traditional ways of building</strong> → Building on island landscapes</td>
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<tr>
<td><strong>Respecting sacred sites</strong> → Protocols before scuba diving → Forbidden dive sites</td>
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</tr>
<tr>
<td><strong>Pamali ikan</strong> → Indigenous dive guide’s limitation</td>
<td><strong>Traditional way of sailing</strong> → Sightseeing/island hopping → Glass-bottom boat tours</td>
<td><strong>Marine sasi</strong> → No-take-zone in surrounding area</td>
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<td><strong>Marine sasi</strong> → Preservation of marine biota → Potential restrictions on scuba diving</td>
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</tr>
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</table>

Figure 7.1. The Integration of *Misoolese* Indigenous Knowledge and Practices in Marine Ecotourism Development
In the broader context, Indigenous knowledge and practices are a part of culture and marine ecotourism development is a part of tourism in general. Figure 7.1. outlines the contribution of this research. The figure identifies eight Misoolese Indigenous knowledge and practices which have been integrated in three sectors of marine ecotourism development: scuba diving, other marine ecotourism activities (i.e. island hopping, recreational fishing, viewing coastal seascapes), and the establishment of marine ecotourism’s supporting facilities (i.e. dive resorts, homestays). The arrows in the figure symbolise where participants reported the integration of an Indigenous knowledge/practice within marine ecotourism activities or the establishment of supporting facilities. For scuba diving, the integrated Indigenous knowledge and practices consist of: reading the signs of nature (baca alam), finding and calling the animals (marine animals), respecting sacred sites, fish taboo (pamali ikan), and marine sasi. These are reported on in the previous findings chapters. For other marine ecotourism activities, the integrated Indigenous knowledge and practices consist of: reading the signs of nature, finding and calling the animals, respecting sacred sites, traditional way of sailing, and marine sasi. For the establishment of marine ecotourism’s supporting facilities, they consist of: petuanan adat, traditional ways of building, and marine sasi.

Referring to figure 7.1., of all the eight identified aspects of Misoolese Indigenous knowledge and practices, only marine sasi has been integrated into all three (scuba diving tourism, other marine ecotourism activities, and the establishment of supporting facilities). This demonstrates the weight of significance of marine sasi as means of integrating traditional marine resource management into marine ecotourism development in coastal areas inhabited by or significant to Indigenous peoples. The reported aspect of Indigenous knowledge referred to as “finding and calling the animals” is integrated in both scuba diving and other marine ecotourism activities. In scuba diving, the dive guides and the dive boat skippers use this knowledge to find new and specialised dive sites and to determine the best time and place to see certain marine animals. In other marine ecotourism activities, finding and calling the animals is used in recreational fishing, dolphin-watching, and birdwatching. The other two Indigenous knowledge and practices that have also been integrated in both scuba diving and other marine ecotourism activities are
respecting sacred sites and reading the signs of nature. The Indigenous practice of respecting sacred sites is used by Indigenous dive/tour guides to initiate protocols for tourists before doing the activities and to avoid forbidden dive/marine sites. The Indigenous dive/tour guides also use the knowledge of reading the signs of nature for choosing dive sites to go to, for forecasting the weather, and for choosing safe routes during sightseeing or island hopping. The Indigenous practice of fish taboo might affect the performance of Indigenous dive guides in scuba diving activities, but with some strategies it is manageable. The traditional way of sailing (using semang boat) is integrated in sightseeing or island hopping and in glass-bottom boat tours by Indigenous tour operators. The owners of marine ecotourism facilities include petuanan adat in their leasing agreements and use traditional ways of building in building their facilities on island landscapes. As the result of this study, figure 7.1. thus illustrates how Indigenous knowledge and practices have been incorporated into marine ecotourism development within the Misoleese case study context. In scuba diving tourism, incorporating local cultural features (particularly Indigenous knowledge and practices) can create uniqueness that has marketing and place branding implications for dive destination differentiation (Krauskopf, 2014). Importantly, it also diversifies the dive experience for scuba divers by providing learning opportunities about another culture (L. J. Wilson, 2014; B. Jones & Shimlock, 2014), through the integration of Indigenous knowledge and practices in scuba diving tourism.

This study, however, suggests that there are complexities within cultural settings, which means not all Indigenous knowledge and practices could be incorporated into marine ecotourism development. The findings suggest that weather shamanism is not always feasible to be used in a marine ecotourism context. The contradiction between the religious leaders and the traditional leaders who practice shamanism may cause issues when shamanism is used for tourism purposes. As one participant explained it: “there are some things that work and things that don’t” (Molly, interview, October 23, 2015). As mentioned in the previous chapter, the findings on marine sasi creating restrictions on scuba diving also provide insights into how Indigenous knowledge and practices could impede the development of marine ecotourism, whilst also creating the need to consider other opportunities that are
land based or not related to diving. Even though the implementation of marine sasi may limit a few marine ecotourism activities, it could also lead to marine ecotourism product diversification by developing other activities besides diving. Regardless of the early stage of tourism development in Misool, having product diversification that acknowledges the local Indigenous context is still important for the competitiveness and the sustainability of marine ecotourism development in such destinations (Benur & Bramwell, 2015).

Overall, it is important to utilise local Indigenous knowledge in tourism development when located in areas with significant Indigenous knowledge and practices (Mistry et al., 2016; Nuryanti, 2016; Tuhiwai-Smith; 2012). As mentioned in Chapter Two, issues surrounding the isolation of Indigenous peoples, conflict of interests between Indigenous peoples and non-Indigenous developers, and acculturation and commodification versus authenticity, have triggered an assumption that tourism development in Indigenous people’s land is just “a new form of colonialism” (Sofield, 2003, p. 86). Notwithstanding, Indigenous tourism is still viewed as the most suitable form of tourism development in areas where Indigenous people reside. Studies on Indigenous tourism development have proven that tourism can be an effective means for sustainable Indigenous development (e.g. Carr et al., 2016; Hillmer-Pegram, 2016; Hinch & Butler, 1996, 2007; Holmes et al., 2016; Pereiro, 2013; Shultis & Heffner, 2016; Zeppel, 2006). This study suggests that the integration of Indigenous knowledge and practices in tourism development may empower the Indigenous people to preserve the Indigenous knowledge itself and conserve the environment, which eventually could stimulate sustainable economic improvement. By using Indigenous knowledge and practices, suitable approaches can be reached for sustainable tourism development.

7.3. Broader Contributions to Knowledge

The vital importance of integrating Indigenous knowledge and practices in marine ecotourism development has been suggested to maintain a sustainable relationship with the natural environment and the local communities in which the activities take place. This study contributes to understanding the complexities of integrating Indigenous knowledge and practices into marine ecotourism development. Despite
studies on Indigenous knowledge/TEK in different types of tourism (Arifin & Nurhayati, 2016; C. F. Butler & Menzies, 2007; Thompson & Ruwhiu, 2014; Pásková & Dowling, 2014) and Indigenous cultural influences on marine ecotourism (Curtin, 2003; Hillmer-Pegram, 2016; Stacey et al., 2012; Walker & Moscardo, 2016), no previous marine ecotourism studies have specifically investigated the integration of Indigenous knowledge and practices into marine ecotourism activities and the establishment of its supporting facilities. The empirical findings of this study present a detailed narrative of integrating Indigenous knowledge and practices into the development of marine ecotourism activities and facilities. Hence, this study provides the first comprehensive assessment of Indigenous knowledge and practices for marine ecotourism development.

In the line of scuba diving tourism literature, the inclusion of the local host community as one of the key elements in the scuba diving tourism system has just started to be acknowledged (Dimmock & Musa, 2015; Musa & Dimmock, 2013). There is an absence of research on Indigenous knowledge and practices belonging to the host community in scuba diving destinations, and this study adds to that knowledge gap. This study has revealed numerous features of Indigenous knowledge and practices of the host community that could affect and be used in scuba diving tourism. Compilations of scuba diving tourism studies (Garrod & Gössling, 2008/2011; Musa & Dimmock, 2013) have shown how to develop environmentally sustainable scuba diving tourism. By integrating Indigenous knowledge and practices in scuba diving, the findings of this study provide a basis for developing culturally sustainable scuba diving tourism.

With regard to the previous academic studies on Raja Ampat, there has been a separation of context between marine ecotourism and Indigenous knowledge research. Steenbergen’s study on scuba diving operation in Raja Ampat (2013) does not consider the integration of local Indigenous knowledge and practices. Studies on marine sasi (Boli et al., 2014; McLeod et al., 2009) do not consider how marine sasi can be utilised in marine ecotourism development. It has been argued that explorations on how Indigenous knowledge is incorporated into tourism is essential in order to broaden our perspectives on tourism epistemology (Chambers & Buzinde, 2015; Tribe & Liburd, 2016). This study has explored the fusion of
Indigenous ontology and epistemology and marine ecotourism knowledge, which provides a more comprehensive context in understanding marine ecotourism development in Raja Ampat, that leads to understanding the concept of *Indigenous marine ecotourism*.

Another contribution to knowledge this thesis provides is what it adds to Berkes’ (2012) classification of practical significance of TEK in ecology and natural resource use (see p. 41 of this thesis). In terms of the area of use, the ability to read the signs of nature and deep knowledge of island landscapes could be use to provide *geographical* information and insights, which inform the identification of early warning signs for natural disasters, in addition to the social memory. The findings of this study also add to Zeppel’s (2006, 2007) classification of Indigenous involvement in ecotourism (see p. 50 of this thesis). This thesis suggests the utilisation of Indigenous knowledge and practices in itself as a part of Indigenous community involvement in ecotourism, as it may become an effective means of enabling participation and the sense of ownership from the local Indigenous communities in ecotourism development. They may also become the guardians of their natural and cultural heritage by conserving the biodiversity and safeguarding the cultural landscapes and traditions.

**7.4. Implications and Practical Recommendations**

The findings of this study highlight the importance of incorporating Indigenous knowledge and practices into sustainable tourism development. Overall, despite the fact that Indigenous peoples around the world are different in their own distinctive ways, these findings support calls for tourism stakeholders and policy makers elsewhere to incorporate Indigenous knowledge and practices into processes of tourism development in areas where Indigenous people reside. The methods taken for this study could also be applied elsewhere to explore and understand existing Indigenous knowledge and practices to be utilised for tourism development. This study also provides a number of important implications for tourism stakeholders.
7.4.1. Indigenous Communities

The findings of this study suggest the Indigenous knowledge and practices as an important asset for marine ecotourism development. These findings may encourage other Indigenous coastal communities to reflect upon their own Indigenous knowledge and practices, and how they could potentially utilise them in a marine ecotourism context, and in tourism development in general. Indigenous tour guides and dive guides could explain the integration of Indigenous knowledge and practices in tourism development to visitors, as a part of visitor education experience. This may lead them to rediscover their sense of pride in their Indigenous culture and identity.

7.4.2. Local Government Institutions and Environmental NGOs

The findings suggest several courses of action for integrating Indigenous knowledge and practices in marine ecotourism development. It is important to move from looking at Indigenous knowledge and practices as tourism products to looking at them as a means to sustainable tourism development, by enabling active participation from the Indigenous people and at the same time conserving the biodiversity and safeguarding the cultural landscapes. In areas where the local Indigenous people are not familiar with tourism, connecting it with Indigenous knowledge and practices context – something that they are very familiar with – might help Indigenous peoples to comprehend the concept of tourism. For local government agencies involved in managing tourism development (from local level to national level), this study may inform the policy and programmes which incorporate Indigenous knowledge and practices. For example, regulations that require marine ecotourism operators to incorporate or respect traditional marine resource management in no-take-zone areas developed for tourism purposes.

The findings of this study could also be of useful for conservation agencies, both from local government agencies and environmental NGOs. These organizations utilise tourism as a part of their development tools to conserve the marine environment. The use of TEK for marine conservation has been acknowledged. These findings shall extend more areas in which the conservation agencies could include more Indigenous knowledge and practices in their conservation policies and programmes, such as the spirituality and beliefs of the Indigenous people. For
In example, fish taboo of the Indigenous people can be used as one of the determining factors when drafting policies related to fishing restrictions.

7.4.3. Tourism Business Sector

Another stakeholder who may find the findings useful is the tourism business owners in marine destinations where sharing marine resources with the local Indigenous people is inevitable. This study shares ideas of how to work with local Indigenous communities and empower them. The key findings can be used as examples on how to integrate Indigenous knowledge and practices into their operations, as an added value which can potentially lead to product diversification. Tourism product diversification is important to prevent product stagnation and to enhance tourist experience. By integrating Indigenous knowledge and practices, private operators can bring uniqueness in marine ecotourism products, that showcase the inseparable connection between the Indigenous people, marine environment, and cultural practices. For dive operators, the integration of Indigenous knowledge and practices in scuba diving may enhance the total diving experience, as divers can experience and learn about another culture.

7.5. Limitations and Recommendations for Future Research

As qualitative research, this study relied on the researcher's interpretations of participants' opinions, narratives, and experiences (Phillimore & Goodson, 2004; Woods, 2006). In qualitative research, further contact with participants after interviews might be needed to follow up on what they said (Seidman, 2013). In this study, almost all of the Misoolese participants lived on small islands in Misool where the infrastructure of information and communication technology was very limited. This condition restricted my chances to contact the Misoolese participants after the fieldwork, even though it turned out that no follow-up interviews or data checking were needed. The Misoolese people, like many Indigenous peoples in isolated areas, have very limited or no internet connection, hence data checking was limited to actually seeking clarification from them after interviews whilst I still lived in Misool, as the participants mostly had very limited internet connections if at all. My fieldwork communications with the Misoolese participants were oral and face to face, which is an approach that has been advocated when using Indigenous
methodologies (Tuhiwai-Smith, 2012). Therefore, it would be beneficial for future researchers with similar groups of participants to conduct follow-up interviews as necessary, while still in the field.

This study of integrating Indigenous knowledge and practices into marine ecotourism development was focused on the supply side. The stakeholders that were involved in this research consisted of: the local communities, marine ecotourism operators, the local government institutions, and NGOs. Another important stakeholder, the tourist, was not included in this study. Thus, further research should examine tourist perceptions regarding the use of Indigenous knowledge and practices in marine ecotourism, especially in scuba diving tourism. A study that focuses on the scuba diver experience resulting from the utilisation of Indigenous knowledge and practices in scuba diving tourism would add a new perspective in looking at the overall scuba diving tourist experience. Conversations with local tour guides and dive guides also indicated that some of their guests showed appreciation, and were interested in knowing more about their Indigenous knowledge and how they practise them. There may, therefore, be an interest for further research that focuses on the demand for cultural interpretation in marine ecotourism and scuba diving tourism settings, and its implementation.

Interviews and conversations with the Indigenous participants indicated that when it comes to the decision to opt in or opt out of tourism development, they tend to just follow their traditional leaders’ decisions. Comments such as: “it is up to the traditional leader” (Susi, interview, October 27, 2015) and “doesn’t matter what I want, we still have to follow the traditional leaders” (Turiman, interview, October 29, 2015) came up when being asked about using their natural and cultural heritage for tourism development. There are future research opportunities in exploring the role of Indigenous leaders in tourism development. Studying Indigenous leaders’ roles in tourism development could be insightful, particularly when it is related to collective aspiration.

As a rather new tourism destination which is believed to have the highest marine biodiversity on earth (Gunawan, 2010; McKenna et al., 2002), tourism development in Raja Ampat is simultaneously becoming more prominent. This study focused on
the Misoolese people’s Indigenous knowledge and its integration in marine ecotourism development. The people’s perceptions on the tourism development itself is yet to be analysed. Hence, there may be an interest for future research exploring how the Indigenous people in Raja Ampat negotiate the utilisation of their natural and cultural heritage for tourism, and how that negotiation effects their Indigenous identity.

7.6. Final Thoughts

At the beginning of this thesis, I quoted a statement which inspired me: “no matter how important local and national knowledge is … unless it is conveyed in English … it is likely not to be heard… Somewhat ironically, given the desire to give voice to local and Indigenous perspectives” (Hall, 2013, p. 608). This thesis has tried to “give voice” to the Indigenous people of Misool. I hope that I did justice in translating their voices into English, especially because English is not my native language. During my fieldwork, one of the first observations to be made was how the Misoolese participants showed pride when being asked about their Indigenous knowledge and practices. This is a part of the process where Indigenous people rediscover their “sense of pride in their culture and identity” (Smith & Richards, 2013, p. 192), as they began to realise that people from outside Misool were interested in understanding and learning about their Indigenous knowledge and practices.

During my PhD research journey, I found that typically the fields of Indigenous knowledge and marine ecotourism have worked in relative isolation. With this thesis, I tried to explain how those two entirely different literature are connected. While written through the lens of marine ecotourism, this research brings together two fields of study to explore the complexities of integrating Indigenous knowledge into marine ecotourism initiatives. As a result, this study has revealed various ways to incorporate Indigenous knowledge and practices into marine ecotourism development. Together, these two fields of study contribute significantly to our understanding of how the knowledge and practices of the Indigenous coastal communities are fundamental in supporting marine ecotourism development.
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Appendix A: Misool's Tourism Attractions Setting

The table below provides context for the case study area in terms of the tourism attractions setting in Misool, to give an overview of what visitors and more importantly, the local communities, are exposed to.

<table>
<thead>
<tr>
<th>Photo &amp; Name of location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balbulol Lagoon and Karsts</td>
<td>The highlight of this lagoon is the tall karsts, shaped like pyramids. This lagoon is deep and is a perfect place for scuba diving, snorkelling, and swimming.</td>
</tr>
<tr>
<td>Lenmakana Stingless Jellyfish Lake</td>
<td>Not many people know that stingless jellyfish lakes also exist in Misool (the ones in Palau and Derawan, Kalimantan, Indonesia are more famous). There are two stingless jellyfish lakes in Misool: Lenmakana and Karawapop. The one in Lenmakana has more jellyfish, but the track to the lake is more challenging.</td>
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<td>Photo &amp; Name of location</td>
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<tr>
<td>Farondi Beach</td>
<td>Farondi beach is located not far from Balbulol. The white sandy beach is sheltered by a backdrop of trees, making it a perfect place for a picnic or lunch stop. The best snorkelling area is on the right side of the beach.</td>
</tr>
<tr>
<td>Namlol Lagoon</td>
<td>This lagoon is unique because the deepest part is actually only a few metres away from the beach and it turns shallow again as you go further away. Karsts in the background make this place beautiful and is perfect for swimming.</td>
</tr>
<tr>
<td>Banos Island</td>
<td>This small island is just like any other uninhabited island in Raja Ampat: the beach is flat with white sands. This island is a favourite place of liveaboard operators to have a BBQ lunch for their guests. Banos Island has been a favourite for the locals as well, where they often come here with their families and friends for a picnic.</td>
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<td>Photo &amp; Name of location</td>
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<tr>
<td>Dafalen Shaped Karsts</td>
<td>Dafalen is famous for its unique shaped karsts. The photo on the left is what the locals called the 'heart-shaped karst'. The photo in the middle is the 'garuda bird', and the photo on the right is the 'Christmas tree'.</td>
</tr>
<tr>
<td>Kabaliliklol Karsts</td>
<td>When you cruise in this area, your head will be turning right and left to see all the majestic and beautiful karsts around you.</td>
</tr>
<tr>
<td>Mesemta Beach</td>
<td>Mesemta is not yet included in the tourists' usual sightseeing itinerary. I was taken here by some locals. The crystal-clear water is very tempting to swim in. A few metres away from the beach, there is a perfect place for snorkelling.</td>
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<td>Photo &amp; Name of location</td>
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<tr>
<td>Harfat Hilltop</td>
<td>Your eyes will be spoiled with the beautiful view of colourful waters and surrounding karsts. Harfat hilltop is known as 'Wayag of the South'. Wayag is an iconic landmark of Raja Ampat, located in the north. The founder of this place is also the owner of the first locally owned homestay in Misool.</td>
</tr>
<tr>
<td>Yapap Lagoon and Karsts</td>
<td>Surrounding this clear, turquoise water, a range of unique karsts reminds us of the prehistoric temples. This place offers a breath-taking view and the calm water of the lagoon makes it a perfect place for swimming and snorkelling.</td>
</tr>
<tr>
<td>Forengket Cape</td>
<td>Forengket is also not yet included in the usual sightseeing itinerary of the tourists. I came here with some locals. The beach has beautiful soft white sands set among rocks.</td>
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<td>Photo &amp; Name of location</td>
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<tr>
<td>Seven Island Hilltop</td>
<td>Seven Island hilltop is not as popular as Harfat hilltop yet. This place started to be known after national TV crew came here and included it in its programme. Seven Island hilltop offers similar stunning views as Harfat.</td>
</tr>
<tr>
<td>The Sacred Cave</td>
<td>The locals say, “you haven’t actually been to Misool until you have come to the Sacred Cave”. They named it ‘sacred’ because there is a tomb of a couple who first spread Islam religion in Misool. The Sacred Cave is an important local pilgrimage for both the Islam religion and the animist tradition. On top of the cave entrance, there is a natural image that looks like a calligraphy of “Allah”. The Sacred Cave is a magnificent cavern, flooded by the sea. The cave is swimmable and about fifty metres from the entrance, there is a big stone that looks like a big chair, and the locals named it ‘the king's throne’.</td>
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</tbody>
</table>

Calligraphy of “Allah” in Arabic (white colour) on top of the cave’s entrance
<table>
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<tr>
<th>Photo &amp; Name of location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crying Princess Cave</strong></td>
<td>No one really knows the history of this cave, but many locals who visit this cave leave some offerings behind (usually they use cigarettes as offering). The name of the cave is based on a stone inside the cave that looks like a woman who is sitting and looking down, crying. To get into the cave, you have to walk down some narrow alleys.</td>
</tr>
<tr>
<td><strong>Sumalelen-Cave of Hands 1</strong></td>
<td>These ancient petroglyphs consist of images of human hands, dolphins, fish, and many other mysterious ones, estimated to be about 5,000–10,000 years old. The images of hands remind you of Cueva de Las Manos (the Cave of Hands) in Patagonia, Argentina. Archaeologists speculate that the images were made as spiritual invocations, and the images were layered one on top of another, often with a period of hundreds of years between paintings.</td>
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<tr>
<td>Sumbayo-Cave of Hands 2</td>
<td>Sumbayo is another site of ancient petroglyphs, located not far from Sumalelen.</td>
</tr>
</tbody>
</table>

Source: Adapted from Raja Ampat Travel Guide 2014 (DTRAD, 2014a) and author’s field notes. Photos taken by author in November 2015.
Appendix B: Semi Structured In-depth Interview Questions

Local Government Institution 1
- Is there any co-operation between your department and the department in charge of tourism? In what way?
- Being a rising tourist destination, how do you support the tourism development in Raja Ampat?
- Having the highest marine diversity in the world, what is your marine conservation plan (short term, medium term, and long term) for Raja Ampat?
- What are the challenges of marine conservation efforts in Raja Ampat?
- Is there any programme that involves the local community? In what way?
- Is there any co-operation with marine ecotourism operators? With NGOs? In what way?
- What is the marine conservation programme for Misool?
- Are you aware of any Indigenous knowledge and practices that still exist in Misool? What are they?
- What do you think about integrating Indigenous knowledge and practices (e.g. marine sasi) into marine conservation programme?
- Do you have any programmes that utilises the local community's Indigenous knowledge and practices?

Local Government Institution 2
- How is the tourism development in Raja Ampat at the moment?
- What is the tourism development plan (short term, medium term, and long term) for Raja Ampat? If there is a plan, can I have a copy?
- What are the challenges of tourism development in Raja Ampat?
- Is there any programmes that involves the local communities? In what way?
- Is there any co-operation with marine ecotourism operators? With NGOs? In what way?
- What is the tourism development plan for Misool?
- Are you aware of any Indigenous knowledge and practices that still exist in Misool? What are they?
- What do you think about integrating Indigenous knowledge and practices into marine ecotourism development?
- Do you have any programmes that utilises the local community’s Indigenous knowledge and practices?

International NGO 1
- What projects do you have in Raja Ampat?
- How is the response of the local community?
- Is there any co-operation with marine ecotourism operators? With the local community? With government institutions?
- Do you have any programmes that utilises the local community’s Indigenous knowledge and practices?
- Are you aware of any Indigenous knowledge and practices that still exist in Raja Ampat that can be integrated into tourism development in the area? What are they?

**International NGO 2**
- What projects do you have in Raja Ampat? In Misool?
- How is the response of the local community?
- Is there any co-operation with marine ecotourism operators? With the local community? With government institutions?
- Do you have any programmes that utilises the local community’s Indigenous knowledge and practices?
- Are you aware of any Indigenous knowledge and practices that still exist in Misool that can be integrated into tourism development in the area? What are they?

**Marine Ecotourism Operators (Non-Indigenous)**
- What was your motivation to establish a luxurious resort and dive operator in Misool?
- How do you see the growth of tourism in Misool? How is the local community’s response to it? What are the challenges in involving the local community?
- Do you try to introduce your customers (who are mainly scuba divers) to the Indigenous culture and people of Misool? If yes, why and how? If not, why?
- Are you aware of any Indigenous knowledge and practices that still exist in Misool? What are they?
- What do you think about integrating Indigenous knowledge and practices into marine ecotourism development? How do you think it can be accomplished?
- Do you utilise the local community’s Indigenous knowledge and practices in any components of your management/operation?
- What are your hope and expectation regarding the tourism development in Misool?

**Marine Ecotourism Operators (Indigenous)**
- What was your motivation to establish a homestay and marine ecotourism operator in this village?
- How do you see the growth of tourism in your area? How is the local community’s response to it? What are the challenges in involving the local community?
- Who are your main customers?
- Do you try to introduce your customers to the Indigenous culture and people of Misool? If yes, why and how? If not, why?
- Are you aware of any Indigenous knowledge and practices that still exist in Misool? What are they?
What do you think about integrating Indigenous knowledge and practices into marine ecotourism development? How do you think it can be accomplished?
- Do you utilise the local community's Indigenous knowledge and practices in any components of your management/operation?
- What are your hope and expectation regarding the tourism development in Misool?

The Heads of Sub-districts
- Please tell me about the tourism development in your sub-district and in the tourism villages in particular. Is tourism the main income for your sub-district?
- How is the local community's response/reaction to the tourism development in your sub-district? How do they feel in regard to their maritime cultural and natural heritage being utilised for tourism?
- How connected do you think is the local community to their Indigenous culture?
- Are you aware of any Indigenous knowledge and practices that still exist in your sub-district? What are they?
- What do you think about integrating Indigenous knowledge and practices into tourism development? How do you think it can be accomplished?
- What are your hope and expectation regarding the tourism development in your sub-district?

The Heads of Villages
- Please tell me about the tourism development in your village.
- How is the local community's response/reaction to the tourism development in your village? How do they feel in regard to their maritime cultural and natural heritage being utilised for tourism?
- Who are the Indigenous communities in your village? How connected are they to their Indigenous culture?
- How influential is the 'kepala suku' (the traditional leader) in your village? Do you always make a decision for your village together with kepala suku?
- Are you aware of any Indigenous knowledge and practices that still exist in your village? What are they?
- What do you think about integrating Indigenous knowledge and practices into tourism development? How do you think it can be accomplished?
- What are your hope and expectation regarding the tourism development in your village?

Traditional Leaders
- Please tell me about the history of the Misoolse people in your village.
- How connected are the Misoolse people to their Indigenous culture?
- How do you appreciate your maritime cultural and natural heritage? What do they mean to you?
- How do you feel in regard to your maritime cultural and natural heritage being utilised for tourism? What do you think about foreign tourists coming to your area?
- What kind of Indigenous knowledge and practices do the Misoolese people in your village hold?
- What do you think about integrating your Indigenous knowledge and practices into tourism development? How do you think it can be accomplished?
- What are your hope and expectation regarding the tourism development in your village for the Misoolese people?

Local Indigenous Community Members Who Work in Tourism Sector and Misool MPA Field Office
- How do you appreciate your maritime cultural and natural heritage? What do they mean to you?
- How do you feel in regard to your maritime cultural and natural heritage being utilised for tourism? What do you think about foreign tourists coming to your area?
- Are you aware of any Indigenous knowledge and practices that still exist in your village? What are they?
- What do you think about integrating your Indigenous knowledge and practices into tourism development? Is it accomplished? How do you think it can be accomplished? Do you have any examples that you are happy to share with me?
- What are your hope and expectation regarding the tourism development in your village? What types of tourism would you prefer?

Local Indigenous NGO
- Please tell me about your organization: the history, the vision and mission, the members.
- What are the issues of tourism development related to customary land/marine tenure?
- What are your suggestions in addressing those issues? Have your organization worked on a solution?
Appendix C: Ethics Approval

30 April 2015

Dr G Filep
Department of Tourism
Division of Commerce
School of Business

Dear Dr Filep,

I am again writing to you concerning your proposal entitled "Indigenous Knowledge and Practices for Marine Ecotourism Development in Misool, Raja Ampat, Indonesia" Ethics Committee reference number 15/051.

"Thank you for your e-mail of 29th April 2015 addressing the issues raised by the Committee.

The Committee thanks you for clarifying, on page 7 of the application, the nature of the photographs that will be taken and for confirming where the images will be stored.

On the basis of this response, I am pleased to confirm that the proposal now has full ethical approval to proceed.

Approval is for up to three years from the date of this letter. If this project has not been completed within three years from the date of this letter, re-approval must be requested. If the nature, consent, location, procedures or personnel of your approved application change, please advise me in writing.

Yours sincerely,

[Signature]

Mr Gary Witte
Manager, Academic Committees
Tel: 479 8256
Email: gary.witte@otago.ac.nz

c.c. Assoc. Prof. H M Tucker  Department of Tourism
SURAT REKOMENDASI

Nama: Nurulima Frasetyo
NIM: 201331674
Program: PhD bidang Pariwisata
Universitas: Otago University, New Zealand

Berdasarkan Surat dari Universitas Otago, New Zealand, tentang 6 Maret 2015 tentang Penelitian dari penelitian dan program Doktor di Bidang Pariwisata, maka dengan ini kami memberikan Rekomendasi Penelitian kepada:


Demikian rekomendasi kami untuk dipergunakan sebagaimana mestinya. Atas perhatian dan kejempelenya kami sampaikan terima kasih.

Waizal, 10 Agustus 2015
KEPALA DINAS

YUSDI N. I  AMATTENGGO, S.Pi., M.Si.
NTP. 19720608199506 1 804

Kombinasi:
1. Kepala Distrik Misool Selatan
2. Kepala Kecamatan Yali
3. Kepala Kecamatan Barama Jaya
4. Peneliti TNC Misool
5. Peneliti Misool Eco Report
6. Peneliti Homestay Harbit
7. Peneliti Homestay Peneras
8. Peneliti Homestay Lelkidit
Appendix E: Research Recommendation Letter from the Department of Marine Affairs and Fisheries of Raja Ampat District

PEMERINTAH KABUPATEN RAJA AMPAT
DINAS KELAUTAN DAN PERIKANAN
BADAN LAYANAN UMUM DAERAH
UNIT PELAKSANA TEKNIS DINAS
KAWASAN KONSERVASI PERAIRAN DAERAH

Kepada Yang Terhormat:
Nasional Komisiana Peristiwa Makinai No. 3 Purwosihauu Universitas Olong, New Zealand

Di Tempat:

Setelah melalui Surat Permohonan Penelitian perihal Kejadian samudra di KKPD Minoel Timur Selatan Raja Ampat untuk melaksanakan Penelitian dan atau dikumpulkan oleh Surat UPTD KKPD Minoel. Sehingga penelitian, Maka Kepala Dinas Perikanan dan Kelautan Kabupaten Raja Ampat Mengajak Kepala UPTD KKPD untuk mengeluarkan rekomendasi perihal kegiatan tersebut dengan Memperhatikan hal-hal sebagai berikut, yaitu: Pelaksanaan, Keterlibatan serta Peralatan setelah kegiatan tersebut kepada Bupati Raja Ampat melalui UPTD BLUD KKPD Raja Ampat.

Waktu: Dan Bulan Agustus Iminga November 2015
Lokasi: Kampung Lapita, Kampung Voli, Kampung Laihu, Kampung Iti, Kampung Haul, dan Kampung-kuampung lainnya

Demikian surat ini kami sampaikan, atas pertolongan serta dukungan Bapak, kami ucapkan terima kasih.

Wasa, 14 Agustus 2015

Hormat kami,
Kepala UPTD BLUD KKPD Raja Ampat

[Signature]

Adrianus Justus Kaiba, S.Si.P.M.A
NIP. 198004032006081001

Tembahan:

1. Kepala Sub Koordinator Minoel Timur Selatan
2. Kepala Distrik Seram apex
3. Kepala-kepala kampung sekitar
4. Atur.
Appendix F: Main Challenges of Tourism Development in Raja Ampat

According to Yoga, a representative from a local government institution which oversees the tourism development in Raja Ampat, there are six main challenges of tourism development in Raja Ampat:

1. Lack of infrastructure. Good accessibility is required in Raja Ampat in order to become a leading tourism destination. Without it, it would be difficult for Raja Ampat to compete with other tourism destinations. Good infrastructure is the foundation of a good tourism development. Raja Ampat is continuously developing its airport, seaports, telecommunication network, and electricity supply.

2. Lack of tourist facilities. According to Yoga, Raja Ampat suffers from a lack of tourist facilities such as hotels, restaurants, and banks. The development of those facilities is underway, and the local government has issued regulations to control it. For example, new hotels in the city (Waisai) are limited to two to three floors and accommodations on small islands have to have certain building requirements compatible with ecotourism concepts.

3. Difficulties in managing tourist attractions. Raja Ampat is known as one of the best scuba diving destinations in the world, but its sustainability depends on the local communities’ willingness to protect and manage their marine resources, so they will not be ruined. In addition to its underwater resources, Raja Ampat owns other potential tourism settings on land such as its forests and its distinctive art and culture. Raja Ampat is currently being recommended as a national geopark because of its unique geological structures. Even though there is more to Raja Ampat than scuba diving, the Ministry of Tourism of the Republic of Indonesia has a special policy framework for Raja Ampat after appointing it as one of the main scuba diving destinations in Indonesia, along with Derawan, Wakatobi, and Bunaken. When developing tourist attractions, the local government often encounters problems with the local communities regarding land/marine ownership. All areas belong to the Indigenous groups (customary land/marine tenure); therefore, it is more problematic for the local government to manage it.
4. Low capacity of human resources. The other challenge for the local government is to prepare the local communities for tourism development, as the local government believes they are the main actors in it. Being a new district, it takes a lot of efforts to make the local community ready to participate in tourism development. The local government is collaborating with Sahid University in Jakarta where a special class is offered for students from Raja Ampat to study tourism, and with the University of Papua where they are building a campus in Waisai (the capital city of Raja Ampat) for marine affairs and tourism faculty. These are some of the local government efforts to prepare the region’s young generation to be the main actors in future tourism development. The key to a successful development activity, including tourism, is the strength of its human resources; without which tourism will not develop optimally.

5. Obstacles in tourism investments. Tourism development needs external investments as both the local government and community are financially limited. But as was mentioned earlier, the customary land and marine tenure in Raja Ampat creates a more complicated investment procedure for investors. This is a common barrier in all Papua and is one of the reasons why investments are not so prominent in Papua in general, and in Raja Ampat in particular. Because of its position that is far from the economic centre of Indonesia (Jakarta), investing in Papua is considered to be expensive. Given the barriers of customary tenure and distance, the local government needs to work together with the Indigenous groups to create a more conducive environment for investors to invest in Raja Ampat. Without the cooperation from the Indigenous leaders, it will be difficult for the local government to promote tourism investments in Raja Ampat. In regard to customary land ownership in Raja Ampat, a local government policy allows customary owners to sell land, only on the big islands (Waigeo, Batanta, Salawati, Misool) and only to Indonesian citizens. Even so, a mutual agreement between all the clans involved in the ownership and the land use has to be obtained and they have to sign an agreement to waive their customary land tenure rights. Only then can the National Land Agency issue a land certificate. Furthermore, the policy also prohibits the sale of small islands because it is
against the local *adat* law (customary law)\(^{18}\). According to Raja Ampat’s *adat* law, the islands cannot be sold, they can only be leased or contracted.

6. **Structural/bureaucracy limitation.** Being a district, Raja Ampat government has two higher governmental levels above it, which are the West Papua Provincial government and the Government of Indonesia (central government). This institutional structure is limiting the Raja Ampat district government from making decisions regarding its tourism development. For example: Raja Ampat has been acknowledged as one of the international destinations in Indonesia by the Ministry of Tourism. An example of the central government’s support for international destinations is providing airports with international standards. However, for political reasons, the Indonesian government has issued a policy that prohibits the presence of international airports in all Papua, including Raja Ampat. Hence, international tourists have to fly to other places in Indonesia first before coming to Raja Ampat. This is also affecting international tourists who travel by sea wanting to visit Raja Ampat. Because of the central government’s political bias against Raja Ampat, vessels like yachts, super yachts, or medium-sized cruise ships that come from Australia, a country that is geographically closer to Raja Ampat, have to first come to Bali or Jakarta for security checks and entry permits. For tourists whose main purpose is to explore Raja Ampat, these added steps make their journey longer, thus unappealing.

(Source: Yoga NIP, interview, August 10, 2015)

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\(^{18}\) The Indonesia Constitution of 1945 does not mention *adat* law in its articles. Not until 2000 was an amendment to the 1945 Constitution created to acknowledge the validity of *adat* law (although with special conditions), and only in 2004 the Act No. 14 on Regional Autonomy legitimately recognised *adat* law as a valid resource in creating new acts and ordinances (Marzali, 2013).
Appendix G: Cooperation Between International NGO 1 and Other Stakeholders

<table>
<thead>
<tr>
<th>Cooperation with Other Stakeholders</th>
<th>Form of Cooperation</th>
</tr>
</thead>
</table>
| Department of Marine Affairs and Fisheries | 1) Assisting in the establishment of the Raja Ampat MPA Unit under the Department of Marine Affairs and Fisheries  
2) Conducting training for 100 local people to become MPA officers |
| Department of Tourism | 1) Drafting tourism regulations together  
2) Conducting socialisation on marine park entry permit to villages  
3) Drafting Regional Tourism Development Masterplan together  
4) Doing a research on tourism carrying capacity so that conservation area managers will be able to know when there are too many tourists |
| Marine ecotourism operators | 1) Encouraging them to inform their guests that the dive sites are in a conservation area, hence there are rules that guests have to obey in conducting their scuba diving activities  
2) Working together with some diving resorts in monitoring four MPAs in north Raja Ampat |
| Local communities | 1) Capacity building in small/household industries like homestay management and sea cucumber processing  
2) Empowering the heads of villages and village executive board to make village regulations regarding their natural resource management, including helping them to draft the customary law for the use of natural resources |

Source: Anton NIP, interview, August 13, 2015
### Appendix H: Cooperation Between International NGO 2 and Other Stakeholders

<table>
<thead>
<tr>
<th>Cooperation with Other Stakeholders</th>
<th>Form of Cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Marine Affairs and Fisheries</td>
<td>NGO 2 transferred all of their programmes and field staff to the Raja Ampat MPA Unit under the Department of Marine Affairs and Fisheries. NGO 2 helped them developed the MPAs and the regulations that support the monitoring of the MPAs and established the management institution.</td>
</tr>
<tr>
<td>Department of Tourism (DoT)</td>
<td>NGO 2 helped in designing marine park entrance fee and they were also involved in the management team. NGO 2 also cooperated with the DoT in placing moorings for liveaboards, so they won’t anchor in fragile places.</td>
</tr>
<tr>
<td>Marine ecotourism operators</td>
<td>NGO 2 worked closely with a resort in Misool when they wanted to set up their own conservation area.</td>
</tr>
<tr>
<td>Local communities</td>
<td>Developed village regulations together, capacity building, helping the local people in marketing their sea produce such as sea cucumber.</td>
</tr>
</tbody>
</table>

Source: Leo NIP, interview, August 13, 2015