

# Spatial Unit Administration Concept and Contribution of Indigenous Communities in Ambon Lease Region, Indonesia

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**Key words:** Administration, Ambon Lease, Indigenous Communities, Indonesia and Spatial Unit

## SUMMARY

The administration of land and marine unit has mostly been done separately. Such separation has been done due to the application of western concept that limits territory to coastal line (Mulrennan and Scott 2000). Additionally, the concept of *mare nullius* has basically disregarded the right of coastal indigenous communities to their marine territories, which is seen as of the obstacles to achieve the sustainability of marine environment (*ibid.*).

In order to successfully manage and administer marine unit, a unified management approach should be employed (Williamson *et. al.* 2010). This is because of the necessity to not only extend the land management paradigm, which is considered as the most established management paradigm among the others, but also lead to sustainable development in the nation context (*ibid.*).

Through the study that is highlighted in this paper, the concept on Spatial Unit Administration is proposed. Such concept, which is developed based on the existing concepts and practices on Land and Marine Administration, is proposed in order to provide the fundamental basis to integratively administer land and marine, as well as to understand the link between the Land and Marine Administration and sustainable development, from the point of view of indigenous communities in Ambon Lease region. In this paper, the author focuses on the development of the Spatial Unit Administration concept, as well as the contribution of indigenous communities in Ambon Lease region, the Province of Maluku, Indonesia, on the development of Spatial Unit Administration notion.

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## 1. INTRODUCTION

The administration of land and marine unit has mostly been done separately. Such separation has been done due to the application of western concept that limits territory to coastal line (Mulrennan and Scott 2000). Additionally, the concept of *mare nullius* has basically disregarded the right of coastal indigenous communities to their marine territories, which is seen as of the obstacles to achieve the sustainability of marine environment (*ibid.*).

Land Administration System is acknowledged as the most established system among the others and could be found in most, if not all, of countries in the world. There are even countries experiencing Land Administration System dualism, or even pluralism, especially due to the existence of the customary and formal Land Administration System at the same time, which, on some extent, reveals the degree of its maturity on one hand and, on the other hand, the degree of its complexity.

On the other hand, the concept of marine unit administration, which is in some jurisdictions defined as comprising of in- and/or offshore marine territory have only been developed recently. There is an intention that the development of marine unit administration concept is initially performed by duplicating the scheme from Land Administration System (Williamson *et. al.* 2010). However, due to its complexity, in which in some extent is more complex than Land Administration System environment, the marine unit administration system should be developed beyond the scope of Land Administration System (see for instance in Rajabifard *et. al.* 2006 and Ng'ang'a *et. al.* 2004).

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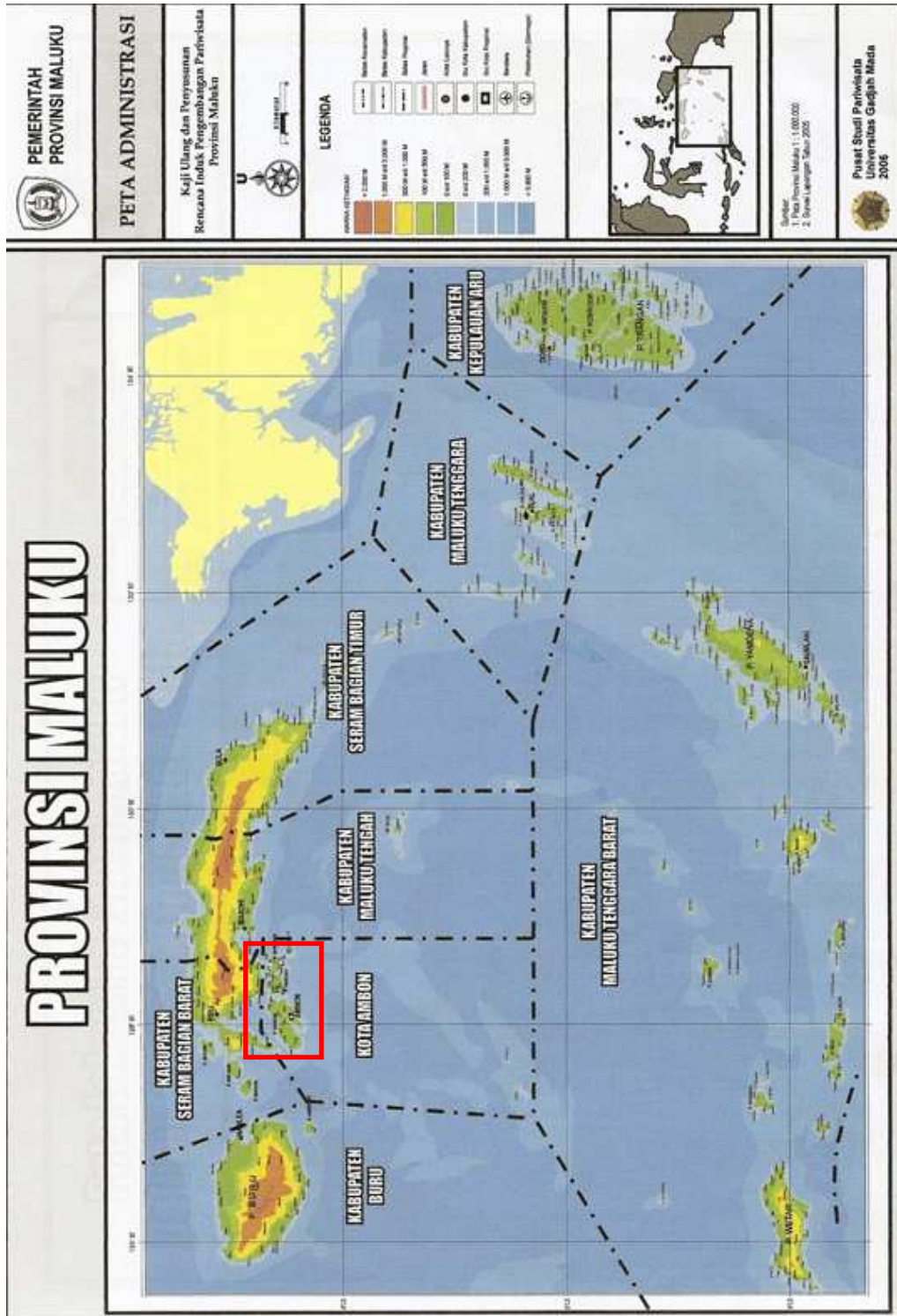
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concept, as well as the contribution of indigenous communities in Ambon Lease region, the Province of Maluku, Indonesia, on the development of Spatial Unit Administration notion. In the subsequent section, the uniqueness of indigenous communities in Ambon Lease region is briefly introduced. In Section 3, the author provides the rationale on the necessity to develop Spatial Unit Administration concept within the scope of the study that is highlighted in this paper, as well as the proposed construction of Spatial Unit Administration System, which is followed by the depiction on the Spatial Unit governance by the indigenous communities in Ambon Lease region in Section 4. Furthermore, the contribution of the Customary Spatial Unit Administration performed by the indigenous communities in Ambon Lease region on the further enhancement of the Spatial Unit Administration concept is described in Section 5, while, in Section 6, the way forward on the development of Spatial Unit Administration concept from the point of view of the indigenous communities in Ambon Lease region is discussed.

## **2. AMBON LEASE REGION IN BRIEF**

Alike the characteristic of most regions in the eastern part of Indonesia, Ambon Lease region comprises of four main but small islands namely Ambon Island, Haruku Island, Saparua Island and Nusalaut Island; as well as several smaller, uninhabited islands (Effendi, 1987). Located at the Pacific Ring of Fire, the topography of islands in this region is dominated by hills in the middle of each island, deep valleys and steep cliffs, while the plain areas could only be found on coastal areas (*ibid.*). On sea, the shallow waters could normally be found within the approximate range of couple hundred meters from coastal line, which end at the edge of the deep sea trenches. See Figure 1 for the map of the Province of Maluku with Ambon Lease region is highlighted in red.

Located at the centre of the Province of Maluku, Ambon Lease region is considered as most important region among eight regions in the Province of Maluku. Municipality of City of Ambon is the capital of the Province of Maluku, which also acts as of the nation's activity centres (Badan Perencanaan Pembangunan Daerah Provinsi Maluku, 2007). Furthermore, Ambon Lease region has two local activity centres namely Saparua and Tulehu (*ibid.*). Saparua is acting as the capital of eastern part of Indonesia during the occupation of Indonesia by the Dutch and is remained acting as the hub for connecting Ambon Island to Seram Island, the biggest island in the Province of Maluku in which the capital of Municipality of Central Maluku, as well as to other islands in this region, while Tulehu acts as the important hubs for connecting Ambon Island and other islands in this region, as well as other regions in the Province of Maluku, by sea.



Even though indigenous people in the Province of Maluku are originated from the Melanesia islands, it nowadays comprises of hundreds of customary territories. The extent of customary territories, or *negeri* as it is called by the locals, is varying from an average size of a village to the typical coverage of *kecamatan* or district, which administratively comprises of several villages. In spite of the unified approach for governing Indonesia's village between 1979 and 1999, each *negeri* has been autonomously governed by a customary government led by a king. Almost every *negeri* has its own native language, which is mostly incomprehensible even by its neighbouring *negeri*. This has led to the utilisation of common language, the Ambon dialect of Malay, within the interaction among members of different *negeri*.

People in this region have been depending very much on their land and sea. For more than seven centuries, this region has been producing spices, particularly nutmeg and clove. It used to be the only producer of nutmeg and clove in the world. Even though it is no longer acted as the main producer of nutmeg and clove, the quality of these spices are still at their highest. Furthermore, Banda Sea, which is located to the south of this region, has abundant stock of pelagic fish. On 2008, it is estimated that the monthly stock of the pelagic fish in the south of City of Ambon alone is approximately 1,500 tonnes (Badan Perencanaan Pembangunan Kota Ambon, 2008).

### 3. SPATIAL UNIT ADMINISTRATION CONCEPT

The Spatial Unit Administration Concept is developed based on the existed concepts on the management and the administration of the land and marine unit. For adjoining the administration of land, marine and space unit, it is argued that 3D Spatial Unit could act as the basis. 3D Spatial Unit, which would further be called as Spatial Unit, is a 3D unit that is wholly enclosed by either physical or imaginary surface(s), which is located partly or completely on, above and/or beneath the surface of the earth and sea. Basically, the notion on Spatial Unit has been at least partially applied within the existing administration systems. Dale and McLaughlin (1999) define land as a physical thing that encompasses the surface of the earth and all things attached to it both above and beneath. The mentioned definition reflects a direct relationship between land and space, even though the space itself is not restricted by its volume. Furthermore, the employment of Spatial Unit in marine and marines cadastre is even more obvious as, in some extent, the 3D representation of rights is enormously important for controlling and regulating marine activities, as well as facilitating ocean governance (Ng'ang'a *et. al.* 2004).

Alike the Spatial Unit term, the concept of Spatial Unit Administration is developed based on the existing concepts on land, marine and space administration, which is employed for extending the notion on Land Administration of Dale and McLaughlin (*op. cit.*). As summarised in Abdulharis (2006: 29) from Dale and McLaughlin (1999), Enemark (2005), Mulolwa (2002) and Barry (1999), Land Administration is defined as an execution tool of land policy and comprises of public sector activities on tenure, use and value of the land. Based on the above definition, it is clear that Land Administration comprises of three groups of public activities, namely land tenure, land use and land value, in which, according to

Enemark (2005), are interacting to each within the scope of cadastral system and facilitating the operational of Land Administration. Besides the above mentioned components, Enemark (*ibid.*) proposes the fourth component of Land Administration, namely land development, to ensure its sustainability. However, Enemark (*ibid.*) further explains that, from the point of view of (land) cadastral system, land development, resource management and environmental sustainability aspect are maintained under land use component. Moreover, the establishment and maintenance of (land) cadastral system inquire as well the organisational, legal, financial and technical arrangement (Mulolwa, 2002), as well as the human resources capacity development (Barry 1999).

Furthermore, Land Administration System is defined as an infrastructure for implementation of land policies and land management strategies in support of sustainable development (Williamson *et. al.* 2010). Williamson *et. al.* (*ibid.*) also pinpoint that Land Administration comprises of institutional arrangements, a legal framework, processes, standards, land information, management and dissemination systems, and technologies required to support allocation, land markets, valuation, control of use, and development of interests in land.

Within the scope of this study, the concept of Spatial Unit Administration should be able to cope with the arrangements on land and marine use, tenure and value in an integrated way. By adopting the previously mentioned concepts, the proposed definition of Spatial Unit Administration within the scope of this study is an execution tool of policy regarding unique 3D Spatial Unit that comprises of space and resources on, in and below the land and marine, which encompasses public sector activities applied to the 3D Spatial Unit within the scope of Spatial Unit Tenure, Use and Value. The public sector activities within the scope of Spatial Unit Administration are interacting to each other within the scope of Spatial Unit Cadastral System and facilitating the operational of Spatial Unit Administration. Additionally, Spatial Unit Administration System in this study is defined as a fundamental infrastructure for facilitating Spatial Unit Administration, which is backed mainly by its institutional, technical and financial arrangement. Spatial Unit Administration System is also functioning as the facilitator of the interaction of the components of Spatial Unit Administration by means of Spatial Unit Cadastral System, which further assists the operational of Spatial Unit Administration, as the core of Spatial Unit Administration System. See Figure 2 for the hierarchy of Spatial Unit Administration System.

The scope of the term of public employed in this study is expected to be wider than it of formal governance, while, on the other, it is also expected to cover up to a small group of people. The coverage of the Spatial Unit Administration System is expected to cover the Spatial Unit Administration in area ranged from the jurisdiction inhabited by a small group of people up to, when possible or necessary, the universe. This is particularly due to existing evidences on the employment of the Spatial Unit Administration concept in the family as the smallest unit of community, such as in the case of Spatial Unit inheritance, while the similar concept has also been applied within the administration of multilateral jurisdiction, for instance on the definition of the boundary of each jurisdiction. Therefore, the public in this study is simply defined as a group of people.

In this sub-section, the development of concept of Spatial Unit Administration System is highlighted. The description on components of Spatial Unit Administration System is firstly portrayed in this sub-section. Moreover, the concept on the Spatial Unit Cadastral System, which acts as the core of Spatial Unit Administration System, is highlighted. Last but not least, the fundamental frameworks of Spatial Unit Administration System are depicted.

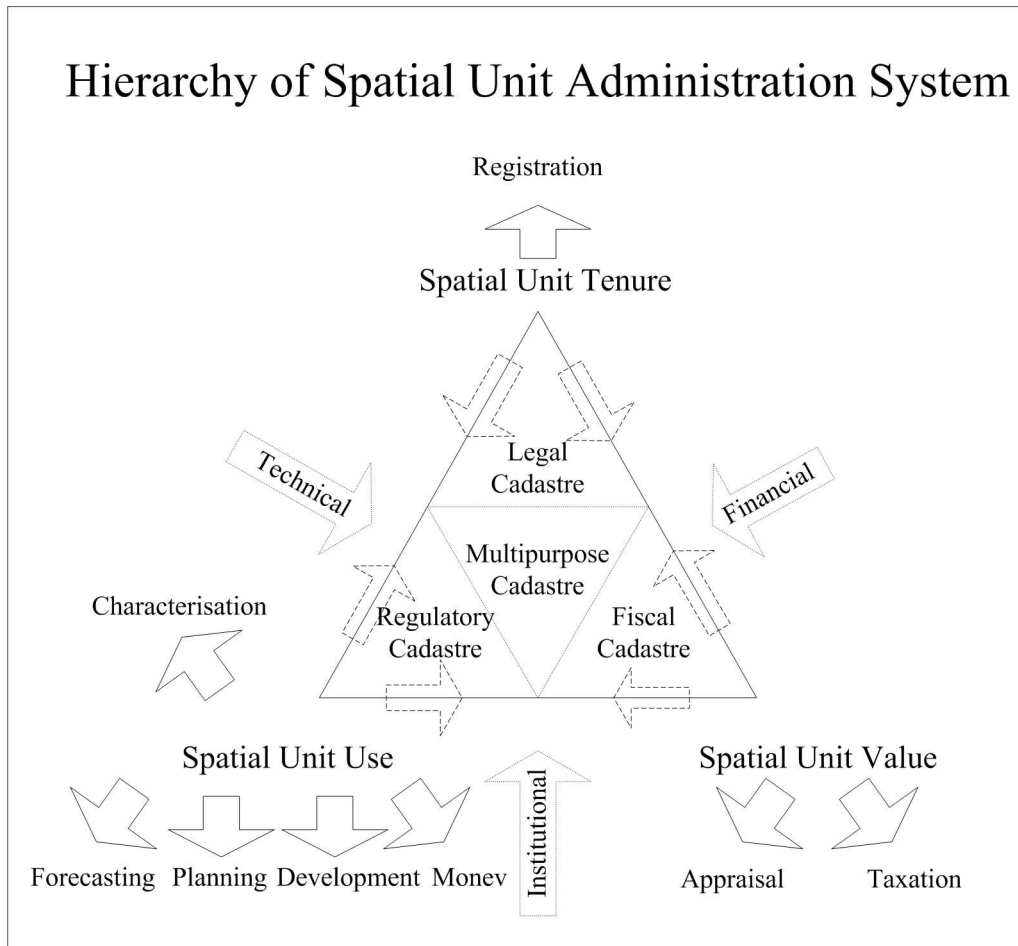


Figure 2 Hierarchy of Spatial Unit Administration System

### 3.1 Spatial Unit Administration System Components

The concept on Spatial Unit Administration is developed to cope with the issues on the tenureship, the use and the value of Spatial Unit. Due to the arguments stated earlier in the introductory part of this chapter, the proposed concept of Spatial Unit Administration is developed based on the definition of Land Administration as summarised in Abdulharis (2006). Accordingly, the Spatial Unit Administration comprises of public sector activities on the tenure, use and value of land.

The Spatial Unit Use in this study is defined as the economic and cultural activities practised upon the Spatial Unit. This definition is developed by adopting the notion on land use proposed by Dale and McLaughlin (1999). The concept on Spatial Unit Use in this study is formulated based on the latter mentioned definition particularly due to the employed argument on the development of the latter mentioned definition, which is the necessity to achieve economic and social objective, as well as environmental sustainability at the same time, within the scope of the sustainable development.

Spatial Unit Tenure in this study is defined as a description on the conduct in which rights, restrictions and responsibilities in Spatial Unit are organised. Dale and McLaughlin (*ibid.*) define land tenure as the manner in which rights in land are held. Furthermore, besides defining the rights of the subject of Spatial Unit Administration over the Spatial Unit, Spatial Unit Tenure has been employed as a means for defining the restrictions and the responsibility of the subject of Spatial Unit Administration on the utilisation of Spatial Unit, which is also suggested by Dale and McLaughlin (*ibid.*). By the application of the proposed definition of Spatial Unit Tenure in this study, it is expected that the activities regarding the Spatial Unit Tenure could act as the tools for not only identifying the right attached to Spatial Unit but also legally binding the subject of the Spatial Unit to be restricted and responsible on executing certain activities on Spatial Unit.

Last but not least, the Spatial Unit Value in the scope of Spatial Unit Administration includes activities not only on the valuation of Spatial Unit, but also on the taxation of Spatial Unit (Williamson *et. al.* 2010). Moreover, the Spatial Unit Value activities are interrelated to Spatial Unit Use activities as they have been acted as of effective means for managing the Spatial Unit (Dale and McLaughlin *op. cit.*), while, in some country contexts, they have been employed as of the basic evidences for titling the Spatial Unit. It should be noted that such activities have, in spite of its huge amount of investment and expenses, been able to generate revenues that could be employed for financing the Spatial Unit Administration in general. In return, the Spatial Unit Administration System is expected to be able to sustain itself.

The above defines public sector activities are mainly facilitated by public organisation, which is driven by the policy and legal framework on Spatial Unit Administration. Moreover, the adequate human resources, as well as the technical and financial framework, are mandatory in order to perform such activities. Consequently, a specific system is required in order to enable the performance of each activity. The mentioned Spatial Unit Administration System framework is explained in details in the consecutive sub-section.

In this sub-section, the more detailed description on Spatial Unit Administration System components is explained. The discussion on Spatial Unit Administration System components in this section is initiated by the description of sub-component of Spatial Unit Use System, which is followed by the explanation on sub-components of Spatial Unit Tenure and Value System.



### 3.1.1 Spatial Unit Use System

In order to achieve the objective of sustainable development, the Spatial Unit Use should therefore be planned in order to control the utilisation of Spatial Unit (Williamson *et. al.* 2010). Nonetheless, by referring to Banfield (1959) and Lindblom (1959), Spatial Unit Use Planning is not an end but a means to achieve the desired Spatial Unit Use. Other means that initiate and succeed the Spatial Unit Use Planning should therefore be defined as well.

In this sub-section, the means to achieve the desired Spatial Unit Use and the sustainable goal are depicted. Those means are characterisation, forecasting, planning and development, as well as monitoring and evaluation.

Characterisation has been acknowledged as of important parts of Spatial Unit Administration particularly within special spatial planning project such as Belvedere Project in the Netherlands and Historic Landscape Characterisation and Landscape Character Assessment in United Kingdom. Mirroring from Belvedere Project, characterisation is highly critical for defining the spatial design of the future. Based on the character of the Netherlands's cultural-historic landscape, Belvedere Project set desired approaches such as the followings (*ibid.*):

- Maintaining cultural-historic values through careful use, design and management of space concerned.
- Incorporating new spatial functions into the historic spatial setting.
- Using cultural-historic quality as a stimulus for new spatial development.

Furthermore, based on UK's experience on the Historic Landscape Characterisation, characterisation is imperative on the development of spatial plan based not only on the cultural-historic values but also on the environmental carrying capacity. The term character itself is adopted from the UK's 1967 Conservation Area legislation (*ibid.*). The activities regarding the characterisation of Spatial Unit within the scope of Spatial Unit Use should therefore be able to identify the natural and cultural characteristic of the Spatial Unit. Within the scope of the characterisation of Spatial Unit, the volume of Spatial Unit could range from a single Spatial Unit to a jurisdiction that comprises of more than one Spatial Units. Such framework is defined particularly in order to be able to comprehensively cover the jurisdiction in question as proposed by Clark *et. al.* (*ibid.*).

In this study, the operational definition of characterisation is developed based on the previously mentioned concepts and synthesis, which is identification of the features of an area, which are either naturally existed or influenced by human activities, over a defined period of time based on specific set of rules. The mentioned rules are developed in accordance with the purpose of the performance of characterisation itself. By the employment of such definition, it is expected that the development of Spatial Unit Plan would be done based on the time-depth character of the environment and the people, as well as the interaction between the environment and the people.

According to Dunn (2008), forecasting is a procedure for producing factual information about future states of society on the basis of prior information about policy problems. Furthermore, Dunn (2008) mentions that there are three principal forms of forecasting as follows:

- *Projection*: a forecast based on the extrapolation of current and historical trends into the future
- *Prediction*: a forecast based on explicit theoretical assumptions
- *Conjecture*: a forecast based on informed or expert judgements about future states of society.

In the scope of Land Administration, land use planning has been utilised to control the land use for thousand years, especially in old Mesopotamia, Egypt and India (Dale and McLaughlin 1999). Dale and McLaughlin (*ibid.*) further mentions that the modern concepts of land use planning are mainly dated back to the middle of the 19th century due to the rapid growth of urban populations resulting from industrialisation in Europe. During early 20th century, city planning is already acknowledged as a discipline, especially when the Germans provided intellectual and technical foundation of land use planning.

According to Enemark (2005), within the scope of Land Administration, land development comprises of several activities. Those activities are the establishment of new physical infrastructure, the implementation of construction planning and change of land use through planning permission and granting of permits.

As mentioned earlier, land use is considerably dynamics and it is necessary to understand the land use dynamics. The understanding of land use dynamics could be achieved by the monitoring of land use change (Dale and McLaughlin, 1999). Dale and McLaughlin (1999) further highlight the importance of monitoring process within the scope of Land Administration as the fundamental objective of Land Administration performance is to ensure sustainable development.

Moreover, Steudler *et. al.* (2004) mention that Land Administration evaluation framework has been arose to be of important factors on improving it, which in return becomes a means to maintain its sustainability. Within the scope of (land) cadastral system, Barry (1999) also highlights the importance of evaluation on effectiveness of cadastral system performance as effective administrative mechanisms are considerably vital in all societies and economies.

### 3.1.2 Spatial Unit Tenure System

In the development of Spatial Unit Administration System concept, it is proposed that the Spatial Unit Tenure System includes registration system as its sub-component. Within the scope of Land Administration and (land) cadastral system, registration system has been acted as a means for recognising the legal interests including ownership and/or use, in land (McLaughlin and Nichols 1989; cited in Zevenbergen 2002). Additionally, Henssen and Williamson (1990), as cited as well in Zevenbergen (2002), explain the interconnection

among land registration, land tenure and (land) cadastre. Within land tenure extent, land registration concept is used to answer the questions on who the land owner is and how the land owner can be connected to the land, while cadastral system concept answers the questions regarding the land itself (Henssen and Williamson 1990, as cited in Zevenbergen 2002). Furthermore, the outcome of Spatial Unit registration is a legal document, which is expected to legally record not only the right of the subject of the Spatial Unit over the Spatial Unit but also the restriction applied on the utilisation of the Spatial Unit in question and the responsibility of the subject of Spatial Unit over the Spatial Unit itself.

### 3.1.3 Spatial Unit Value System

In this sub-section, the considerations on the sub-components Spatial Unit Value of Spatial Unit Administration System are described. The sub-components of the Spatial Unit Value are appraisal and taxation.

Up to late 1700s, land is acknowledged as the primary source of wealth and power (Ting and Williamson, 1999). Due to the above fact, (land) cadastre is functioning as both juridical and fiscal tool. Therefore, land valuation is performed for wealth's appraisal, as well as for the purpose of taxation. Moreover, Dale and McLaughlin (1999) mentions that land valuation and assessment is also necessarily to be done during land or property transaction.

Besides acting as a means for financing the performance of land governance in general, property and land tax has been employed as a tool for regulating the management of land. Dale and McLaughlin (1999) mention that the property and land tax could be either served social or regulatory objective.

## 3.2 Spatial Unit Cadastral System

As summarised in Abdulharis (2006), (land) cadastral system has been acted as the core of Land Administration System. Basically, (land) cadastre is a record that stores the interests on the individual land parcel or property (FIG 1995, as cited in Enemark 2005). However, most (land) cadastral systems are nowadays linked to land value and security of right to land, as well as land use planning (*ibid.*).

Moreover, within the scope of marine governance, the concept on marine cadastre has been developed. In spite of the different nature of marine environment compared to it of land environment, the marine cadastre has been similarly defined as its counterpart on land, which is the information system that maintains the information regarding the rights, restrictions and responsibilities that could be applied to Marine Unit (Robertson *et. al.* 1999 and Nichols *et. al.* 2000; as cited in Williamson *et. al.* 2010: 211-212).

It is also important to defined cadastre based on its evolution. As explained in Ting and Williamson (1999), (land) cadastre is considered as the basic record of Land Administration, which is also employed as the fiscal tool, up to late 1700's. Between late 1700's and WWII

cadastre is viewed as land market tool, while in post WWII and post WWII reconstruction it is regarded as the planning tool. Between 1980s and the end of 20th century, the further (land) cadastre concept is established and it is considered as land management tool, in which comprises of various activities that are related to land valuation and land registration system, as well as to the establishment of the link between the two. NRC (1983, as cited in Ting and Williamson 1999) entitles the latter as multipurpose cadastre. Moreover, Dale and McLaughlin (1999) provide another important principle of (land) cadastre, which contains legal, fiscal and regulatory component.

Additionally, Enemark (2005) identifies that, in spite of the difference on the purpose of the establishment of cadastre, most cadastral registers have presented the link between land valuation and taxation and land tenure. Consequently, Enemark (*ibid.*) states that it is more sensible to employ cadastral system rather than cadastre.

As the core of Spatial Unit Administration System, Spatial Unit Cadastral System should therefore be able to maintain the Spatial Unit information regarding the use, the tenure and the value of Spatial Unit, as well as to facilitate the interaction among the components of Spatial Unit Administration System. Consequently, Spatial Unit Cadastral System should comprise of the legal, fiscal and regulatory components in order to maintain the information regarding Spatial Unit within the scope of Spatial Unit Administration. Furthermore, to facilitate the interaction among the components of Spatial Unit Administration System, the multipurpose component is expected to be existed on Spatial Unit Cadastral System. Based on the mentioned considerations, the operational definition of Spatial Unit Cadastral System within the scope of this study is the Spatial Unit Information System that comprises of the legal, fiscal and regulatory components for maintaining the information regarding respectively the tenure, the value and the use of the Spatial Unit, as well as the multipurpose component for facilitating the interaction among the components of the Spatial Unit Administration System.

### **3.3 Fundamental Framework of Spatial Unit Administration System**

The fundamental framework of Spatial Unit Administration System is defined as the prerequisite for performing activities in the scope of Spatial Unit Administration. Organisational, legal, financial and technical aspects of cadastral infrastructure are the basic requirements on the development, operation and maintenance of Land Administration (Mulolwa 2002). Additionally, human resources are also acknowledged as of the basic foundations of the cadastral system (Barry 1999). Considering that the proposed Spatial Unit Administration is developed based on the notion of Spatial Unit Cadastre, the above mentioned aspects of cadastral system are treated as the incorporated feature of the Spatial Unit Administration System. This sub-section is therefore focusing on the description of institutional, technical and financial framework of Spatial Unit Administration System.

#### **3.3.1 Institutional Framework**

For the purpose of establishment of analytical framework of research on customary Spatial

Unit Administration, the definition of institution employed in this research is complexes of norms and behaviours that persist over time by serving collectively valued purposes (Uphoff, 1986). We therefore argue that the institutional framework does not only comprise of organisational arrangement but also the norms applied in an institution, in which mainly embraces the policies on management of spatial unit, as well as legal arrangement as the implementation of the above mentioned policies. Moreover, Lise (2007) further notes that, based on Uphoff's (1986) definition on institution, institution in general includes as well the human resources development as it has an important role on controlling human behaviour.

In this sub-section, three components of institutional framework of Spatial Unit Administration System are introduced. Those components are policy and legal arrangement, organisational arrangement and human resources development.

Within the context of Land Administration institution, land policy is defined as consisting of a whole complex of socio-economic and legal prescriptions that dictate how the land and the benefits from the land are to be allocated (UN-ECE, 1996). UN-ECE (1996) further states that political ideologies give significant effect on land policy and the Land Administration process.

Clear definition on Spatial Unit Administration policy consequently takes an important role on good governance of land and marine unit. Barry (1999) mentions that (land) policy should express the envisage of the governance within the canons of its social, political and economic philosophy. This is basically based on GTZ's Willi Zimmermann's experience in countries without a formal, explicit land policy (Barry, 1999). In Barry (1999), Willi Zimmermann states that, within the context of above mentioned countries, it is assumed that an informal policy exists and that formulation may take place on an ad hoc basis. This has created such environment that formal policies related to land may not be integrated (Barry, 1999).

In relation to the policy implementation of Spatial Unit Administration, Legal Arrangement is argued to be of important factors on maintaining sustainability of Spatial Unit Administration System. The Legal Arrangement on Spatial Unit Administration is basically functioned to formally define the relationship between people and land. The above statement is fully supported by Dale and McLaughlin's (1999) statement on the importance of relationship between people and land in every society and evident in the form of property rights. Dale and McLaughlin (1999) reveal that the level of state's control to the land could also be comprehended from this relationship as the world has evidenced the different ways of transferring the right to land to the people, such as full state control, communal forms of tenure, individual property rights and so forth. Dale and McLaughlin (1999) and Zevenbergen (2002) express that the Legal Arrangement of Land Administration intrinsically comprises of clear definitions on rights, restrictions and responsibilities of people to their land.

Organisational arrangement is also considered as a fundamental supportive scheme for maintaining the sustainability of Spatial Unit Administration, as well as for ensuring the good

governance on land and marine unit. We highlight a number of major issues mentioned by UN-ECE (1996) that directly affect the performance of Land Administration and cadastral system such as inter-governmental coordination, centralisation and decentralisation, the role of the public and private sectors and management of Land Administration and cadastral system organisations.

According to UN-ECE (1996), it is important to coordinate activities within the scope of Land Administration. This is mainly due to the fact that, in most countries in transition, it could rarely be found an integrated policy with regard to land or land information management (UN-ECE, 1996). In the case of Indonesia, the lack of inter-governmental coordination has been the main reason on the existence of Land Administration System pluralism. Even though it is argued that there existed only a single land tenure system in Indonesia due to the promulgation of Agrarian Principle Act of 1960, in practice there are other land tenure systems such as customary land tenure system, as well as forestry land tenure system that is beyond the jurisdiction of Agrarian Principle Act due to the promulgation of Forestry Act of 1999. Even though The Transitional Provision has been included within Agrarian Principle Act of 1960, indigenous communities have been reluctant to the conversion of customary land into the various type of formal tenureship as the formal system has not been well-functioned compared to the customary one, the conversion has been restrained by the ineligibility of indigenous community to uphold formal land tenure or the customary land is situated beyond the formal land tenure system jurisdiction. Moreover, the uncoordinated performance of National Land Agency in the scope of land tenure system and Ministry of Treasury in the scope of land value system has been forced both organisations to create duplicated dataset within some extent. Strain *et. al.* (2006) also expresses that there are many different organisations, activities, legislative frameworks, international agreements and conventions, stakeholders and industries took part within marine management and administration of marine resources.

UN-ECE (1996) argues that Land Administration should ideally be under the supervision of a single authority referred to above as the lead agency. However, within the detailed administrative operation, Land Administration may be centralised or decentralised depending on the size of the country and the nature of communication (UN-ECE, 1996).

Within European context, there have been discussions on the utilisation of the terms “agency” and “authority” on Land Administration and cadastral system organisation (UN-ECE, 1996). UN-ECE (1996) contrasts the employment of “agency” term with “authority” term and reveals that an agency normally can take advantage of potential for developing value-added services on top of the basic Land Administration, which mostly could not be done by an authority due to the political ideology restriction such as application of Freedom of Information scheme. Moreover, UN-ECE (1996) also mentions that governments should define the rules under which such organisations operate and determine which activities should belong to the agency and which should be handled by the private sector. This is mainly due to the difficulties of governmental agency or authority to maintain their neutrality and objective role, especially if it is much involved in competing with the private sector (UN-ECE, 1996).

It is also argued that the management of Land Administration and cadastral system takes an important role for supporting the good governance on land and marine unit. Land administration and cadastral system is considerably too large to be handled by a governmental institution, while, on the other hand, the distribution of tasks to several governmental institutions could lead to the overlapping of jurisdiction.

Barry (1999) expresses that human resources comprise of the set of people who possess the required knowledge and skills to sustain the system. The education and training systems and institutions therefore need to be in place to ensure that the base of human resources remains adequate over time (Barry, 1999). Moreover, UN-ECE (1996) states that, due to the rapid technological developments, the creation of good conditions in which staff can develop their skills is considered as another aspect of institutional arrangement within the scope management of Land Administration System. Consequently, within the scope of Spatial Unit Administration, it is necessary to provide the means to educate and train the administrator of the Spatial Unit Administration System in order to supply the system with the adequate human resources.

### 3.3.2 Technical Framework

The development of Marine and 3D Cadastre conception could mainly mirror the necessity to expand the scope of Land Administration's technical framework within the context of elaboration of land and marine unit administration into Spatial Unit Administration, while the existing Land Administration System itself has been addressing several technical aspects for ensuring its sustainability. The recent progress on development of National Spatial Data Infrastructure adds as well useful technical hints for supporting the performance of Spatial Unit Administration System.

Within the context of sound Land Administration, UN-ECE (1996) highlights the importance of the establishment of geodetic control framework and the performance of cadastral surveying and mapping. According to UN-ECE (1996), geodetic control measurement contributes to an efficient and effective performance of cadastral surveying and land registration. Moreover, UN-ECE (1996) also mentions that the relative accuracy matters than the absolute accuracy. This is particularly due to the performance of cadastral surveys, which are mainly concerned with setting out and recording the turning-points or corners along property boundaries, for various purposes (UN-ECE, 1996).

Marine Cadastre is mainly defined for handling 3D or even 4D unit, the need to represent water and space unit has been departing beyond the technical framework of Land Administration System. Ng'ang'a *et. al.* (2004) describes the necessity on the employment of sidescan sonar, single beam echosounders, multibeam sonar, seismic surveys, as well as visualisation software for systematically exploring and describing not only the water column but also the seabed surface and geological structure beneath the surface.

### 3.3.3 Financial Framework

According to Barry (1999), financial management is necessarily to be correlated to the performance of cadastral sub-systems and human resources development. UN-ECE (1996) also mentions that Land Administration System itself is needed to be financed, particularly by means of tax, fees or commission. Moreover, UN-ECE (1996) highlights the progress on marketing land registry and cadastral data as a means to reduce general government expenditure through the application of charge for acquiring land registry and cadastral data.

## 4. CUSTOMARY SPATIAL UNIT GOVERNANCE IN AMBON LEASE REGION

In this section, the Spatial Unit governance performed by indigenous communities in Ambon Lease region is highlighted. In the study that is highlighted in this paper, four sub-case study areas are chosen, namely Negeri Latuhalat, Negeri Tulehu, Negeri Siri Sori Islam and Negeri Paperu. Located in the Municipality of City of Ambon, Negeri Latuhalat is chosen in order to be able to assess the performance of customary Spatial Unit governance within the governance centre. Negeri Tulehu, which is located in Ambon Island and administratively under the Municipality of Central Maluku, is selected due to its strong customary government and, on the other hand, its function as of the important economic hubs in the Province of Maluku. Moreover, Negeri Siri Sori Islam and Negeri Paperu are located in Saparua Island in Municipality of Central Ambon, which could be reached within an hour by speedboat. In Negeri Siri Sori Islam, the customary regime is considerably strong, while the transition from the previous customary regime to the latest regime between 2008 and 2011 has led the customary governance partly ineffective. While Negeri Paperu is chosen as the counter sub-case, Negeri Siri Sori Islam is selected as sub-case study area in order to assess the performance of customary Spatial Unit governance in area outside the governance centre.

This section is further divided into three sub-sections. The Section 4.1 describes the customary land administration, while the Section 4.2 depicts the customary marine administration in four sub-case study areas. Last but not least, Section 4.3 portrays the institutional framework of Customary Land and Marine Administration in four sub-case study areas.

### 4.1 Customary Land Administration

#### 4.1.1 Customary Land Zoning

Each *negeri* is basically comprised of two main zones, which are non-cultivated and cultivated area. There are at least four types of non-cultivated zone. The first type of conservation area is the preserved forest known as *wasi amang* in Ambon Island or *tanitar* in Saparua Island. Particularly in Saparua Island, some parts of the preserved forest have also been acting as another type of non-cultivated sub-zone called *negeri lama*. *Negeri lama* is the location where the ancestors of these indigenous communities are resided, mostly at the top of the hill, which is abandoned during the relocation of the ancestors of these indigenous



communities. The purpose of the preservation of *negeri lama* is to protect artefacts that used to be utilised as the apparatus on traditional ceremonies such as *batu meja*, a table made of stone, or the means for protecting themselves such as cannons. See Figure 3 and 4 for the insights of *negeri lama* of Negeri Kulur and Negeri Siri Sori Islam both in Saparua Island. Another type of conservation zone is *ewang*, which is defined as a barren land out of the protected forest area (Effendi, 1987). In Negeri Tulehu of Ambon Island, *ewang* is also acted as the buffer area of the watershed. The fourth type of conservation area could particularly be found in Negeri Tulehu, which is the cultural heritage preservation area. The most important cultural heritage preservation area in the latter mentioned *negeri* is a monument commemorating the arrival of the ancestors of people of Negeri Tulehu.

The cultivated zone in this region is mainly consisted of customary governance zone; customary business zone, mostly in the form of traditional market; the formal governmental service area; settlement area; and agricultural area. Within the customary governance zone, there are the customary government office, which mostly acts as the formal government office as well; *baileo*, the community's meeting hall employed for upholding customary ceremony and community's meeting; and either mosque or church, depends on the common religion in *negeri* in question.

The customary business zone is mostly located nearby the customary governance zone, which altogether act as the centre of activities of *negeri* in question. It mostly comprises of traditional market and the more modern shops such as pharmacy and small supermarket.

In some *negeri-negeri* there also existed formal governmental service area such as ports and a hospital in Negeri Tulehu. A newly planted market is also existed in Negeri Tulehu since 2008.

Some *negeri-negeri* have also tourism area such as the famous Natsepa Beach in Negeri Suli of Ambon Island, Namalatu Beach in Negeri Latuhalat and natural hot spring in Negeri Tulehu. Particularly in Negeri Siri Sori Islam, the Government of Negeri Siri Sori Islam is planning to encourage the foundation of a forestry eco-tourism industry due to the existence of Gandaria Tree (*Bouea macrophylla*) that is an endemic plant of Saparua Island. In Indonesia, besides in Saparua Island, Gandaria Tree could only be found in Botanical Garden in Bogor, West Java, Indonesia.

The agricultural area in this region is known as *parusa* area, which means an area that has been converted from non-cultivated area to cultivated area in particularly for the agricultural purposes. Due to its history, most agricultural areas in this region are existed in the form of hard crop plantation such as clove, nutmeg and coconut plantation, which have been long existed. Particularly in Negeri Latuhalat, most of coconut plantations are converted into breadfruit (*Artocarpus altilis*) and banana plantations. Besides *parusa*, there is another type of agricultural area called *aong*, which is a barren land that is converted into arable land for planting short-term crops (Effendi, 1987).



Figure 3 The view of *negeri lama* of Negeri Kulur at the top of the highest hill from the outskirts of this *negeri*

#### 4.1.2 Customary Land Use Rules

The implementation of customary land management systems in this region has been basically upheld by the customary rules manufactured solely by the ancestors of these indigenous communities. Such rules are still being applied at this moment. The main customary land management rules are usually existed under *sasi* scheme.

Due to the variation of the existed natural and man-made resources in this region, there existed many *sasi* rules. In the scope of the implementation of customary land management system, *sasi* mainly regulates the manner on how the natural or man-made resources are exploited. Depending on the existing type of resources, *sasi* could be applied permanently or seasonally. Such *sasi* that is applied permanently is *sasi kepala air* in Negeri Tulehu, which permanently restricts the conversion of springs into any other type of land use. On the other hand, *sasi kelapa*, *sasi pala*, *sasi atap* and *sasi bambu* are applied seasonally only. *Sasi Kelapa*, which regulates the restriction for harvesting coconut before it is fully ripe and for cutting down coconut tree, has been applied in some *negeri* such as Negeri Tulehu, Negeri Siri Sori Amalatu and Negeri Paperu. Negeri government announces the application of *sasi kelapa* during the ceremony in baileo and installs the signs almost at every intersections and landmarks in *negeri* in question. Those signs would be uninstalled soon after *sasi kelapa* is revoked. See Figure 4 for the sign marking the application of *sasi kelapa* in Negeri Siri Sori Amalatu. Moreover, *sasi pala*, *sasi atap* and *sasi bambu* apply the restrictions for cutting down the trees of and harvesting - within the off-season- nutmeg, sago palm and bamboo. Another *sasi* called *sasi hutan* that is applied in Negeri Haruku of Haruku Island regulates the

restriction to harvest sago palm, pineapple and durian during their off-season, as well as the restriction to cut down areca nut during its season.



Figure 4 The view of *negeri lama* of *Negeri Siri Sori Islam* from the centre of this *negeri*

It is also possible that the customary rule is not sanctioned under *sasi* scheme. Rules such as the restriction to collect the sand and pebbles are applied at every beaches in *Negeri Latuhalat*. Moreover, in some cases, the rule that is not promulgated under *sasi* scheme is projected to be ratified as *sasi* as well, such as marine *sasi* in *Negeri Paperu* that is, on 2009, waiting to be promulgated soon after the customary government of this *negeri* is established.



Figure 5 The sign marking the application of *sasi kelapa* in *Negeri Siri Sori Amalatu*, which is installed at one of the busiest intersections in this *negeri*

#### 4.1.3 Customary Land Tenure

Differing from the evolution of cadastre as the core of land administration system, in which land tenure system is acknowledged as of its components, the customary land tenure systems in this region are not initially established as a record of land ownership and as a land fiscal tools such as revealed by Ting and Williamson (1999) regarding the land administration and cadastre trends but as a means for ensuring the fulfilment of the performance of land management and administration system. This could be identified from the process of establishment of the customary land tenure system, in which occurred at the same time with the foundation of *negeri*, as well as land management and administration system.

As the consequence of the establishment of *negeri* as a territorial association, all land units within the territory of *negeri* are considered as communal land and have been administered under the customary spatial unit administration of *negeri* in question (Effendi, 1987). The land with communal right attached to it is known as tanah *negeri* or land of the state (Effendi, 1987: 97). The administration of land has been done by *saniri negeri (ibid.)*, in which mainly comprises of officials of *negeri* government, genealogical and/or territorial representatives that are not chiefs of the associations, the elders, intellectuals and *kewang (ibid.)*.

Within the initial administration of tanah *negeri*, several sub-tenures of tanah *negeri* are issued in order to ensure the status of land units that functioned for supporting *negeri* governance, environmental and cultural preservation and, later on, formal governance in

*negeri* in question. Such sub-tenures of tanah *negeri* that served for supporting *negeri* governance are embedded to customary governance zone, customary business zone and tourism zone. The tenures on zones designated for preserving the surrounding environment and cultural heritage, such as *isi amang*, *negeri lama*, *ewang* and customary monumental area, are issued as well in this phase of customary land tenure system evolution. Moreover, usufructs on formal governmental service areas are issued later on as the symbol of loyalty to the higher hierarchical regime.

Having has the core of the land administration system running in place, the issuance of rights to land to the genealogical and/or territorial association, as well as individual, are taken place in order to provide the greatest benefit for the member of these communities. Within this phase, there are two different principles applied. The first principle is the adverse possession principle in relation to the redistribution of land units previously occupied by genealogical and/or territorial associations, while the second principle is *dati* law principle.

By employing adverse possession principle, the communal-individual right to land is distributed to the genealogical and/or territorial associations in *negeri* in question. The communal-individual right to land is already established even before the foundation of *negeri*. As mentioned from above, *negeri* is founded based on the consensus agreed by these associations. Prior to the development of the consensus for establishing *negeri*, these associations are already occupying one or more tracts of land as reflected from definition of *rumatau*, the smallest unit of each association in this region. *Rumatau* has always been associated to a dwelling as *ruma* means house and *tau* means the content of the house, in which essentially is referred to people (Effendi, 1987). In recent times, there existed still tanah *soa*, a tract of land belongs to *soa*. *Soa* is a territorial-genealogical association that comprises of one or more *rumatau* (*ibid.*). Normally, each *negeri* in this region comprises of at least three *soa-soa*.

*Dati* law promulgated several obligations to the members of these associations for supporting the performance of *negeri* governance (*ibid.*). As the reward for performing at least a task regulated by *dati* law, a usufruct upon a portion of land in the jurisdiction of *negeri* in question is given, which is basically functioning for supporting the subsistence of the family of the person who has performed *dati* task (*ibid.*). The *dati* task is further transferred to the heir of person who has performed *dati* task, which in return led to the establishment of *dati* association that purpose is for arranging the working shift among the member of *dati* association (*ibid.*). This type of land is now known as tanah *dati* or *dati* land, which is at the moment categorised as communal-individual right to land (*ibid.*). During the early 19th century, almost all tanah-tanah *dati* are registered initially by the English Colonial Government, which is finalised by the Dutch Colonial Government. The registry document called register *dati* has been maintained up to now by each *negeri* government and has been employed as the legal basis of the maintenance of tanah *dati*. Tanah *dati* itself is nowadays measured as of the strongest tenures exercised over the land unit besides communal and communal-individual land tenure in this region as the member of these communities is always attached to a *dati* association.

Another land type with communal-individual right to land attached to it is tanah pusaka or heirloom land. Unlike tanah *dati*, the tenure attached to this type of land is acquired by an individual by submitting the usufruct application to *negeri* government (*ibid.*) or *dati* association (*ibid.*) for converting *ewang* or a portion of tanah *dati* into arable land (*ibid.*). However, not until the land is inherited by the heir of usufruct holder, with the permission from *negeri* government or *dati* association, did the land is considered as tanah pusaka (*ibid.*). Another way to possess tanah pusaka is by purchasing existed tanah pusaka. The bought land, in which after the successful transaction is called babalian, could only be fully converted into tanah pusaka after the land is inherited by the heir of the subject of babalian (*ibid.*).

Moreover, these indigenous institutions have also been allocating some portion of land units within their territory to the non-member of these institutions. There are two types of tenures that are the outcome of the previously mentioned process, which are usufruct, right to quiet enjoyment and freehold. The non-member of these indigenous institutions could acquire usufruct for harvesting annual plants upon tanah *negeri* after the payment of ngase or fee to *negeri* government (*ibid.*). This type of tenure could not be inherited by the holder's heir, except with the consent from *negeri* government. Usufruct could also be acquired by the member of *dati* association, normally women, who is due to her married is not considered as the member of *dati* association anymore (*ibid.*). Alike the previous type of usufruct for the outsider, the usufruct upon tanah *dati* could not be inherited by her heir. In both cases, the spatial unit is still under the administration of *saniri negeri* or *dati* association while the plant belongs to the usufruct holder.

Right to quite enjoyment has been mostly given to non-member of these institutions who has or once has a family relationship with the member of these institutions (*ibid.*). The delivery of this type of tenure is always being linked to the existing tenure attached to the land unit in question such as mentioned in Effendi (*ibid.*). Therefore, the length of validity of right to quite enjoyment depends on the type of tenure linked to the right to quite enjoyment.

On the other hand, the conversion of communal right to land to freehold has mostly been applied in the case of outsider such as exercised in Negeri Latuhalat. Such transfer of tenure extricated the land from the customary land tenure system (*ibid.*). Later on, the spatial unit is supplemented by eigendom, freehold issued by the Dutch Colonial Government (Effendi *ibid.*), or formal freehold issued by GoI.

Furthermore, there are rights to land that acts as the intermediary for resolving the conflict over land and, unlike usufruct and freehold mentioned from above, not attached directly to the possession of a land. Such intermediary rights are pre-emptive right (*ibid.*) and precedence (*ibid.*). Such rights to land have been able to support the resiliency of the systems for resolving almost all land-related conflicts.

## 4.2 Customary Marine Administration

### 4.2.1 Marine Use Zoning

In four sub-case areas, the customary Marine Use zoning principle is basically characterised by the concept on customary marine territory. The marine territories of four sub-case study areas are the shallow water area that is bounded by the edge of sea trench and the agreed boundaries with the neighbouring *negeri-negeri*. Interestingly, four *negeri-negeri* highlighted in this study have no definition on coastal line, which reveals the application of the integrated management of land and marine territory. Instead of separating the marine territory from the land territory, these indigenous communities regard the management of marine territory as of the sectors on an integrated management of the customary jurisdiction.

Due to the different extent of the marine territory of each sub-case study area, the zoning of the customary marine jurisdiction has been differently defined in these areas. Four sub-case study areas, the marine territory is open only for the citizen of *negeri* in question. Nonetheless, the access to marine territory is strictly bonded to the customary rules, which are defined based on the characteristic of marine environment in question. Besides the previously mentioned zone that is commonly found in four sub-case study areas, additional zones have been defined in order to cope with the special characteristic of the marine territory of each sub-case study areas. In the marine territory of Negeri Tulehu, there are three areas that are defined as marine protected areas, or *labuan* in local term, while there used to be four other marine protected areas that could not be re-identified at the moment. Of the customary marine protected areas is Batu Lompa, which acts as the breeding ground of Yellowback fusilier (*Caesio xanthonota* Bleeker). Yellowback fusilier has been found in a huge amount in Banda Sea, which is the nearest open sea. Furthermore, due to their location at the Saparua Bay, the marine territories of Negeri Siri Sori Islam and Negeri Paperu are completely defined as *labuan*. This is particularly due to the existence of coral reefs in the marine territory of Negeri Paperu and the existence of top shell and sea cucumber in the marine territory of Negeri Siri Sori Islam. On the other hand, due to its location that is facing Banda Sea, the marine territory of Negeri Latuhalat is completely defined as normal customary marine territory.

### 4.2.2 Customary Marine Use Rules

Within the administration of marine use in four sub-case study areas, a few sets of rules could be identified. The first set of rules is a common one, which comprises of the restriction on the exploitation of resources without the permission from the Chief and *kewang*, the employment of motorboat, the fish blasting and the employment of diving regulator on diving activities. These rules could be found on all sub-case study areas and are applied on the customary marine territory, including the marine territories of Negeri Siri Sori Islam and Negeri Paperu that are also considered as *labuan-labuan*.

The second set of rules comprises of, besides the previously mentioned set of rules, the additional restrictions particularly on the management of *labuan-labuan*. In Batu Lompa, it is

forbidden to fish using fishing net, while the acceptable fishing tools are fishing rod and the traditional boat of this region.

The third set of rules is applied under *sasi* scheme. This scheme could be applied in any zone within the marine territories of these indigenous communities. In Negeri Latuhalat, there are four *sasi-sasi* that are applied on the exploitation of prawn, sea cucumber, top shell and fancy fish, while Negeri Siri Sori Islam has only *sasi-sasi* on sea cucumber and top shell (Novaczeck *et. al.* 2001), with an additional *sasi labuan* that is applied in its *labuan*. In Negeri Paperu, *sasi* on sea cucumber and *labuan* could also be identified, even though the different rules are applied for the latter compared to it of Negeri Siri Sori Islam. Particularly in Negeri Siri Sori Islam, the application of *sasi* on sea cucumber and top shell includes as well the auction of the right to exploit the mentioned resources (*ibid.*).

#### 4.2.3 Customary Marine Tenure

In all sub-case study areas, there could be identified three types of marine tenures. Those tenures are the communal tenure, automatic usufructuary right dedicated for traditional activities on sea and usufructuary right for other permanent activities. The communal tenure is basically acted as the customary primary tenure on sea, which could be overlaid by the other tenures. The automatic usufructuary right is in essence related to the provision of the permission to perform the traditional activities particularly fishing. Nonetheless, such right is only automatically granted to the citizen of *negeri* in question, as described in Section 4.2.1. Moreover, the usufructuary right is granted for the more permanent activities such as the onshore fish plantation locally called as *saaro*. Especially in Negeri Siri Sori Islam, usufructuary right is also given temporarily during the application of *sasi* on sea cucumber and top shell, which is given to the highest bidder on the auction of the exploitation of the mentioned resources.

In order to acquire the automatic usufructuary right and usufructuary right, the permission from the chief and *kewang* are required. In addition, the permission from the Agency on Marine Affairs and Fisheries of Municipality of City of Ambon is required to have the usufructuary right granted within the marine territory of Negeri Latulohat. Unfortunately, the delivery of usufructuary right on marine territory of Negeri Paperu is ineffective due to the absence of the customary government since 2008.

### **4.3 Institutional Framework of Customary Land and Marine Administration**

The administration of land and marine unit has been done by *kewang* institution. In all four sub-case study areas, different *kewang* members are assigned for performing the monitoring and customary rules enforcement on their land and marine territories. Considering the different characteristic of land and marine territory of each sub-case study area, as well as the different rules applied on the administration of land and marine unit, as well as the resources attached to them, such division of tasks is essential to ensure the fulfilment of the objectives of the administration of Spatial Unit.



The responsibility of land and marine *kewang* is defined differently in each sub-case study area, which is settled based on the characteristic of the area in question and the policy of the customary government. Due to its vast land territory extent and its role as of important hubs for connecting Ambon Island and other islands in this region, as well as other regions in the Province of Maluku, *kewang* of Negeri Tulehu has been actively performing its tasks for monitoring and enforcing the customary rules on the management of land and resources attached to it. In spite of its small extent of marine territory, fewer marine *kewang-kewang* are assigned due to the limited resources for financing *kewang* activities in Negeri Tulehu. In fact, the role of marine *kewang* should be enhanced as the marine management policy of Negeri Tulehu included as well the monitoring and customary rules enforcement of open sea in its surroundings, particularly due to direct and indirect impacts of activities in open sea to the marine territory of this *negeri*.

In Negeri Latuhalat, two land *kewang-kewang* has only been assigned for collecting *negeri*'s contribution fee from the citizen of this *negeri*, while there are six marine *kewang-kewang* who has been assigned for performing the monitoring and the customary rules enforcement in the scope of customary marine management and administration. The authority of customary government of Negeri Latuhalat to control the land management in its territory has been declining in the last decade. The abolition of coconut *sasi* is acted as the important evidence, which is occurred due to the conversion of most of coconut plantations in this *negeri* into banana dan breadfruit plantations. Most importantly, the customary government of Negeri Latuhalat has been focusing on the management and administration of its marine territory due to the abundance of marine resources contained therein.

On the other hand, the activities of *kewang* institution on land and sea in Negeri Siri Sori Islam has been equally done. This is particularly due to the existence of endemic plant that is only existed particularly in this *negeri* and in a botanical garden in Bogor, West Java. On the other hand, the marine *kewang* has also been responsible for arranging the *sasi* on sea cucumber and topshell occasionally, as well as *sasi labuan*.

Even though the customary government of Negeri Paperu is in the transition period between 2008 and 2011, the monitoring and the customary rules enforcement in the scope of Customary Land and Marine Administration has still partly done. Differing from the previously mentioned *negeri-negeri*, Negeri Paperu has been applying the kinship-based customary governance as each kinship association has a fixedly defined role in the customary governance. In this *negeri*, *kewang* tasks has been done by the sons of Hurumalassy headed by the representative of Luhukay family. While the land *sasi* has partly been applied, marine *sasi* in Negeri Paperu is unfortunately abolished between 1994 and 1995. Even though marine *sasi* is re-introduced by the customary government of this *negeri* on 1996, it is no more operational during the fieldworks.

Most importantly, the policies and strategies of the customary governments of these *negeri-negeri* on the management of the land and marine unit and the resources attached to them has

been influencing very much the Customary Land and Marine Administration, particularly within the activities in relation to the planning of Land and Marine Use, as well as its implementation and implementation's monitoring. The policy of the customary government of Negeri Latuhalat to focus on the management of land and marine unit and the resources attached to them on its customary marine territory and surrounding seas has resulted on the abandonment of *sasi* on coconut, the only customary rule on the management of land identified in this *negeri*.

On the other hand, the stricter enforcement and monitoring of the application of customary rules on its customary marine territory and surrounding seas has been applied. There existed four marine *sasi-sasi* and a permanent prohibition on the mining of sand and pebble of the beaches, as well as the other common rules such as the restriction on the type of boat on the exploitation of resources in the customary territory of Negeri Latuhalat and fish bombing. There are also six marine *kewang-kewang* that are assigned for performing the enforcement and monitoring of the application of customary marine management and administration rules.

The policy of the customary government of Negeri Latuhalat to take full advantage of its customary marine territory, supposedly in a sustainable way, has also been implemented by providing supports for its citizen on the Land and Marine Use-related activities. The full support from the customary government of Negeri Latuhalat to the fisheries industry has led this *negeri* to be of the important exporters of pelagic fishes in this region. Two local dive companies has also been supported by the customary government of Negeri Latuhalat for promoting the marine tourism.

In spite of its focus on the management and administration of land and marine unit and resources attached to them on the customary marine territory of Negeri Latuhalat and its surrounding seas, the customary government of this *negeri* has also been supporting its citizen on the Land and Marine Use-related activities on land. A series of trainings on post processing of breadfruit into breadfruit cracker has been on-going since 2009 and, during the 2011's fieldwork, this *negeri* has already been produced it regularly.

On the other hand, due to its extensive coverage of terrestrial territory and limited financial support, the customary government of Negeri Tulehu has only been focusing on the management and administration of the land and marine unit and resources attached to them on its terrestrial territory. Indeed, the rate of illegal logging could be lessened by assigning and financing *kewang* institution of this *negeri* for monitoring the performance of customary rules within the territory of Negeri Tulehu. Nevertheless, the less enforcement and monitoring of the application of customary rules on management and administration of Spatial Unit and the resources attached to it on its customary marine territory is argued as of the important causes, among the other causes such as the intensification of marine transportational activities in ports of Negeri Tulehu, of the degradation of marine environmental quality. Even though the coverage of coral reef ecosystem between 1991 and 2001 could still be maintained, which is analysed by comparing the 1991's Landsat TM5 and 2001's Landsat TM7 images, it is

reported that the coral reef ecosystem in the eastern coast of Ambon Island is severely damaged. Additionally, four, out of seven, customary marine protected areas could not be identified anymore.

The policies and strategies on the management of land and marine unit in Negeri Siri Siri Islam has also been affected the performance of Customary Land and Marine Administration in this *negeri*. The strict enforcement and monitoring of the employment of policies and strategies on the management of Spatial Unit on both land and sea allowed the maintenance of the functions of Customary Land and Marine Use zones in Negeri Siri Siri Islam, as well as the quality of both terrestrial and marine environment.

Even though the policies and strategies on the management of land and marine unit and the resources attached to them in Negeri Paperu has been established along the development of the Land and Marine Management and Administration System, the ineffectiveness of the customary government of this *negeri* has put in stall

## 5. DISCUSSION

On some extent, the indigenous communities in four sub-case study areas have been implementing Spatial Unit Administration concept described in Section 3. As highlighted in Section 4, these indigenous communities have been applying the concept on Spatial Unit Use and Tenure on its own right.

Most importantly, an integrated approach on the administration of customary land and marine territory has been applied for centuries by these indigenous communities. The factors that allow such achievement are the integrated administration of Spatial Unit and the resources attached to it and the integrated Spatial Unit Administration institution.

Within the scope of horizontal separation principle, which provides the basis on the delivery of more than one tenures on a Spatial Unit based on the function of the Spatial Unit in question, the integration between the administration of Spatial Unit and the resources attached to it is considered as of the entry points for these indigenous communities to perform an integrated Spatial Unit Administration. The tenures that are related to the utilisation and/or the exploitation of resources, both the natural and man-made resource, are overlaid on top of the primary tenures namely the communal tenure, as well as the communal-individual tenures such as *tanah dati* and *tanah dati pusaka* and the individual freehold. Such tenures are also acted as the permit to perform the utilisation and/or exploitation of the resources. The same pattern of administration of Spatial Unit Tenure on land and sea could therefore be identified.

These indigenous communities have also maintained the institution of Spatial Unit Administration on land and sea integratively. From the point of view of policy on the administration of Spatial Unit on land and sea, the objective of such activity is to maintain the sustainability of the environment by means of the customary values upheld by these indigenous communities. As these indigenous communities have been depending very much

to the exploitation of natural resources in their surroundings, the sustainable environment has been ensuring the maintenance of the welfare of the members of these indigenous communities. In return, such policy has driven the establishment of the sole legal framework even though the administration of Spatial Unit has been sectorally done by these indigenous communities.

## **6. WAY FORWARD**

The customary Spatial Unit Administration in four sub-case study areas in Ambon Lease region provides an example on the possibility to implement a sectoral but integrated Spatial Unit Administration. Most importantly, the customary Spatial Unit Administration in these areas offers the framework for guiding the Spatial Unit Administration to act as the tools for achieving sustainable development goals.

Nonetheless, the existence of the customary Spatial Unit Administration in Ambon Lease region unfortunately leads this region to experience the dualism of administration system due to the performance of formal Spatial Unit Administration. Having learned from the case of customary Spatial Unit Administration by indigenous communities in four sub-case study areas, such dualism should be eliminated by, on one hand, providing the more autonomy to each system and, on the other hand, providing a means for institutionally integrating both systems. The further research for modelling the integration of customary and formal Spatial Unit Administration in Ambon Lease region is therefore necessary to be done.

Moreover, the customary Spatial Unit Administration in Ambon Lease region could also be employed as the case for modelling the link between the Spatial Unit Administration and sustainable development. As mentioned earlier in this section, the customary Spatial Unit Administration is performed in order to lead to the achievement of sustainable development. Nevertheless, the aspect of sustainable development that is affected by the Spatial Unit Administration is not known yet. Thus, the further research on the measurement of the impact of the Spatial Unit Administration to sustainable development is expected to be initiated.

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