

**A thesis submitted to the Department of Environmental Sciences and Policy of
Central European University in part fulfilment of the
Degree of Master of Science**

The Dynamics of Natural Resources Governance Systems in Chin State

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July 2018

Budapest

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ABSTRACT OF THESIS submitted by: Rual Lian THANG
for the degree of Master of Science and entitled:
The Dynamics of Natural Resources Governance Systems in Chin State

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The customary common property resources governance systems in the developing world are increasingly challenged by rapid economic development and social transformation in the current era of globalization. The customary natural resources governance systems in Chin State (Myanmar) have been in the process of transformation toward market-oriented governance systems after the political and economic reforms of Myanmar in 2011. The research aims to identify the key factors that have influenced the dynamics of change in natural resource governance and analyze the evolution of resources governance systems by using interviews, field observation, informal discussions and literature reviews. The findings suggest that there are two main factors involved in influencing the natural resources governance systems in Chin State. First, policy and regulatory reforms that encourage permanent agricultural systems through privatization play a critical role in changing resources governance systems. Second, economic and infrastructural developments in the area also contribute to shaping the economic relationship between the local people and their natural resources. The interaction of these dynamics has resulted in exclusion of vulnerable community members from their usual access to the common resources.

Keywords: Chin State, Customary system, Common property resources, Agricultural land, Forest and water resources.

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TABLE OF CONTENTS

1.0.	INTRODUCTION	1
1.1.	Background	1
1.2.	Thesis statement	2
1.3.	Thesis outlines.....	3
2.0.	LITERATURE REVIEW	5
2.1.	Introduction	5
2.2.	Conceptualizing traditional common property resources	6
2.3.	Understanding the dynamics of traditional natural resource governance systems	8
2.4.	Conceptual framework and definitions of terms.....	11
3.0.	METHODOLOGY	15
3.1.	Research scope and significance	15
3.2.	Study site	16
3.3.	Data gathering	19
3.4.	Study limitation	20
4.0.	DYNAMICS OF NATURAL RESOURCE GOVERNANCE IN CHIN.....	21
4.1.	Introduction	21
4.2.	Historical background of Chin customary natural resource governances	21
4.2.1.	Introduction to customary resource governance	21
4.2.2.	Customary land governance.....	23
4.2.3.	Customary forest resource governance	27
4.2.4.	Customary water resource governance	29
4.2.5.	Legal recognition of customary resource governance	31
4.3.	Findings: changes of natural resource governance systems.....	32
4.3.1.	Land governance	34
4.3.2.	Forest governance	48
4.3.3.	Water governance	53
4.3.4.	Influencing factors of the changes	58
4.4.	Discussion	65
4.4.1.	Theoretical relevancy.....	65
4.4.2.	CPRs to private property: Dynamics and factors.....	66
4.4.3.	Social and sustainable implications	69
5.0.	CONCLUSION AND RECOMMENDATIONS	72
6.0.	REFERENCES	75

LIST OF TABLES

Table 1: Defining Common Property Resources	8
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LIST OF FIGURES

Figure 1: Map showing the research study site.....	18
Figure 2: Form-7 Land use certificate (Celine, 2016)	39
Figure 3: Permanent upland paddy field.....	43
Figure 4: Land demarcated for coffee plantation in ChungCung village near Hakha	47
Figure 5: Water storage construction for micro-hydropower plant in Aibur village.....	55
Figure 6: Aibur village territory and fishery regulated areas.....	57

LIST OF ABBREVIATIONS

ALMC	Agricultural Land Management Committee
BFA	Burma Forest Act
CCMVFV	Central Management Committee for Vacant Fallow and Virgin Land Law
CHR	Chin Hills Regulation
CNF	Chin National Front
CPR	Common Property Resources
CSDA	Chin Special Division Act
DFMC	District Farmland Management Committee
DLAMS	Department of Agricultural Land Management and Statistics
EFY	Elephant Foot Yam
FVfV	Farmland, Vacant, Fallow and Virgin Laws
GAD	General Administration Department
LDC	Lower Divisional Clerk
LUC	Land Use Certificate
MALFM	Minister of Agriculture, Livestock, Forestry and Mines
TDALMS	Township Department of Agricultural Land Management and Statistics
TLRDO	Township Land Records Department Office
UNDP	United Nations Development Program
VFV	Vacant, Fallow and Virgin Land Laws
VT	Village Tract
VTFMB	Village Tract Farmland Management Body
VTFMC	Village Tract Farmland Management Committee

1.0. INTRODUCTION

1.1. Background

After decades of authoritarian rule, Myanmar began to move toward a more social, economic and politically liberalized country. This transition was introduced after the quasi-civilian leader, President Thein Sein, assumed office in 2011. The transition process received full recognition and acknowledgment from the international community. Since then, donors as well as foreign investors have rushed into the country to support the transition and search for investment opportunities. The government not only welcomed the international donors and investors but also responded by initiating a series of policy changes and regulatory reforms in various sectors. However, the economic and political transitions provided a mixed experience for many societies and communities in the country. Several policies and regulatory changes that have been carried out to boost economic growth and social development also brought many uncertainties and insecurities to the livelihoods of the local communities. For instance, land grabbing from local farmers, forced eviction, relocation from home, and social unrest became dominant headlines in the local media since 2011.

Chin State, the most isolated and least developed region in the country was not left untouched by the wave of reform processes, which brought both opportunities and uncertainties to the local population in Chin State. Located in the western part of Myanmar and bordering India and Bangladesh to the west, Chin State is one of the most isolated and mountainous regions in the country. Poverty and political instability caused a vast migration of Chin people from the country over the past decades. According to a survey conducted by UNDP in 2009-2010, at least 73 percent of the population lived under the poverty line (UNDP, 2013, p. 1). Until 2010, many parts of the region were disconnected, and only a few roads were constructed. These were used for transporting military equipment, as the region was listed as a war zone because of the active insurgency of the Chin National Front (CNF) against the government.

The political reform initiated by President Thein Sein with the promise to bring peace and economic development to the country had resulted in a bilateral ceasefire agreement between CNF and the government in 2012. Since then, the government has intensified development in various sectors, including transportation, communication, etc. A series of policy and regulatory reforms were also initiated to improve the well-being of the local people. However, all these developments and reforms also came at a certain price.

1.2.Thesis statement

Reforms and developments have direct implications for the livelihood, culture, and economics of the local Chin people. These implications are not always positive. Many developments are undesired and can have severe adverse outcomes. Among many, the customary natural resource governance system has been hard hit. We have witnessed that the recent developments and reforms have severe implications on natural resource governance in local Chin State. Natural resources, particularly land, forest, and water, once governed as common properties are now experiencing increasing pressure of exploitation and degradation. Einzenberger (Einzenberger, 2018), for example, describes the recent social and economic transformation in Chin State as “Frontier Capitalism.” The reforms seem to create the opportunities for the local elites and capitalists to grab natural resources from the local people.

To better understand this changing situation, this paper is designed to study the recent changes in the traditional natural resource governance system of the Chin people and explore the influencing factors of the changing dynamics. This study especially wants to look at natural resources in Chin State from the aspect of the common pool or property resources. This topic is particularly relevant because no research has yet approached customary natural resource management systems in Chin State from the perspective of the common property resource systems. There are a few studies on land tenure systems of the Chin people (Einzenberger,

2018; GRET, 2017; Thein, 2012), but they do not look at the governance of natural resources from the aspect of the common property resource governance system.

This research is designed to answer two main questions. The first question is how the traditional governance and use of natural resources have changed over the past years. The second question asks for factors that play a critical role in shaping the dynamics of natural resource governance system in Chin State. To answer these questions, two primary objectives are deployed, namely to:

- 1) examine the current changing dynamics of natural resource governance and use in Chin State. This will be done by observing the evolving arrangement of the local natural resource governance institutions and analyzing the perception of the local people regarding natural resources.
- 2) identify the factors that have influenced the dynamics of natural resources governance system in Chin State.

The research frames the natural resources governance systems as Common Property Resources (CPRs) regimes because according to the Chin tradition, natural resources such as land, forest, and water are managed collectively and treated as commons by the villagers. By using the concept of CPRs system, one can have a better understanding of the context of natural resource management and use by the Chin people.

1.3. Thesis outlines

The paper is divided into five chapters. The first chapter includes the background, problem statement and research aim and objectives. The second chapter consists of a brief literature review. This chapter also contains the explanation of CPRs concepts, traditional natural resource governance system and the conceptual framework of the paper as well as an interpretation of different terms used throughout the paper. The third chapter presents the methodology and methods used to obtain data and information as well as the background

information of the case study sites and the limitations of the research. The first sub-section of chapter four begins with the historical background of Chin customary natural resource governance of land, forest, and water. In the second sub-section of the chapter, the main findings are presented, followed by the discussion in the last section. Conclusion and recommendations are made in the last chapter five.

2.0. LITERATURE REVIEW

2.1. Introduction

The issue of natural resource management and use has attracted increasing attention among different stakeholders, including scholars, policymakers, and administrators in Myanmar. In the attempt to achieve economic development for poverty reduction and upgrading living condition, the country has lost natural resources through haphazard use (Shivakoti, Pradhan, & Helmi, 2016). Due to an increased accessibility through rapid infrastructural development, Chin State has become one of the most vulnerable regions in the country also affected from rapid economic driven natural resource exploitation despite being so remote. Most of the natural resources that were once traditionally used as the common pool or property resources have come under enormous pressure of overexploitation in recent years. The increasing pressure due to both, external and internal factors, have prompted significant policy and regulation changes in natural resource governance sector.

As part of the response to the ongoing change in natural resource management systems in Chin State, this research is developed to explore and record the rapidly transforming governance system and use of the natural resource uses in Chin State. To understand the nature of natural resource management and use in Chin State, this chapter will focus on presenting relevant theoretical concepts and literature on the nature and dynamics of governance and use of natural resources.

The first section will present the conceptual definitions of traditional CPRs, which is the most relevant conceptual framework in explaining the patterns of traditional natural resources in Chin State. The concept is used because most of the stationary natural resources such as land, forest, and water were or have been either collectively owned or managed by communities according to the Chin's tradition. The second section of the literature review will look at the historical evolution and dynamics of natural resource management and use in

changing traditional societies. In doing so, this section will cover the different factors, actors and sociopolitical contexts that stimulate the changes and the evolution and dynamics of natural resource management.

Finally, a discussion will be made on the importance of the research topic. The discussion part will highlight the contribution of the research to close the literature gaps in achieving sustainable natural resource management. Primarily, it will underline the roles that traditional management of commons or common property resources play in the effective governance of natural resource and maintaining environmental quality in dynamic societies.

2.2. Conceptualizing traditional common property resources

The concept of common property resources (CPRs) is an ambiguous term, open to more than one interpretation. It can be interpreted in many ways depending on diverse historical backgrounds and sociopolitical contexts of different societies and nations. However, the concept of CPRs applied in this research refers to the natural resource commons that are collectively managed by a group or community and used for the benefits of all members of the community. In this context, the most widely agreed upon and accepted definition among scholars and policymakers is the definition proposed by Elinor Ostrom. (Schlager & Ostrom, 1992) define the CPRs as properties collectively owned by a community of resource users. This definition indicates that the resources belong to the community of users or defined as collective property. According to (Ashenafi & Leader-Williams, 2005), the term "common property resources" refers to the resources that are under cooperative arrangements and that legitimate use of resources is only given to members of recognized groups. For example, a community holds the rights collectively and that management decision on usage rights are made collectively or by the elders. Jodha (1986) provides a clearer explanation of both the administrative and property rights embedded within the concept of CPRs. He explains that "CPRs are the resources accessible to the whole community of a village and to which no

individual has exclusive property rights" (p. 1169). Dietz et al. (2002) as cited in (Moritz, Scholte, Hamilton, & Kari, 2013) also states the common property regimes as a specific user group who has use rights over territorially defined resources. CPRs can refer to different types of resources depending on different geographical regions, cultures and institutional contexts. The CPRs often include village pastures, community forest, wastelands, waste dumping places, water and river resources, etc. (Jodha, 1986). In the context of this paper, the CPRs are those resources managed and shared with certain norms and rules among concerned and recognized members of the community.

The common property resources are frequently confused with common pool resources and the public good. They may refer to similar elements (water ways, forests etc), but they are differentiated based on the way they are treated and used. The common pool resources can be best understood as the resources over which access is unrestricted and unregulated by any individual or institution and are open to everyone. Apesteguai and Maier-Rigaud (2006) suggest that access to the common pool resources is non-excludable¹ but rivalrous. Thus, they are often subject to unsustainable use, overexploitation and degradation, especially when individual agents are acting rationally from the perspective of one's self-interest (Hardin, 1968; Lee, Jusup, & Iwasa, 2017). According to Dietz et al (2002) as cited in Moritz et al. (2013), common pool resources are defined as "valued resources that are available to more than one person and subject to degradation as a result of overuse." He also agrees on the definition of "open access or free for all." For example, water, fish stock, forest, etc. are well-known common pool resources. The public good, on the other hand, has two fundamental characteristics: non-excludability and nonrivalry in consumption (Apestegua & Maier-Rigaud, 2006). Nonrivalry in consumption among multiple agents is the main distinctive feature of public goods from the common pool resources (Ibid, p. 647). Public goods are often provided

¹ Non-excludable means access to the natural resources is opened to everyone without restriction

by states or public institutions. Public good includes resources such as roads, street lightings, public parks, etc. Unlike the common pool resources and the public good, the CPRs are localized commons to well-defined groups of people, over which access is restricted to the group (excludable). They are not meant for privatization or open access for everyone but are communal property managed and governed by certain norms and rules of the respective community. Dasgupta (2005) further notes that CPRs are geographically confined, and access is restricted and limited to the non-member of the community (p. 1611). However, user rights within the specified group may take several forms (Wade, 1987), and whether unlimited exploitation is allowed or not may depend on different cultures and traditional practices. Prominent examples of the CPRs include community forest, woodland, village ponds, and coastal fisheries (Dasgupta, 2005; Jodha, 1986). This concept of CPRs is used as a conceptual framework for understanding the context of natural resource management in Chin State.

Table 1: Defining Common Property Resources (Apesteguia & Maier-Rigaud, 2006)

Types of resources	Excludable	Non-excludable	Rivalrous	Non-rivalrous
Common Pool Resources	No	Yes	Yes	No
Common Property resources	Yes	No	No	Yes
Public Goods	No	Yes	No	Yes

2.3. Understanding the dynamics of traditional natural resource governance systems

Scholars and social scientists have acknowledged the importance to understand traditional natural resource governance and use in many developing regions (Adhikari, Di Falco, & Lovett, 2004; Aggarwal, 2008; Ashenafi & Leader-Williams, 2005). Many studies

have also been produced in favor of traditional CPRs governance in pursuing sustainable natural resource management. Even though scholars have acknowledged the roles that traditional knowledge, practices, and experiences have played in sustainable management and use of natural resources, governments and policymakers have paid little attention to the roles that customary CPRs governance systems have played in sustainable management natural resources.

Despite the existing research, CPRs have come under increasing pressure from economic and development forces which threaten the existence of CPRs' governance systems. The following section introduces the context of traditional resource management and use. It includes the social and cultural aspect of natural resource governance in the traditional societies. For example, it includes the different works of literature on the evolution of certain social norms and rules of natural resource governance systems and usage in changing traditional communities, and how the concept of collective management of natural resources have emerged and evolved through different times in different communities.

In recent years, the practices of CPRs governance systems of natural resources can only be seen in more traditional societies and developing part of the world. The traditional CPRs management systems have frequently been ignored and considered primitive, outdated, and irrelevant to modern "technology-oriented systems" (Wade, 1987). These kinds of notions have further pushed governments and policy-makers, without understanding the real context of natural resource management, to propose market-oriented privatization and use of natural resources, which has often resulted in degradation and exhaustion of physical environment through overexploitation in many developing countries. This situation has given rise to growing concern among scholars over the unsustainable use of natural resources and has successfully fostered scholars and policymakers' interests in looking more closely at the context of traditional natural resource governance.

In fact, many scholars, in recent years, have highlighted the importance and roles that the traditional CPRs management systems have played in the sustainable management of natural resources and environmental protection. The essential questions that need to be answered here are;

- What exactly are the traditional CPRs and management systems?
- How did people come together and formed their traditional resource management system?
- What incentives and motivation encouraged the local people to set up traditional norms and regulations to conserve, protect, and prevent their natural resources from overexploitation and free riding and foster them to establish customs of sustainable natural resource use?

The traditional CPRs can be understood as any valuable natural resources that are collectively managed by a group of people or community with the intention to achieve a common goal and satisfy a common interest (Wade, 1987). (Bromley & Cernea, 1989) describes tribal groups or subgroups, or sub-villages, kin system or extended families as an example of the traditional communities. These groups of communities usually hold specific confined natural resources such as farmlands, grazing lands, and water sources as their common properties (Bromley & Cernea, 1989). To understand the process of organizing the traditional natural resource management systems, two aspects need to be examined.

The first one is the natural “resource system and unit” (Ostrom, 1990, p. 30). The natural resource system refers to natural stock where specific resources are available, produced and harvested, while resource unit refers to a resource that is produced from the resource system (Given 1989). The most common resource systems defined by Ostrom include fishing grounds, grazing areas, lakes, oceans, forests, etc. (Given 1989; Ostrom 1990; Rim-Rukeh et al. 2013). For instance, a forest is the resource system and timber harvested from a forest are

the resource units. To sustain the production of timber from the forest, specific actions and institutional mechanisms are required to nurture the forest and regulate timber from over-extraction. This notion suggests that natural resource governance systems are created based on the resources units available from the resources systems. In other words, the availability and limitation of natural resources determine the formation of collective governance systems among natural resource appropriators and users. For example, volumes and units of fish available in the fishpond and the generating capacity of fish units by the fishpond are something the people care about. This kind of collective interest to maintain a sustainable harvest of the resource units entail most traditional communities to adopt rules, social and cultural norms, and regulations to manage their resource systems.

Another essential aspect to look at in order to understand the process of organizing a traditional CPRs governance system is the community's dependency on natural resources that surrounded them. Traditionally, natural resources such as agricultural lands, forests, water, and seasonal vegetations were the primary sources of livelihood for people. As a result, those people who were dependent on their surrounding natural resources appreciated the value of nature, and incorporated nature into their culture, worldview, and belief systems (Fabricius, Koch, Turner, & Magome, 2013). Those kinds of traditions translated into natural resource governance systems and were passed down to the next generation through "oral testimony and are now recognized as customary" (Folke et al. 1998 cited in (Fabricius et al., 2013).

2.4. Conceptual framework and definitions of terms

The concept of Ostrom's "Common Property Resource (CPRs)" seems to be the most relevant theoretical concept in explaining the characteristics of customary natural resource governance systems in Chin State. Explained by Ostrom (1990), the CPRs refer to an open natural resource managed together by a community or a group of people for collective benefits without destroying them. According to Ostrom, institutions, rules, norms and governance

systems, as well as common property regimes, were developed by those people to prevent and avoid over-exploitation of the shared resources for the benefits of individual interests (ibid). Scott (2009) defined as closed common property: collective farm, pasture, hunting grounds and inheritable properties. The Chin people have developed governance systems for farms, pastures, hunting grounds and rivers or stream.

The CPRs concept is relevant to apply as a conceptual framework to illustrate the customary governance systems of natural resources because the Chin people traditionally manage, govern, and use their natural resources, including land, water, forest, pasture and hunting ground for the collective benefits of all member of village or community. SiuSue Mark (2016) illustrates that “for the Chin people land is a symbol of identity, spiritual value, and culture...based on these values, rules for the collective management of a common pool of resources were created.” The CPRs concept is also used by many scholars in Myanmar and Asia in explaining the traditional governance system of natural resources. For example, Scott (2009) describes collective farms, swidden² cultivated lands, and indigenous settlement areas of the mountain tribal people as common properties or common-property resources (James C., 2009, p. 5). Similarly, community forest, shifting cultivation land, and rivers are also illustrated either as common pool resources or common property resources (Shivakoti et al., 2016; Yasmi, Kelley, & Enters, n.d.).

The historical evidence of CPRs governance within the Chin society can be found in many books and works of scholars and organizations in Chin State. In the research conducted by the non-governmental organization GRET and LCG, land and forest resources are described as commonly held property resources, and user right is granted to every member of the community in accordance with customary norms and rules (Andersen, 2015; GRET, 2017). The Chin are historically very dependent on natural resources. The majority of their foods are

² Shifting agricultural practices is sometimes referred to Swidden cultivation

directly or indirectly obtained from their natural resources such as land, forest, and water. Stevenson (1943) states that the Chin people receive foods from three different sources: from the forest, gardens in the villages, and the fields. Except for the backyard gardens, foods are directly obtained from natural resources. For example, forest resources provide plenty of food supplies such as meat from wild game, plants, seasonal fruits, and vegetables, etc. In addition, the fields, which can also be categorized as agricultural land, is undeniably the most important natural resource that the Chin people have. The concept of CPRs might not explain the whole context of traditional natural resource governance system of the Chin people, but it is relevant because the majority of the natural resources are treated as CPRs. Different governance systems were developed based on the usefulness of different resources. For example, land and forest resources are considered very important to Chin livelihood systems and stronger and tighter CPRs institution and strict norms and rules were developed for managing them.

The terms "management" and "governance" are frequently used in this paper. It could confuse the readers by using two different terms so many times without a detailed explanation of what each term refers to. In fact, the two words are synonymously used to indicate the same context and meaning. Both terminologies refer to the local communities' interaction, affiliation, and relationship toward their natural environment and their administrative systems and consumption patterns of their natural resources. In using these two words, it is also important not to confuse them with the term "conservation." Conservation may be considered a part of the CPRs governance systems. However, as this paper only focuses on management or governance systems of the natural resources in traditional society, both terms are only used for administration rather than the conservation of natural resources. The term "conservation" or "preservation" are used only to indicate the specific meaning or activities. In addition, the terms "tradition" and "customary" are also often used synonymously to indicate to the social and cultural practices of local communities. Finally, the CPRs is used as an acronym or

abbreviation of Common Property Resources. Although many works of literature have used CPRs as an acronym for the Common Pool Resources, this paper only refers to Common Property Resources.

3.0. METHODOLOGY

3.1. Research scope and significance

The research is designed to investigate the dynamics of natural resource governance in Chin State, while also identifying the factors that influence the whole dynamics of the governance system. Three different natural resources, including land, forest and water are the primary focus of the study. The reason for choosing these three natural resources is that the livelihoods of the local Chin people are very much dependent on them. Further, these three resources are the most vulnerable to exploitation. In addition, transforming or changing the governance system of these three resources can have enormous implications on the daily lives of the local people. At the same time, the Chin people have developed their customary system of governing those natural resources. Thus, the research explicitly focuses on examining the changing dynamics of governance system and identifying the factors involved in influencing the dynamics of the governance system

I am choosing this topic because, as mentioned earlier, the natural resources, as well as the customary governance system, have been continuously pressured and transformed by different factors. There are research publications related to natural resource management in Chin, but the dynamics of natural resource governance has not been thoroughly studied in Chin State. Moreover, government, policymakers, and political leaders are not fully informed or equipped with knowledge and understanding of the recent dynamics of the natural resource governance system in Chin State. This is evident since the current policies on natural resource governance are not reflecting the real situation in the ground. Therefore, this study is essential for two reasons. First, I expect that this study will be contributing towards finding a solution to the sustainable governance of natural resource in Chin State. Secondly, I hope this study will serve as the baseline for future research in filling a gap in the field of natural resource governance in Chin State.

3.2. Study site

The study focuses, in general, on the dynamics of natural resource governance systems in the northern part of Chin State. Initially, I planned to choose two villages, one from the community close to the urban area and another from the remote countryside and make a comparison between the two villages. However, due to some constraints and limitations posed by the early monsoon season in Chin State, I changed the plan to work on only one community. In doing so, I focused meeting with civil society leaders, government officials and other relevant individuals based in Hakha, the capital city of Chin State. After that, I chose one village called Aibur as a specific case study site, which is not being too far from Hakha. The reason for choosing Aibur village includes transportation accessibility and its abundant natural resources. Aibur village is located southwest of Hakha. According to the 2014 national census, the total population of the village is 1058 with 514 females and 218 males and 191 households (Department of population, 2015). The following map (Figure: 2) shows the location of the village and its territory. The total area of Aibur village territory is 10129 acres, and most of the population traditionally rely on shifting cultivation for their livelihoods. According to the oral history, they migrated from nearby village called Leitak in the early nineteen century. The village has its specific territory which was demarcated in colonial times by the British. The natural resources, land, forest, and water within the territory of the village are traditionally governed as CPRs. However, unlike many villages in the regions, Aibur has cultivated permanent paddy land since late 1960 and is known as one of most agriculturally productive villages in the region. The total area of permanent paddy farms is 115 acres, and garden land area is 11 acres. The paddy farms are permanent and privately owned since they were developed. However, the village maintained the customary CPRs governance system in managing other land and resources until recently. Located on the main road between the capital Hakha and Hnaring sub-town, the village's natural resources, including land, forest products,

and water resources (fish) also have been experiencing enormous pressure of exploitation from both internal and external actors and factors. This situation makes the site highly relevant for study.

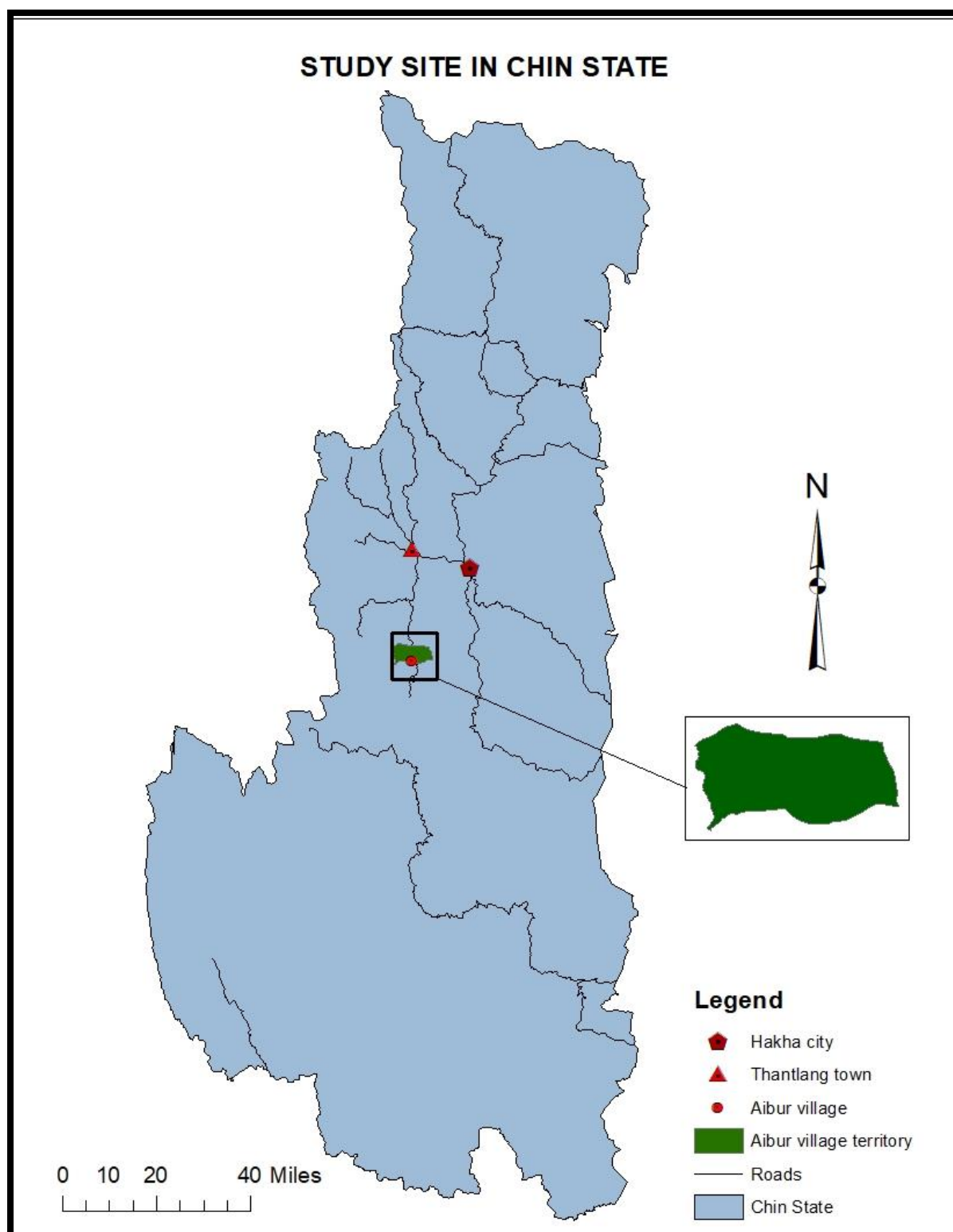


Figure 1: Map showing the research study site

3.3. Data gathering

Data was gathered during a site visit to Hakha city and Aibur village in Chin State from 16 May to 15 June 2018. As the research is purely qualitative, the primary method used for data gathering was a literature review, interviews, observation, reviewing documents of village's land records and informal discussion with the local people. General interview questions were prepared prior to the site visit. Before traveling to Chin State, I spent a week in Yangon to meet with NGO leaders who are working on traditional or indigenous natural resource governance-related issues.

I used mixed methods in selecting respondents. First, I used purposive sampling because the respondents from high-level government officials, NGOs and local leaders were identified, contacted and obtained their consents for interview before visiting the site. Then, I also used snowball sampling based on the suggestions given by the initial interviewees and through connections with people working in related fields. I conducted individual interviews with a purposefully selected sample of government officials, NGOs and local leaders both Hakha and Aibur.

The interviews with purposefully selected respondents were semi-structured and intended to obtain information on customary CPRs governance systems, the implementation process of government policy, the enforcement of laws and the opinions of interviewees on natural resource governance both in local and regional perspective. I also conducted an informal discussion with villagers to gather information on the traditional natural resource management system and observe their perception of different types of modern natural resource use and governance systems. The informal discussion was conducted during visits to the village's natural environments, including forest areas, streams and during work on the farms. I also gathered information and data from already existing research papers on the issues of land, forest, and water resource in Chin State.

3.4. Study limitation

In any research that involves field study, it is common to face unexpected events to happen. The initial idea was to conduct a field study in two villages: a village nearby an urban area and one in the remote countryside; then, compare the different dynamics of resource governance system between the two. However, the plan was changed because of the early monsoon season and continued rain for two days which made it impossible to visit a village located in the remote countryside. Thus, I choose Aibur village which is somewhat accessible but not very close to the urban area and less influenced by the urban developments. Another challenge involves the language problem. The interviews were conducted in four different languages, English, Burmese, Lai Hakha Chin and Zophei dialect depending on the language spoken by interviewees. Only one interviewee from an INGO was interviewed in English. Some government officials in Chin State were interviewed using both Hakha Chin language and Burmese, while respondents from Aibur village speak Zophei dialect. Although I was able to communicate in all four languages, I had many limitations in translating and transcribing the interviews from the local languages to English. To avoid mistranslation and interpretation, I checked with people who understand the content and context of the issue. These are the significant limitations faced in doing this research.

4.0. DYNAMICS OF NATURAL RESOURCE GOVERNANCE IN CHIN

4.1. Introduction

This chapter includes the key findings of the research from both literature review and field data analysis.

The first part of the chapter begins by providing the historical overview of Chin's customary practices of natural resource governance. The purpose of presenting the historical overview is to inform the readers about the background context of natural resource governance of the Chin people so that the changes in natural resource governance can be seen more clearly. The second part contains the main findings of the thesis of how the natural resources governance systems have been transformed in the recent years, developed through a discussion of the institutional reforms and regulatory changes as well as the perceptual change of users regarding natural resource governance. In the third part of the chapter, two main important findings such as the factors and actors that have driven change in natural resource governance will be presented. A critical analysis will be provided about the relationship between different factors and actors that instigate change in natural resource use such as lands, forests, water, and others. These findings will be supported by the information obtained from both case study and existing literature.

The final discussion will be presented in the last part of the chapter. The discussion will include describing the significance of the findings and comparing them with what is already known regarding the natural resource governance system of the Chin people.

4.2. Historical background of Chin customary natural resource governances

4.2.1. Introduction to customary resource governance

The customary systems and laws are often unwritten rules developed and enforced by traditional communities and passed down as rules or norms to successive generations. As many customary systems were designed in the reflection of needs and contexts of local communities,

some scholars and policymakers have proposed they be recognized and given equal status as statutory law (Oberndorf, 2012). The customary resource governance in Chin State cannot be fully comprehended without having explicit knowledge of the socioeconomic and political background of the Chin people. Thus, this section will focus on introducing the socioeconomic and political history of the Chin people and their links to customary governance system of natural resources.

James Scott (2009) describes the Highlanders, including Chin, who live across Southeast Asia mountainous regions (Zomia³), as the ungoverned, fugitives or unreachable people by the early state-making process. Similarly, Martin Smith (1991) cited in (Mark, 2016) also describes the ethnic people in Myanmar “more as city-states than of a nation that any political structure was to developed.” Furthermore, Chin scholar Lian Sakhong (2003) in his book *“In Search of Chin Identity,”* describes the Chin people as self-governed people whose leaders, referring to tribal chiefs, were directly ordained by supernatural gods. The notion that Chin people are self-governed is supported by many other social scientists including SiuSue Mark (2016). She states Chin people considered themselves as distinct nation-states that voluntarily chose to take part in creating a multi-national state called the Union of Burma by signing the Panglong Agreement 1947 (2016, p. 135). Whether these people were ungoverned, self-governed, city-states or nation-states, one thing that has been known about them is that they have developed a distinct culture, tradition, social norms and identity which bound them together as a distinctive group from other communities in the lowlands. The social norms, tradition, culture and belief system have explicit or implicit influence over their relationship toward their natural resources and environment. Like many traditional societies, the Chin people are vastly dependent on natural resources. They get their food, fuel, building materials

³ Zomia refers to the huge mass of mainland Southeast Asia that has historically been beyond the control of governments (Scott 2009)

(Fabricius et al., 2013) and income from natural resources. These natural resources are managed and used through the local rules and norms that they have developed in particular contexts (Ibid, p. xiii). They have their own defined territory with clearly drawn boundaries. All members of communities or villages have the right to use, harvest, cultivate and extract natural resource following local rules and norms that they have developed. The traditional local resource management system has existed long before the arrival of the British colonial government. Many of the local governance systems were recognized or even strengthened when the British came. For example, tribal ruling system or chieftainship was not only recognized but also encouraged by the British through appointing of headmen in villages. Regarding the natural resource usage and governance, some of the traditional natural resource management system were not only recognized but also legalized. For example, land and forest use for traditional shifting cultivation were incorporated in the Chin Hills Regulation (CHR) in 1896. There has been since then some notable transformation and changes regarding governance of land, forest, and water resource, which will be introduced in the following sections.

4.2.2. Customary land governance

To the Chin people land is not only the primary source of livelihood but also "a territory that symbolizes identity, spiritual value, and culture" (Mark, 2016). Thus, traditional land governance or tenure system has been developed for generations. However, the traditional land use and tenure systems are neither fixed nor inflexible, but persistently adapting changes through time to reflect the dynamics of change in social and economic values of land (GRET, 2017, p. 7). In the same way, traditional land governance of Chin people has changed over times in response to different pressures such as social, political and economic development, and climate change.

Traditionally, the land is treated as a common property resource by the Chin people. However, the Chin traditional land use and tenure system are very complex to understand as practices are different from one place to another, depending on different physical features of land, and geographical and climatic regions. Despite all different types of land use, one thing that is common to most Chin communities is that land resources are generally treated as CPRs. Many works of literature on Chin support the concept that land and natural resources are treated as CPRs. Lian (2003, p.7) suggests that the concept of “*Ram*” in Chin not only refers to territory but also means original homeland, whose ownership system is collective. Common property or common land notion can also be found in the way agricultural lands were shared, allocated, and cultivated. However, there are many historical pieces of evidence that private ownership of land has existed in Chin traditional societies. (Stevenson, 1943) calls it "autocratic group of land ownership or tenure system." The owner of these lands were the autocratic chief and headmen, and they had absolute rights over their land (Stevenson, 1943). According to Chin tradition, hereditary chief or tribal leaders were the most powerful individuals who were responsible for allocating agricultural land to each member or household of their village in the past (GRET, 2017). They had the administrative authority over natural resources, and agricultural land and other resources. In addition, they also held the power of collecting revenues, maintain law and stability of the community during the British colonial period. The system of chieftainship came to an end on 20 February 1948, as the Chin people decided with majority votes to establish a democratic political system (Lian, 2003). Nevertheless, the hereditary land ownership has never been abolished. At the same time, collective management and use of land and natural resources within each communal territory are continuously practiced and strengthened. Except the heritable lands or family' ancestor plots cultivated by a particular family through generations, access to the lands within village's territory is open to every member of the community for cultivation in line with customary rules. Even those

heritable lands were considered village lands, and in principle means that the villagers are the ultimate owners of the land. Nobody has the right to transfer or sell land to any outsider. An individual household within a community only has the right to use.

Lands used for agriculture can generally be classified into two types; swidden also called shifting cultivation and permanent paddy land. Swidden cultivation is the most common agricultural practice among traditional Chin communities. It is a common form of traditional subsistence agriculture, which involves a section of land being cleared and burned before it is cropped (Ennion, 2015). Lands used for swiddening are called *lopil* in Hakha Chin dialect (Stevenson, 1943). The *lopil* can be classified under the category of common property resources, as they are upland agricultural sites which are collectively cultivated. The size of one *lopil* is determined by an area of land availability and the required amount of land for the entire number of households within a village (Stevenson 1943, p. 31). Each village has its land with defined territories, which are divided into many *lopil*. All members of the village cultivate in one *lopil* together. Within one *lopil* customary land rights were established. For example, whoever clears the virgin forest land has the right to continuously cultivate in the same plots each time the villagers rotate back to that *lopil*. The swidden cultivation system is practiced in rotational form, leaving plots to fallow and allowing soil regeneration within defined village's territory. Each household within a village gets a plot of land from a *lopil*. This smaller plot of land shared with each household is called either *lo* or *lobung* in local Chin language. These lands are not given to each household as private property but rather leased. However, if a family or a person is the first cultivator of virgin forest or land, he can choose to cultivate at the same areas when the village come back to cultivate in a *lopil* that has been left as fallow for a specific number of years. This rotational cultivation took place after five or ten years depending on the fertility and availability of village land. However, a *lopil* is often cultivated for two or three years at most depending on the quality or fertility of the land. Stevenson (1943, p. 32), notes

that a period for which land is cultivated for a specific number of consecutive years depends on entirely on the land availability. After a number of consecutive years of cultivation in the same place, the lands were allowed to lie fallow. In this way, land erosion, deforestation, and exhaustion were avoided and prevented. The fallow periods usually last for five to ten years, depending on availability of arable land area within village's territory. According to traditional belief, the longer the land is left vacant, the greater the fertility rate is. However, due to population pressure, limitation of arable land, and increasing environmental degradation such as deforestation and land erosion, agricultural land or *lopil* areas are increasingly decreasing over time. Thus, the fallow period becomes shorter, and villagers came back to the same *lopil* in a shorter period.

In contrast, paddy fields or lands are often permanently owned properties. They are heritable, and ownership or user right is recognized traditionally and legally until today. Although the historical account of when this practice began in Chin State was unknown, a general assumption is made that "behavior changes and livelihood diversification" over a half-century have led the establishment of lowland paddy field. However, land use for lowland paddy field is relatively small compared to swiddening. It is not a typical kind of traditional agricultural system as the majority of the lands in Chin are covered with high and steep mountains. Conversion of land into paddy field requires enormous labor, economic resources and is often impossible for an ordinary family. Plowing and clearing land has to be done manually to convert virgin land to a permanent paddy field. Furthermore, the area available for arable lowland paddy field is insufficient, and often found in river valleys. This situation is assumed to be the reason why lowland paddy cultivation has been uncommon and, only very few economically resourceful and labor-rich families were able to obtain them.

4.2.3. Customary forest resource governance

Forests are also traditionally regarded as an essential source of livelihood in the Chin society. Like many other traditional communities, the Chin people are highly dependent on forest resources for many of the products they consume in daily life. Forest resources refer to both flora and fauna, such as all kinds of plants and vegetation, and wild animals living in the forest. For instance, fuelwood, construction materials, medicine, and seasonal food are either directly or indirectly received from the forest (Langat et al. 2016). Stevenson (1943) categorizes the forest resources in Chin into three different types: edible, usable, and tradable (p. 72).

The edible resources include fruits, plants, wild game, insects such as bees, seasonal vegetables such as mushrooms, and birds, which are the usual supplementary foods found on the meal table of a typical Chin family. Stevenson (1943) describes how Chin men and women rarely return home from forest emptyhanded. Seasonally available vegetables such as plants, leaves, and mushrooms, and wild meat are an essential component of daily food that is collected every day from the forest by Chin men and women living in rural villages. The local Chin people understand well about their forest resources, where and when to collect them, and avoid depletion of the stocks of resources and maintain the fertility of land resources. For example, the monsoon season, which begins from June and last until early October, is regarded as a season to collect fresh vegetables such as mushroom, fruits and plants' leaves. Most of the vegetables harvested from the forest are consumed before they get rotten, and only very few can be dried and stored for consumption in summer. Notably, the local Chin people know vegetables and foods that are available to collect and harvest in different seasons and plan their yearly survival strategies accordingly.

Second, there are various forest resources that the Chin people use in their daily life. The primary forest resources, as described by Stevenson, include timber, thatch, wild bamboo

(Ibid, p. 73) and cane. Timber and thatch are important materials used for building houses and tents. However, wood is also primarily consumed as fuel or charcoal for cooking, serving as the primary source of energy. Majority of Chin people living in rural villages still rely on firewood for day to day cooking due to lack of electricity. In the central Chin state, Bamboo and cane can only be found in thick forest. They are highly valuable that most traditional products such as basket, mat, and rope are made from these two resources. Moreover, there is specific flora such as plants, leaves, seeds or flowers that have been collected from the forest and then used for traditional medicine. Due to poor infrastructure and transportation system, access to the market was almost impossible for the Chin people until recently. This situation led the local villagers to depend for much of their daily needs on what nature has provided them.

As mentioned above, trading or smuggling with the outside world was almost impossible due to the absence of necessary infrastructure. Instead of trading with the outside world, the rural Chin people tradition practice a reciprocal economy system within their community. The reciprocal economy involves an immediate exchange of goods and labor rather than using cash for buying products. Therefore, all useable and valuable forest resources can be put under the category of tradable resources. The most common commercially traded forest resources include timber, such as wood for building, rare plants used for medicine, and bamboo and cane products such as mat, basket, and other useful tools. The commercial sale of forest products usually took place only at a local level.

The customary management of forest resource practices in Chin society differs depending on the type of resources. Different kinds of resources can be divided into two categories; stationary resources or standing timber and non-timber resources. The timber resources include firewood, wood forest, bamboo or bamboo forest, and cane are exclusive CPRs. Access to these resources is only granted by village authorities to individuals who are

entitled to the community or village. The timber resources located inside the territory of a village belong only to those villagers, and no user right or access is given to outsiders. In contrast, the non-timber forest resources such as seasonal vegetables, plants, fruits, and insects are treated as common pool resources to which access is granted also to outsiders, especially people from the neighboring villages. However, it is not the case that neighboring villagers can access resources anytime they want. Traditional norms exist between different communities, which involve mutual understanding and respect as well as a certain level of tolerance. Violation of traditional norms could result in conflict and confrontation between different villages. To avoid unnecessary conflict, resource users are obliged to follow traditional norms and rules.

4.2.4. Customary water resource governance

It is impossible to ignore the importance of traditional water resource governance in studying the livelihood system of the Chin people. Water accessibility and security have always been one of the most critical components paid attention to by the Chin people. Therefore, most early settlers chose to reside near streams, ponds or river where water is accessible. However, due to the geographical setting, mostly covered with high mountain ranges, water scarcity is a common problem faced by Chin people. Small streams flowing from the high mountains and forests serve as the primary source of water supply in the region. Nevertheless, the Chin people often face water scarcity problem mostly in the summertime, beginning from March until May, because many streams and ponds dry up during this period. This can be assumed as the primary reason why water governance has been very important and why the early settlers intended to inhabit places near mountain streams and developed a systematic governance system of the water resource.

The traditional governance system of water resource differs depending on how water resource has been used. However, water is used primarily for two purposes, the first is for

drinking, and the second for agriculture. The traditional governance system of water resource used for drinking and agriculture can be characterized as a collective management system.

Most of the water resource for drinking and agriculture come from small streams. Therefore, drinking and agricultural water sources are commonly treated as CPR in the context of Chin tradition. Based on the context of traditional values, effective property management systems are developed. These traditional water management systems and strategies involve many activities. For example, one of the most common activities is conservation of upstream forests as water reserve forest. Forest conservation is the most common sustainable water management strategy, or activity found elsewhere in Chin villages. Rigorous traditional norms and values are often enforced for the protection and preservation of forests surrounding streams and ponds. These traditional management systems are sometimes implemented through restriction of logging, extraction of forest resources, burning or protection from fire, preservation of the areas and maintenance of healthy ecological system inside the regions. Sometimes, they are not only stringent but also obligatory for community members to observe. Violation of the rules and norms often resulted in harsh punishment.

Another important water resource is freshwater fish. Freshwater fishery historically served as an important source of nutrients for the local Chin people. Located in mountainous areas, Chin State is a landlocked region and access to seafood is impossible. Therefore, seasonal freshwater fish is the only fish resource available. However, freshwater fish production for domestic consumption has been very much a part of the Chin tradition and source of protein. Stevenson (1943) states freshwater fish production as an important source of supplementary meat to the daily meal of the Chin people. The most commonly known traditional fishing practices involve poisoning fish with juice from creeper and bark (Stevenson 1943. p. 70), and basket fishing. The traditional freshwater fishery took place mostly in small rivers or streams without much restriction.

4.2.5. Legal recognition of customary resource governance

Prior to the arrival of the British, natural resources such as forest, land, and water resources were governed according to the customary law. The entire set of customary legal institutions and practices of the Chin people were different from those of the central government of Myanmar. No written legal system has ever existed in the history of Chin until the British's occupation. The legal system called "Chin Hills Regulation" (CHR) was adopted in 1896 following the invasion of Chin hills by the colonial British. Interestingly, the CHR provides no specific definition and guideline regarding the management of natural resources such as land, forest, and water. According to the regulation, the local headmen appointed or chosen by Superintendent, were the main responsible persons to control and govern the local villages. In other words, the leadership rights and responsibilities were vested in those headmen appointed by the Superintendent (Ennion, 2015). In the case of conflicts within the local community, the local headmen were the ones responsible for resolving. The local custom and tradition were the primary tools used to resolve conflicts and disputes. It indicates that the regulation not only recognized the Chin local custom but also used those customs as legal tools or mechanisms in settling and resolving disputes. Andersen (2015) states that rules of appropriation and provision followed the local traditions and custom. Regarding land, SiuSue Mark (2016) claims that the customary land systems were recognized by the Chin Hills Regulation.

The customary natural resource management systems were also recognized by law and regulations passed after the independence of Myanmar. Following independence, the CHR was repealed with the Chin Special Division Act (CSDA) on 22nd October 1948. The CSDA remains a legal document until today. CSDA continuously acknowledges and recognized the customary system of the Chin people. This customary system includes traditional farming, agricultural system, forest resource management and use, and fishery. Notably, the extension

law of Burma Forest Act (BFA) incorporated in the CSDA was largely modified in accordance with the customary system of the Chin people. For example, the collection or removal of forest products, including timbers, parts of animals, and other resources are highly restricted by the BFA in other parts of the country. However, those restriction and control were either relaxed or inapplicable in Chin State. Traditional wildlife hunting and land use system were some of the Chin's customary practices that have been unrestricted by any statutory regulation. For example, the Land Nationalization Act adopted in 1953 did not affect lands in Chin State (Mark 2016).

The traditional livelihood, as well as customary natural resource management systems of the Chin people, were never under pressure by any of the statutory implementation and enforcement. This is partly due to the existence of strong communal institutions and the recognition of Chin's customary management systems as part of legal mechanism since the independence of the country in 1948. Land use and tenure systems, management and use of forest resource including both timber and non-timber, and water resources such as drinking water, irrigation, and freshwater fish, and wildlife animal hunting are the well-known natural resources, which many of existing laws and regulations recognize as being governed by the customary system.

4.3. Findings: changes of natural resource governance systems

The customary system has always been changing and evolving throughout times to reflect the dynamics of human social and economic needs. This is particularly true with regard to contemporary social, economic and political transformations experienced in Chin State. These social, economic and political transformations have tremendous implications on the livelihoods of people living in both urban and rural communities. More importantly, the transformations have a significant influence on governance systems of natural resources both on the regional and local community level.

According to the 2014 census, the population of the Chin people living in the Chin State was nearly half a million, 478,801 in total to be exact (Department of Population, 2015). At least 79 percent live in rural areas while only 21 percent inhabit the regions that are classified as urban by the General Administration Department of Myanmar. The urban and rural categorization in Chin State depends on administrative department setting. The classification does not necessarily reflect population level and infrastructural accessibility. For example, a report produced by GRET (GRET, 2017) states that the so-called urban areas in Chin State are still very rural in the conventional sense. The population density is only 13.3 persons per square kilometer, making the least populated region of the country (ibid, p. 11-12). The population of the capital and largest city, Hakha is only 25,000 individuals in 2014 with an average growth of 25 percent over the past 5 years (GRET, 2017, p. 8).

Traditional farming, also known as shifting cultivation, is still a significant source of food and income for the majority of the populations who live in rural villages. However, the practice of traditional farming as well as natural resource governance has been challenged by recent policy and regulatory reforms carried out by the government, and other pressuring factors consist economic and infrastructural development and social, political arrangement. These changes have significant implication for the whole spectrum of natural resource use and governance on local levels such as land use, forest management, and utilization of water resource. As mentioned above natural resource-based products such as seasonal vegetation, wildlife meats as well as the freshwater fishery, and timber resources are the conventional sources of livelihoods, especially for the people who live in the rural communities. More importantly, many of these changes have also weakened the traditional CPRs governance systems and institutions.

One of the primary objectives of this research is to analyze the dynamics of natural resources governance system over the past recent years. Therefore, in this following section, I

will present changes in governance and use of different natural resources. The natural resources are divided into three different types, namely land, forest and water resources. Changes in the land governance and use will be presented in the beginning and followed by both forest and water governance.

4.3.1. Land governance

Historically, the Chin people enjoyed a higher de-facto political autonomy over governance and use of their natural resources than other ethnic groups in Myanmar. The central government was less interested in regulating natural resources in Chin State in the past. This is partly linked to the absence of commercially valuable resources such as minerals, fossil fuels, timber as well as its geographical remoteness and isolation. However, land has always been the most valuable resources the Chin people have ever enjoyed. The land has been governed for generations through customary laws and regulations. Decisions over land use and governance were made by following the customary systems. The customary land governance, for example, includes collective decision making over the land use of communal lands, especially agricultural land, pasture, and land used for public infrastructures (religious building, playground, community halls).

The successive governments, including the colonial British, recognized the customary system which is common property system of land governance. Having said, the Chin society is mainly village based. Most villages' boundaries were fixed during the British colonial period (GRET, 2017). Lands within the village's territories are held in common, and user rights and access to land are granted to every individual member of a village (Hayes, 2010). This customary practice of land use and governance were also recognized by the Panglong agreement signed between Chin political leaders and other ethnic leaders in 1947. Furthermore, the Chin Hills Special Division Act (CHSD) 1948 also acknowledges the Chin customary laws, which include the customary use and management of natural resource, including land. Despite

all these legal recognition, a number of studies done in recent years have claimed that land governance and use have experienced changes or are in the process of rapid conversion into other types of uses (Li, Feng, Jiang, Liao, & Zhang, 2014). However, no empirical study has been done, and it is still unknown about how these changes are happening, particularly in rural communities of Chin State. To fill this gap, a case study was carried out in Aibur Village located on the newly constructed main road to connect the south and the northern Chin State between Hakha-Thanglang-Matupi. According to the observation, change in land governance can be described by three parts: change of land governance systems, the pattern of land uses, and local perception over land resource.

4.3.1.1. Institutional change

Land governance institution and system have changed over the past years. Many different factors may have influenced this change. In fact, one of the most significant changes that have been observed is the change of institutional arrangement within the local community. In the past, community organized themselves and made the decision over land use, especially choosing cultivation sites, allocation of the plot to each member of the community and identifying pastures.

The case of Aibur village: In the case of Aibur village, most land within the territory of the village has always been regarded as CPRs of every member of the village, except two types of lands: plowed field also known as permanent paddy fields and home gardens. Ownership of these two types of land is locally or legally recognized as private properties. The owner has the right to transfer, to sell other persons and also can pass it down to a family member as an inheritance. However, most often land is not allowed to sell to outsiders. According to data from the village administration office, Aibur village is composed of 191 households with the total land areas of 10,129 acres. According to the oral history, the whole village land was given by the chief of Surngen village as apart of agreement to protect the

Surngen chief by the first settlers of Aibur village. A total area of permanent paddy fields is only 152 acres and owned by 115 households. Historically, the permanent paddy farming was introduced to Chin people during the British time. According to GRET (2016), the choice to develop paddy field was encouraged because the rice was considered a luxury food. Other types of land that can be owned privately is the land that is used for gardens to grow vegetables and fruits. The majority of the rural population has no access to the market for vegetables but rely on gardening or collecting seasonal food from the forest. Therefore, gardening is a common source of vegetables and fruits that are not available in the forest. Thus, permanent paddy fields and backyard gardens are developed as a supplemental source of food.

The rest of the land, especially shifting agricultural lands are managed collectively as CPRs. In the past local tribal leaders were the ones to administer all agricultural lands. Yet, the chieftainship was abolished during the first Chin National Assembly held in 1948 with the majority vote. Since then, land and all resources fell under the control of the people. In the interview, Za Uk, a formal village administrator of Aibur from 1992 to 1996, said,

“In the past, village chief had authority over land, but all the villagers were granted access right to land and other natural resources within village’s territories” (personal communication, June 3, 2018).

When asked about management system he said,

“lands, especially shifting agricultural land are managed in accordance with village rules. However, we had to report to the township authority before clearing forest for cultivation” (ibid).

The customary practices involve collective decision making on governance and use of land as well as other natural resources. Regarding the management process, Za Uk further explained that

“the villager usually held a meeting every one or two years to decide and arrange agricultural land (June 3, 2018). During the meeting, Agricultural Land Management Committee (ALMC), composed of representatives of different groups, was formed.”

The formation of ALMC can be different from one village to another or might not even be practiced the same way in other communities. In Aibur village, the committee consists of a representative from all wards, farmer group, village authority. The ALMC was just a temporary management committee formed by villagers. It is formed every one or two years depending on the requirement of agricultural land for cultivation. After identifying and deciding cultivation sites, the committee divided the sections into small plots corresponding the number of households. The best and nearest plots from the village were usually given first to widows, religious leaders and the most vulnerable families in the village. The rest of the plots were allocated to each household through a lottery system to avoid bias. This customary governance system is framed under the category of Ostrom's CPRs regime.

An interview was also conducted with Bawi Za Hu, current Lower Divisional Clerk (LDC) under the General Administration Department (GAD), living in Aibur village. He explained that

“the similar customary system has been still practiced. However, unlike the previous ALCM, the current committee is responsible for allocation of agricultural land five consecutive years” (Bawi Za Hu, personal communication, June 7, 2018).

The committee members serve as volunteer representatives of their respective wards and blocks. The local villagers appoint them. Today, they are only responsible for decision making over choosing shifting agricultural sites and allocating plots to each household in the village. However, there is a separate committee called Village-Tract Farmland Management Committee (VTFMC). The responsibility of this committee is slightly different from the ALMC. They are directly accountable to the General Administration Department (GAD) under the Ministry of Home Affairs, and Department of Agricultural Land Management and Statistics (DLAMS). In Aibur village, the VTFMC consists of five representatives, one each from Village-Tract administration, community, farmer group, agricultural department, and GAD

Clerk (LDC). The primary responsibilities of the VTFMC involve providing legal assistances to individuals throughout the registration process.

VTFMC, in fact, is a local entity legally created as part of the implementation of privatizing agricultural land, which the Farmland Law, and Vacant, Fallow and Virgin Lands Law (VFV Law) adopted in 2012 also encourage. The formation of VTFMC is one of the most significant changes of land governance that has been witnessed so far in the whole Chin State. The VTFMC is the main responsible body in the management of land resources. The policy implemented by VTFMC discourage the collective governance of land resource and promote individual and private land tenure system. The facilitation of individual land registration process is one of the most vivid evidence witnessed in rural Chin villages. The process of land registration or land titling with the assistance of VTFMC are as follows:

There are 10 standardized Forms by which farmers and individuals could start applying to DALM until Form 7 of Land Use Certificate (LUC) is granted. Form 1, available from Village Tract (VT) Administrator's office, is filled up and submitted through VTFMC at Township DALM. The Township DALM staff lists the applicants in Form 2 and post the list at the village Admin Office, calling for the potential claims within 30 days from anybody if there is an objection to one of the applicants. Within 30 days, the SLRD township staff scrutinizes the eligibility of the applicant for the land title registration in respect of set criteria (section 6 of Farmland law). After verifying the validity of the information of the applicant in series of Forms 3 to 6, the case is submitted to the District Farmland Management Committee (DFMC) and is finally approved. Township Committee then issues the Form 7 to farmers. The whole process theoretically takes 141 days from application to issuance of certificate (Celine, 2016).

Figure 2: Form-7 Land use certificate (Celine, 2016)

Farmers who obtain Form-7, which is a Land Use Certificate (LUC) have the legal rights to cultivate, transfer and mortgage. The creation of LUC is particularly important to note. It weakens the legitimacy of the customary land governance system over land governance. The LUC or land titling as well as the Farmland Law and VFV Laws are adopted in a way to encourage privatization of communal land. The adoption of both Farmland Law and Vacant, Fallow and Virgin Lands Law (FVFLV laws) have a significant implication on the dynamics of customary land governance of rural communities. Locally organized land governance institutions have been replaced and undermined by the state's supported local institution such as VTFMC. For example, the implementation and enforcement of the laws require direct government intervention in decision making over land use and management in the local level, where customary governance system was practiced before the creation of laws. In Aibur village case, the formation of VTFMC is the most significant change found in the recent years. The land governance change can be categorized into two; change of institution and its practices. Institutional change includes a shift of management legitimacy from ALCM to VTFMC. The

VTFMC became a legitimate institution directly controlled by the central government, and that enforces the statutory law over customary systems. It creates overlapping responsibilities between the customary system and the newly created governance system by the government. Moreover, the new land governance system also encourages individual ownership of land, rather than strengthening the CPRs governance system.

4.3.1.2. Change in land-use pattern

The pattern of land use has changed significantly in recent years. The direction of change is heading toward permanent commercial farming system from traditional shifting cultivation.

"I first arrived in Chin State in 1995, and permanent farming was very rare. We could only observe a few upland paddy fields. Majority of the local people still practiced shifting cultivation, and permanent farming and gardening were very unpopular" (Murielle, personal communication, May 30, 2018).

The common property land use and governance systems were disturbed by the recent change of land use patterns. The land use change has been instigated by the adoption of the Farmland Law and VFV Law, which encourage permanent farming system through privatization of agricultural land resources. The parliament enacted both Farmland Law and VFV Law on 30th March 2012. VFV Law allows individuals, private sectors, and state institutions to apply the Vacant, Fallow and Virgin lands for agriculture development, mining, and others through the newly created Central Committee for the Management of VFV (CCMVFV) lands (Oberndorf, 2012). And according to the definition in the VFV law, many communal lands including *lopil* in Chin State fall under the category of VFV lands. Thus, the VFV Law enforcement pushes the local community members to opt for individual ownership of farmlands. Also, the government of Chin State has also adopted a policy to encourage permanent farming over traditional shifting cultivation. Traditionally agricultural lands have been converted into

permanent farms. The conversion process was explained in detail by Chin State's Minister of Agriculture, Forestry, and Livestock during the interview.

In an interview, Mang Hen Dal, the current Chin State Minister of Agriculture, Livestock, Forestry, and Mines (MALFM), explained that

“it has always been the government’s policy to replace shifting cultivation with permanent farming system because the shifting cultivation, through burning forest, not only destroy the environment such as forest and soil but also economically just not profitable” (personal communication, May 31, 2018).

However, he said,

“the government does not have the intention to ban shifting cultivation immediately because this practice is still the main source of livelihoods for community living in rural villages, but the government is working with international experts and institutions to find the best solution through research and exploring good practices from other countries” (ibid).

He further explained that

“the Chin State government is trying to increase upland farming areas. In 2016-2017 fiscal years, budget was allocated with the target to increase 400 acres of upland farms, and was able expand 500 acres, exceeding the target. However,” he explained, *“only 250 acres were converted into upland permanent farms in 2018”* (ibid).

An interview was also conducted with Zo Bawi, chairman of Chin State Parliament, on the issue of shifting cultivation. He said,

“shifting cultivation need to be replaced with permanent farming as soon as possible with perennial plants and other crops that are commercially more feasible and beneficial. In order implement, trainings and agricultural education are being provided to local communities and the local people are encouraged to start permanent farming” (personal communication, May 29, 2018),

Change in land use pattern was also observed during the case study in Aibur Village.

Change from shifting cultivation to permanent farming is the most common phenomenon found in Aibur. Unlike other villages, majority of households in this village have developed permanent paddy field since many decades ago. Most paddy fields, without any dispute, have

been recognized as individual property lands. As mentioned above, a total area of paddy fields in Aibur village is 152 acres, and 115 families own these paddy fields. Despite holding permanent paddy fields, the majority of households still worked on shifting cultivation because no family could harvest enough rice and earn sufficient food only from permanent paddy lands. Shifting cultivation has always been the primary source of food for this village. However, this pattern has changed in the recent years. Shifting cultivation has been no longer favorable to majority of the Aibur villagers. They have shifted toward the permanent farming system. According to data collected from the village, out of 191 households, only 41 households continue working on shifting cultivation, 20 families have begun working on permanent gardening, and 29 families registered lands to grow Elephant Foot Yam (EFY) called *Wa O* in Burmese. EFY production was largely speculated as the most feasible and profitable cash crop in Chin State. "EFY is a member of the genus *Amorphophallus*, of which there about 120 species widespread in the tropics and warm temperate areas (Keesecker, Gibson, & Sung, 2017)." Many households in the village are very inspired by the EFY production. Many have decided to grow EFY production for commercial purpose. The VTFMC granted 2 acres each to households who want to plant EFY. Apart from that many villagers expressed their willing to register village lands for permanent gardening. Baw Za Hu, LDC of Aibur village said,

"many villagers both living in the village and outside villages have requested permission to register lands for permanent farming (personal communication, June 7, 2017)."

EFY production has stimulate the local families to apply for LUC. Applying LUC means privatizing land. Land privatization has become a common phenomenon not only in Aibur village but also in other villages. One of the respondents from Chung Cung village explained that they had moved away from shifting cultivation to cash crop farming since a decade ago. He said,

“the ginger farming has become the main source of income for the majority of the local Chung Cung villagers” (Anonymous, personal communication, May 20, 2018).

This is a clear example of how land use pattern has changed from shifting cultivation to a permanent farming system. In addition, local villagers begin to propose grazing lands for livestock breeding. In the past, domestic animals such as cows, horses, buffalo, and mythun (also known as domesticated gaur) were released in forests within village territories. However, many villages have proposed to demarcate grazing lands for the livestock breeding. Aibur villagers have also proposed, but it has not been implemented.

Overall land use change can be classified into two types, common property land use system to individual system, and land use for shifting cultivation to permanent farming practice. Both changes are closely linked to change in the government's agricultural policy and regulation and reform in economic arrangement. The implications of both government policy as well as regulations and economic factors will be presented more thoroughly in the following sections.



Figure 3: Permanent upland paddy field

4.3.1.3. Change of local perception over land

The perception of Chin people over land resource has changed. In the past, except permanent paddy fields, land in the rural village was regarded as plentiful and open to all members of the village. The local people never worried about insecurity of title or tenure as access to land (Yaro, 2012) was granted to every member of a community in accordance with Chin's customary system. However, people no longer see land as a mere customary common property resource. They began to see more as commercially valuable commodity and economic capital.

"I register 10 acres of land for future investment" an anonymous response from one of the local villagers during the informal discussion.

The change in people's perception of the land resource is closely linked to a broader social change involving political, economic processes (Yaro, 2012) of modernizing the economy of the country. For example, many scholars, including Oberndorf, state that the VFV law passed in 2012 by the parliament was designed primarily to foster the promotion of large-scale agricultural investment and economics of the country without providing sufficient safeguards for farmers of smallholders in rural communities (Oberndorf, 2012). Securing land titling has become a new fashion of economic investment for local people who have financial capital.

What has been observed during the field research regarding people's perception of land can be sorted into three categories, source of food, economic capital, and valuable commodity. This is, in fact, a very general categorization because the relationship between local and their land resource is more complicated than what can be explained here.

Firstly, as mentioned it is not new that people perceive land as a source of food. Traditionally, the local people relied for the majority of food productions on traditional farming. The notion of *Inn le Lo*⁴, meaning shelter and farm, were the basic foundation of every

⁴*Inn* refers to shelter and *Lo* means traditional farm

household and family. The land was a source of food for survival. Survival issue is the primary concern of every Chin family. One cannot establish a family unless she or he has *Inn* shelter and *Lo* as a foundation. To establish a family, one must have shelter and be ready to work on *Lo* in the Chin society. Therefore, the purpose of land use for food production is something different from land use for other purposes. However, people's perception on land is shifting over time. The case of Aibur village also suggests the change of public perception over land. For example, land as merely agricultural food production is no longer valid. Although land used for permanent paddy farming still largely remain a source of food, traditional land used for shifting cultivation has declined in an unprecedented manner. As mentioned above, only 41 out of 191 households are farming on shifting cultivation in 2018, while almost a hundred percent households worked on shifting cultivation in the past.

Secondly, the land has been treated as economic capital in recent years. This perception is more than just land use for food production. The difference between land as a source of livelihood and financial capital is that in the past land was used for subsistent farming or food production. It was very rare for farmers to demarcate large areas of land for growing cash crops and grazing for commercial purposes. However, it has become a widespread phenomenon. Especially, village's lands that are closer to urban areas have been largely transformed toward more commercial uses. For example, EFY plantation and agricultural productions such as strawberry, grape, many other fruits, and teak plantation are purely economic. Vast areas of land have been used for planting commercial crops, perennial plants, and grazing. The same perception of land as financial capital was also observed among farmers in Aibur village.

"At least 58 acres of lands have been leased to 29 households for commercial plantation, and more lands are yet to grant" (Bawi Za Hu, June 7, 2018).

Applicants were granted 2 acres each. One of the villagers, who have been awarded Form 7 or LUC, explained that

“I applied for LCU to secure my land titling because I have planted several perennial plants such as orange, coffee plant, and grapevine” (Anonymous, personal communication, June 3, 2018).

Majority of farmers in Aibur applied for Form-7 permanent agricultural land for investment purpose, especially for growing EFY. Growing EFY has become popular as farmers are inspired by some success story from other parts of Chin State. For example, according to Keesecker et al. (2017), EFY is considered the main cash crop and a critical source of income for some villages in southern Chin State.

Finally, the land resource has also been increasingly commoditized as private property in Chin State. Many cases have been observed in villages that are closer to cities. The increasing commodification of land resource in Chin State is implicitly or explicitly instigated by the rapid infrastructural development in transportation, communication through easier access to information, and an increasing market demand for agricultural productions. The commoditization of land resource means conversion of communal land into the tradable private property. For example, this dynamic was observed during the field research travel from Hakha to Aibur village as most forest and land on the roadside were fenced and demarcated. In some areas, signboards are also put on top of demarcated lands showing specific types of land uses. Most of the commoditized or privatized lands were initially communal lands, which used to be treated as CPRs. Often, people who have money, power and the legal knowledge are most responsible for commoditization of lands through corrupting and manipulating the local authorities.

The issue of land resource's commoditization was also investigated by the researcher in Aibur village as a case study. Compared to other villages that are closer to cities, conversion of land into a private commodity is much less, but not absent. Similarly, most of the lands close to the main road in Aibur have been either converted or proposed by interest individuals. One of the villagers, who requested to remain anonymous, explained that

“many of the villagers, especially who have financial resource are pressuring on village authorities and elders to privatize village’s land” (Anonymous, personal communication, June 3, 2018). He further expressed his opinion by saying “Lands that have been privatized are located in areas considered as productive and fertile village’s lands.”

In addition, the researcher had the opportunity to discuss with two individuals⁵ from Aibur village, who are permanently residing in Hakha the capital city of Chin State, about the issue of land's commoditization. They both agreed that commoditization of village lands is happening as they also involve in the registration of communal land as their private property land. One of them states that he has registered at least 10 acres of land which was previously used as the village's land. When asked about the reason for registering village’s lands, one of them replied that

“he has the plan to grow perennial plants in the future and want to keep the land as a means of saving money for the future” (Anonymous, personal communication, June 7, 2018).



Figure 4: Land demarcated for coffee plantation in ChungCung village near Hakha

⁵ Both respondents requested to remain anonymous

Changes in the governance of land in Chin State has become more apparent and intensified after Myanmar experienced social economic and political transition in 2011. The case of land governance change in Aibur village shows that most of the land-use change, as well as privatization, occurred within the past five years, especially after Farmland and VFV law were passed in 2012. Of course, the Farmland and VFV laws are not the only factors that influence the changes. Many other factors, including easier access to information, better transportation, and economic activities are also considerable factors that play a role in shaping the dynamics of natural resource governance system. A more detailed discussion on how different factors have affected changes in customary land governance will be presented in the following sections.

4.3.2. Forest governance

Chin State is one of the most forest covered regions in Myanmar. According to (Leimgruber et al., 2005), forest cover areas in Chin State constitute 87 percent of total land areas an annual deforestation rate of 0.2 percent. The rural Chin communities' dependency on forest resources for their livelihood is also high as forests support a large number of important natural resources. The majority of the local villagers have been largely dependent on forest's ecosystem services such as firewood for cooking, wildlife meat, livestock production, seasonal vegetables and plants, and timbers for building materials. Thus, sustainable forest resource governance is still very important for the Chin people living in rural villages. However, the customary governance of forest resources has been under enormous pressure in recent years. According to the government, the traditional shifting cultivation of clearing large areas of forest has proven unsustainable and is causing environmental problems, deforestation and erosion of soils. Therefore, several attempts have been made by both government and policymakers to address the issue by replacing the local governance system of forest resources with a more top-down intervention in managing forest resources. However, the intervention of the government

in the forest and natural resource management depend not only on environmental factors but also on changing social, economic conditions (Müllerová, Szabó, & Hédli, 2014). The government's interventions in forest resources governance can be seen in three different forms: land-use and agricultural reform, forest conservation or national parks, and regulating wildlife hunting.

The issue of how land-use and agricultural reforms have been carried out especially in rural areas have been already discussed in the previous section. However, the implication of the reforms on governance of the forest has not been adequately addressed yet. It is evident that the land-use and agricultural reforms have largely transformed the way the forest has been customarily governed in the rural communities where agricultural land and forest are inseparable. In the past, the greatest threat to forest resource was fire. Generally, villages always protected their forest land from an accidental fire so that they could go back to cultivate the forest lands that were left for a certain period of years to regenerate. Specific customary rules were developed to punish whoever caused fire and destroyed the forest. This was and still is a common practice for villages and communities that depend on forest land for shifting cultivation. However, fire is no longer the only threat to the forest in Chin State. The land-use and agricultural reforms have become one of the greater threats that have jeopardized the customary forest resource governance system through making policy to encourage large-scale permanent farming and privatizing of forest lands. Management power of forest lands was in the hands of local people in the past, but this system has changed within the past five years. Decision-making power regarding the conversion of customary forest lands to permanent farming and private land is now concentrated in the hands of a few local administrative authorities. There are some cases that community forest lands have been granted as grazing land with the recommendation of village administrator.

Another change of forest governance change observed in Chin State regional level is the increasing implementation of protected areas. The project of expanding forest resource protected areas has been carried out by the Chin State government. According to an interview with Mang Hen Dal,

"7 forest and biodiversity conservation areas have been proposed as a strategy of forest and biodiversity conservation" (personal communication, May 31, 2018).

The proposed conservation sites or protected area is very large that they occupy huge areas of customarily governed forest and villages' lands. Ze Hmu Mountain which was recently proposed to be developed as national park covers many villages' areas from three different townships, Hakha, Falam, and Thangtlang.

"The total areas of proposed Ze Hmu national park are estimated at 20,000 acres"
Said Zo Bawi" (Zo Bawi, personal communication, May 29, 2018).

Another national park that was recently proposed is called Bawi Pa Taung. It is located within Hakha, and Thantlang Township and the total area is 581.05 km² wide and covers more than 20 villages' forest lands ("Bawi Pa Taung," n.d.). Bawi Pa Taung national park will be implemented according to the IUCN Category II. The characteristic of the IUCN Category II is as follow:

Large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities. The primary objective of Category II is to protect natural biodiversity along with its underlying ecological structure and supporting environmental processes, and to promote education and recreation ("Category II," 2016).

The primary purpose of the Chin State government to implement the national park project is to promote ecotourism. In the interview, Zo Bawi, Chin State Parliament Chairman, explained about the purpose of the government's policy of implementing national parks in Chin State. He stated that

“the government wants to attract ecotourism to develop livelihoods of the local people.

The national park projects have not been fully implemented yet.”

If implemented according to the plans, the local people will have no say and access to forest resource within the demarcated national parks. Customary forest resource use includes hunting of wild game which is an important source of meat. Chin people traditionally also practice livestock breeding such as pig, chicken, cow, buffalo, and mythun. However, meat from livestock breeding were used for occasional events such as the religious festival, wedding, and thanksgiving. Therefore, hunting was the most stable source of meat. According to traditional custom, hunters share meat which they hunted in the forest with their neighbors and relatives. However, the practice of wildlife meat sharing has not been practiced anymore in recent years. Hunting has become a commercial activity. Meat is no longer shared for free but sold.

“I go for hunting almost every evening and sell all meat if I get animal” one of the local hunters explained.

When asked if he also shares meat to neighboring families, he replied

“sharing meat for free is no longer practiced, but I have to share if I get a bigger animal at least to my relatives and neighboring families.”

The practice of meat selling has become a new normal. It has intensified commercial hunting, and more modernized and sophisticated tools are developed. In response to commercial hunting, the Chin State government has proposed policy and regulation to ban hunting. In the interview, Zo Bawi stated that

“the current practice of hunting is no longer sustainable, and it is important to ban because some wildlife animals are virtually extinct in Chin State.” He further explained that *“the policy will be implemented by withdrawing gun and hunting licenses”* (personal communication, May 29, 2018).

The law has already been proposed and but has not been debated in the parliament. In the case of Aibur village, change in forest resource governance has not been vivid, except the changes through conversion of forest lands to permanent agricultural lands. The conversion of forest land to permanent agricultural land was decided by community leaders and elderly people in

the village. However, this has been processed now through the permission of the village's administration and the VTFMC. Administrative power of forest resource governance has shifted away from the traditional local community members and given to Forest Department and VTFMC which is an official committee created in accordance with government's policy. It does not mean that traditional governance system of forest resource has been completely abolished, but the trend rather is heading in the direction of centralized decision-making. However, the existing traditionally established community forest system, the practice of seasonal fruits and vegetable collection, and collection of firewood, bamboos and other traditionally used forest resources are still allowed in Aibur village. In addition, the traditional forest clearance and burning for shifting cultivation is still allowed. However, the majority of families have a negative perception over shifting cultivation due to the labor intensity.

The national park project and regulation of wildlife hunting have not impacted the forest governance in Aibur village. However, if the Bawi Pa Taung National Park project is implemented successfully, vast areas of Aibur forest will be affected. When discussed with the local people about Bawi Pa Taung National Park project, only very few people responded that they have heard of the project. However, none of the villagers, including the village administrator, really understands about the process of national park implementation. It shows that there is huge information gap between the local people and national park implementing body of the government. During interview about Bawi Pa Taung National Park Project, the Minister mentioned that the government is working closely with local communities (Mang Hen Dal, personal communication, May 31, 2018).

To sum up, there are considerable evidences of forest governance changes in rural Chin State. One of the most vivid changes identified is rural institutional change. That includes the shift of decision making power over forest governance from the local community to VTFMC. Majority of VTFMC members, of course, are local people. However, they are obliged to abide

by the statutory regulations and policy rather than customary norms and practices. This new local institutional shuffling specific implication toward privatization of communal forest land by individual farmers. Thein argues that there is a tendency of converting forest land to private cultivation at present (Thein, 2012). In contrast, changes in forest management and wildlife protection policies, up to now, have no tangible implication on the customary governance of forest resources. However, the implementation and enforcement of these policies will have a significant implication on the customary management of forest and other natural resources. For example, restriction of traditional hunting and demarcating national parks will exclude local communities from access to their forest resource, including seasonal fruits, food, and vegetable as well as game meat. This situation will result in an intensification of agricultural productions as well as livestock breeding to replace seasonal forest resources for the local population. The similar phenomenon has been already observed within local population closer to the urban areas.

4.3.3. Water governance

Although the government is responsible for providing basic infrastructures, the local Chin State government cannot assure full access to water, electricity and other essential services in rural areas of Chin State. With little or no contribution and intervention of the government, the local villages manage and operate water supply or irrigation infrastructure (D'Andrea, 2012), and produce electricity with mini-hydroelectric generators. The governmental interference in the governance of water resources is much less compared to the intervention in other natural resource management sectors. The local communities enjoy greater autonomy when it comes to water resource use and governance in rural Chin societies.

“as you know, we use water resources for three main purposes; for gardening, drinking and paddy field” one villager responded during an informal discussion.

However, it does not imply that customary water governance and use systems remain intact or untouched. In fact, the water resource use and governance are also changing reflecting the

pressure from social and economic transformation. More importantly, the water resource use has been intensified over the past years. The growing economic activities, agricultural transformation, and rapid infrastructural development have caused a growing demand for water consumption. Traditionally water resources were mainly used for drinking and agriculture. As mentioned in the previous section, the water resource has always been treated as a CPR too. No direct privatization of water resource has happened in Chin State. However, water resource has been used for more than just merely drinking and agricultural irrigation. It has been increasingly used for other purposes, and the volume of water resource used in the agricultural sector is also increasing compared the past 10 years. This is closely related to the growing conversion of land use from shifting cultivation to permanent farming. Permanent farming, especially upland paddy fields require a huge volume of water. Most of the water used for paddy farming comes from streams and rivers. During the research, a number of interviews were conducted regarding the use and governance of water resource for agriculture. In an interview, Murielle from GRET Office in Hakha expressed her concern by stating that

"water-related conflict may occur as a result of the rapid expansion of permanent farming and gardening" (May 30, 2018). A villager from the community Za Uk explained that *"the community (Aibur) has the unwritten norm that restricts grabbing water resource stream that has been in used without the permission of downstream riparian those who has already used."* He further explains the current water resource use pattern stating that *"we mainly use for three purposes, farming, drinking, and gardening, but now we have blocked three streams for hydropower production."*

However, this tradition is not legally recognized. The increasing use of water resource for electricity production has been observed in almost every village in Hakha and Thangtlang Townships. A considerable volume of water resource from small stream and rivers has been used for generating small-scale hydro-electrical power. Having said, the government has not

been able to provide basic infrastructural needs, including electricity to the most rural community. For this reason, many local communities organize themselves and produce small-scale hydroelectricity through damming and storing water from streams and rivers.

The same phenomenon has been witnessed in Aibur village. The village uses water resource for three purposes, for drinking, agriculture and electricity production. Aibur is one of the villages that has utilized a significant portion of water resource for agricultural purpose. At least 152 acres paddy fields in Aibur village are fully connected to water from streams. In addition, Aibur village has been using water from two small streams next to the village for electricity production since 2010. The streams are so small that they can only generate electricity for two hours per day. To increase electricity production capacity, the villagers are constructing a new mini-hydropower plant through blocking a bigger stream. The following photo (figure 5) is the newly built water reservoir for micro-hydro power plant in Aibur village.



Figure 5: Water storage construction for micro-hydropower plant in Aibur village

Another important water resource in Chin State is freshwater fish. Although the change in the pattern of freshwater resource fishing method is significant over the past years, the local governance system of water resource has not been changed. Freshwater fish was and has always been regarded a common pool resource in Chin State. Any individuals, including members of villager and outsiders, are traditionally allowed to catch fish anywhere and anytime at any river. The increasing accessibility of new and sophisticated fishing technologies, however, make it difficult for the local people to govern freshwater fishery. Unsustainable and more sophisticated modern fishing equipment, including with electric equipment, net, and dynamite are the most significant challenges and threats to the freshwater fishing and pose a challenge to the local people to manage the fish resources in accordance with customary rules. To control and restrict the unsustainable fishing method, the previous Chin State regional parliament passed a law called Freshwater Fishery Law. However, the law has not been enforced to control and crackdown on the use of illegal fishing equipment. Zo Bawi, chairman of Chin State parliament, admitted in the interview that "*the new government is unable to enforce the freshwater fishery law*" (personal communication, May 29, 2018).

Some self-organized local villages also have made attempts to regulate fishery within their respective territories and areas in 1998. Aibur village is one of them who make attempts to regulate fishery in Thanghor stream. Thanghor is shared by 10 villages and serves as the main source of fish production for domestic consumption. Traditional fishing practices include bamboo basket and poisoning with creeper fluid. Led by religious leaders, from Bawipatang Zophei⁶, an attempt was made to convince all riparian villages to regulate fishing on Thanghor stream collectively. The primary purpose of regulating fishing includes banning all kinds of fishing methods and practices that are considered unsustainable, especially the fish poisoning, using net and dynamite, and electric gear. Although all riparian villages agreed to regulate, the

⁶ Bawipatang Zophei is a region consists of 7 villages located in Thantlang Township

organizing committee could not successfully enforce the regulations and rules they have set. Only Aibur village committed to enforcing all the regulations within their territory. Since then, fish poisoning, using dynamite, net and electric gear for fishing have been completely banned in any water and stream within the territory of Aibur village. A village committee composed of representatives of youths, women, religious groups and village administration was formed to enforce all the rules. The primary task of the committee is to monitor the stream within the village's territory and take necessary actions against whoever violate their rules and regulations. According to Bawi Za Hu, *"it has been 20 years that Aibur village has strictly banned unsustainable fishing methods such as net, dynamite fishing, poisoning and electric shocking within the territory of Aibur Village."*

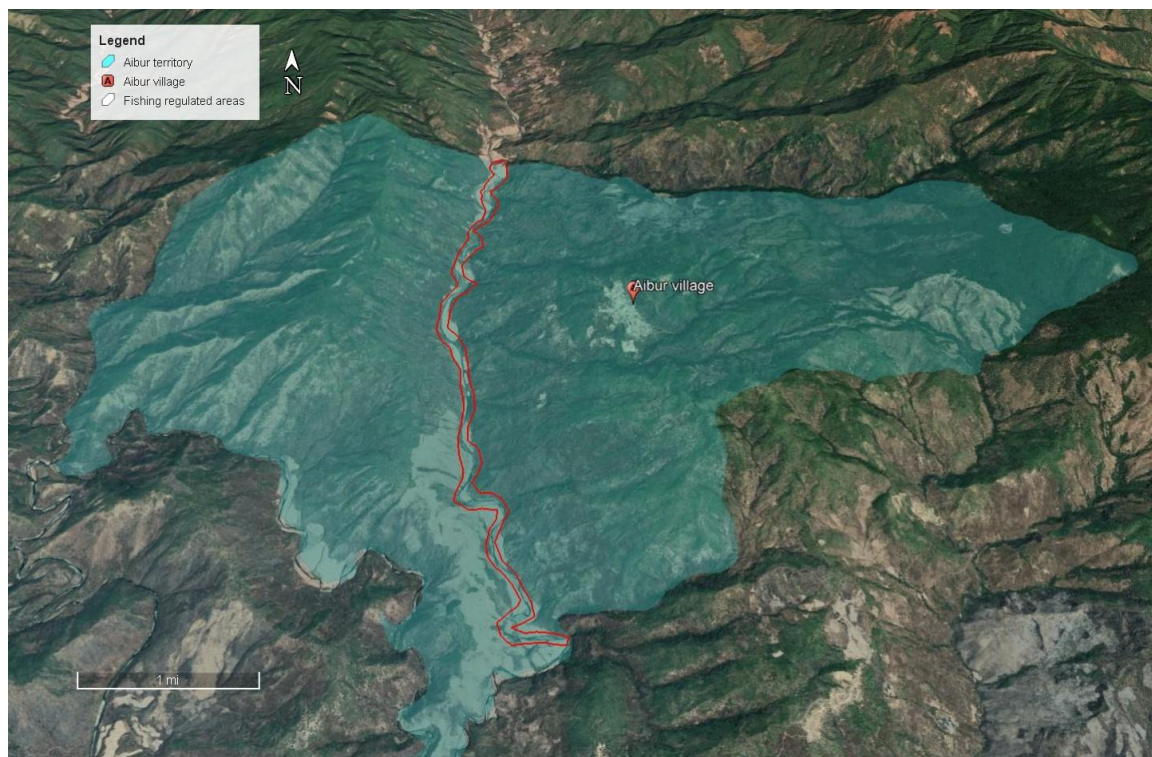


Figure 6: Aibur village territory and fishery regulated areas

Water governance arrangements in Chin traditional communities are often linked to the way water resource is used. The Chin local communities usually do not form one single institution that is responsible for comprehensive water management. The arrangement of water

governance institution largely depends on the type and pattern of water use. For instance, the drinking water management committee and hydropower plant management committee might not necessarily coordinate with each other. Therefore, the dynamics of local water resource governance would be understood by looking at the different patterns and purposes of consumptions. Water governance in Aibur village would be a good example for understanding the current dynamics of water resource governance in Chin State. The noticeable change that has been observed is that increasing consumption of water resource for micro-hydro power plant for production of electricity. This phenomenon can be found in almost every village in Chi, including Aibur village. In addition, the growing conversion of traditional shifting agricultural lands to permanent farming can also intensify water resource use. Although there is an increasing demand of water resource, both the local government and community, have not established an effective water resource governance system.

4.3.4. Influencing factors of the changes

So far, I have presented many issues related to the governance systems of natural resources in Chin State. Particularly, I have discussed the problems of change and evolution of customary governance system of diverse natural resources. The finding has suggested that a change in customary natural resource governance system and pattern of use is inevitable. However, one of the research questions that need to be answered is which factors have influenced the dynamic of natural resources use and governance in Chin State.

According to the findings, many factors have directly or indirectly shaped the dynamics of natural resource governance and use. Among many others, the most critical factors are regulatory reforms as well as rapid economic and infrastructural developments. The listing of the three factors is entirely based on the general feedbacks and information given by the respondent of this research and personal observation of the researcher.

4.3.4.1. Regulatory reforms

Significant reforms in regulation and policy took place Myanmar experienced political transition in 2011. The adoption of the 2008 constitution was the most significant regulatory reforms we have observed so far in the past 10 years. The constitution reaffirms the state as the ultimate owner of natural resources. Section 37 (a, b) states that

"The Union is the ultimate owner of all lands and natural resources above and below the ground, above and beneath the water and in the atmosphere in the Union and the Union shall enact a necessary law to supervise extraction and utilization of State-owned natural resources (Myanmar Const. art. 37, a-b)

This statement is not new as the state has always maintained the ultimate ownership of land and other natural resources since the independence of the country in 1948. The new constitution reaffirms the legitimate ownership of natural resource while protecting the legal management and user rights of land and natural resource of the citizen. The de-facto land and natural resource policy were always securing the right to cultivate and hold use rights of farmers (Oberndorf, 2012, p. 3). Throughout Myanmar history, the customary land use rights and natural resource governance system have always been protected by the state. This includes the customary natural resource management practices and system of the Chin people. In addition, the legal provision of the CSDA also recognizes Chin's customary resources. Thus, natural resources, including land, forest, and water resource have always been governed and managed in accordance with Chin customary systems. In most cases, village's natural resource, agricultural land, in particular, is only meant to be used by those residing in the place, and selling and transferring to outsiders is strictly prohibited (Mark, 2016). In addition, the customary land and other resource users are not entitled to pay tax or taxation system does not exist except paying tributes to local chiefs and tribal leaders in the past. These various types of

customary systems developed by villages and communities receive a legal recognition under the CSDA (an Extension of Law) of the 1948 and many other statutory laws.

The recent regulatory reforms have a significant impact on agriculture and traditional land use of the Chin people. The customary land governance system has been one of the areas that have been most affected by the policy and regulatory reforms. Among many, the packaged bill called Farmland and, VFV laws, were the most controversial and challenging ones. The laws were passed in 2012 following the political transition in 2011. The two laws have direct or indirect impact on the customary natural resource governance systems of the local Chin people. In fact, the two laws were adopted in attempts to secure rural land tenure system through creating LUC and registration systems. Through creating the system, the government has encouraged private land use property rights (Oberndorf, 2012). However, the laws, in the first place, make not only the status and legality of the Chin's traditional natural resource management system uncertain but also make the communal lands or village lands vulnerable to privatization. More importantly, the customary right of farming has not been recognized by the new Farmland Law. The legal definitions of farmland, for example, do not incorporate *lopil* the shifting cultivation land which the Chin people practice as the primary source of food. Interviews were conducted regarding the implication of Farmland, VFV land laws on the customary land use in Chin State. The responses are as follows:

“The problem is that, according to the law, the customary shifting cultivation land is not included under the category of farmland” (Mang Hen Dal, May 31, 2018).

“The Farmland, VFV land laws need a critical review. Otherwise, most village lands in Chin State will fall under vacant or fallow lands” (Bawi Tha Thawng, land expert, May 25, 2018).

“I am not sure whether people are aware of the land use policy of the government but applying for LUC or Form 7 certificate is significantly increasing over the past years” (An official from Settlement and Land Record Department, May 30, 2018).

The responses from the interviewees show that those *lopil* and village lands can quickly fall under the definition of "Vacant land and Fallow land." If we also look at the legal definition written in section 2 (e), the "Vacant land and Fallow land" means land which was used by the tenant before, and then that land was abandoned by the tenant for any reason. The contradiction here is that according to customary practices, after one or two years of cultivating, the farmers usually leave their farms for at least five to ten years so that soil and forest will regenerate again. They do not abandon the lands but allow them to regenerate. The problem is that those land left to fallow can be put under the category of "Vacant land and Fallow Land." Any land that is left vacant or fallow can be leased for a maximum 30 years to individual or group. Furthermore, according to section 4 of the Farmland law, to get the permission of right to use farmland, farmers have to apply for a Land Use Certificate (LUC) to the Township Department of Agricultural Land Management and Statistics (TDALMS) through Village Tract Farmland Management Body (VTFMB). This implies that local farmers have to apply for LUC to get the permission and right for farming, which means the customary right of local farmers has become invalid under the new Farmland law. Furthermore, in section 9 (b) farmers those who have obtained LUC enjoy the rights to sell, pawn, lease, exchange, or donate, in whole or in part. It is completely contradicted to the customary system which restricted selling land to outsiders. SiuSue Mark (2016) describes this situation, as "customary norms and social value exist at the level of laws and regulations sanctioned by a form of politico-legal authority." She also describes the central reasons for adopting new policy and regulations as an attempt to increase the state's chances to strengthen and perpetuate its sovereign rule over Chin people who saw themselves as distinct nation-states opted to create a multi-national state of Myanmar (ibid, p.135).

The government makes several attempts to change the customary CPRs governance systems of the Chin people through introducing different policies. For example, the government always encourages land and forest for economically more productive means. The government constantly attempt to end the practice of traditional shifting cultivation by encouraging permanent farming. According to a respondent (who?) “*Shifting cultivation practice is too primitive and destructive to the environment*” (Zo Bawi, May 29, 2018).

This perception is not new. The government and policy-makers always see shifting cultivation as old fashion and destructive to the environment. This is why the government have made several attempts to abolish this shifting cultivation practice in Chin State. The current government also adopted the same policy of abolishing shifting cultivation. Mang Hen Dal (May 31, 2018) states, “*We will continue to implement the policy of expending permanent farming and reduce shifting cultivation practice through creating new opportunities for farmers*” (May 31, 2018).

The policy of promoting permanent farming is also implemented through providing financial incentives to farmers in rural villages. One of this policy implementation strategies involves the government-led “*Mya Sein Young*” project under the department of agriculture. This *Mya Sein Young* project is carried out in every village with more than 100 households with the policy to create a more stable livelihood through providing financial capital. A financial loan is given to farmers whoever has obtained LUC to start permanent agriculture, livestock breeding, and irrigation. The project has been implemented for the last 3 years in collaboration with local community members. *Mya Sein Young* committee is formed in each village, and the government provides an endowment fund as financial loan to farmers. According to committee members, 30 million kyats were allocated for loans in Aibur village. The loans were given to the local people for developing permanent farms, breeding livestock and irrigation. One of the committee members said, “*In Aibur village, most households have taken the loan for*

investment in livestock breeding, and many families recently take the loan for developing permanent farms and garden.”

This interview indicates that permanent farming has been promoted through providing the financial loan. These bits and pieces of government's policies and projects have continually played a role in transforming not only the customary CPRs governance system but also the perception of the local community toward their natural resources.

4.3.4.2. Economic and infrastructural development

Economic and infrastructure developments also play a critical role in transforming the dynamics of customary CPRs governance and use into the market liberal management system. In many aspects, Chin State remains remote and isolated until recently. However, along with the constant infrastructure development, Chin State has been rapidly integrated into the capitalist market, which allows the local people an increased access to greater market. The greater access to market also raises consumption need of the local people. The rise in consumption intensifies the exploitation of natural resources, which the local livelihood depends upon. For example, as people have access to markets their consumption grow which on the other hand require increasing income through more exploitation of natural resources. According to an anonymous interviewee,

"Economic factor is something important to examine. What we analyze in one of our research is about the links between agriculture and the growing needs of consumption. Our research shows that local people started to buy more material needs which are only possible by increasing income. When we look at their income source, we found out that people are using more land for agriculture and growing more crops and breeding more livestock to fulfill to consumption need. This happens more in villages that are closer to Hakha city" (May 30, 2018).

Of course, economic development is everybody's desire (Shivakoti et al., 2016), but in the context of Chin State, it has not only pressured the local governance of CPRs but also allowed the local elites to capture the benefits of development in their favor. The infrastructure

development not only helps the local people to access greater market but also encourage the local elites to grab more natural resources such as land, forest resource and other resources in from local communities. Due to the lack of effective policy measures to protect the customary right of the local people's CPRs governance system, the elite are capturing the benefits of economic and infrastructure developments. According to Murielle,

"Local businessmen from Hakha are buying more lands from neighboring villages for different purposes. For example, one of the businessmen has grabbed huge areas of land from neighboring Lawk Lung village for grazing land. The areas used to be a property of Lawk Lung village, where they grew potato before" (May 30, 2018).

The infrastructural development makes possible for the local elites to grab of natural resources from the local communities. Due to the lack of transportation in the past, people in business had no incentive whatsoever to go and buy land from villages. The rural people in Chin State also did not treat their resources as the economically valuable commodity.

The same is true for Aibur village. Except for paddy land, no land had never been treated as economically valuable commodity in the past. The reason for managing paddy fields as a commodity was and is that the local people consider it a stable source of food production. The rest of the village lands and resources were treated as CPRs and collectively governed by customary rules and norms. Since a new road was constructed from Hakha to Aibur under the previous President Thein Sein's government the local villagers have better access to the urban markets. For example, before the road construction, it took two full days to travel to Hakha city but now one can reach it within two hours. The accessibility of urban market has not only advanced economic integration between the village and urban societies but also quickly transformed the local practice of reciprocal culture into a cash economy. This economic transformation has directly or indirectly encouraged community members to free ride the common resources such as land, forest resources (e.g., timber) through privatization and commercialization for self-benefits. The local elites from Aibur village living outside the

village are rushing back to grab land and other resources as much as they can. Among others, the land is the most privatized resource. The similar phenomenon is also seen in other villages. According to an interview with Baw Za Hu, *“Many villages collect money from households for using the land for any purpose. The amount of money paid depends on the quality of soil and the location of the cultivation plots.”*

This is one of many economically driven natural resource governance changes. The customary CPRs governance system has transformed into a market-based natural resource governance system. The market has become one of the dominating factors in decision making over natural resource management and uses instead of customary rules and norms in the local communities that have been integrated into the urban capitalist market.

4.4. Discussion

The political reform which took place since 2011 has brought a level of vulnerability to the customary system of the Chin people in rural areas. Notably, the rapid social and economic transformation have increasingly pressured the customary natural resource governance system of local Chin people. One objective of this paper is to analyze the dynamics of customary natural resource governance and use in Chin State. The second objective of this paper is to identify factors that influence the dynamics of natural resources governance systems.

4.4.1. Theoretical relevancy

The concept of common property resources (CPRs) was used as a conceptual framework to better understand the context of customary natural resource governance system of the Chin people. The existing literature and findings of the research support that the CPRs are a relevant conceptual theory that is applicable to the customary natural resource governance systems of the Chin people. For example, "village land or resources only to be used by those residing in the village (Mark, 2016)." Land and agricultural fields are also described as

villages' *lopil* or as CPRs (Andersen, 2015; GRET, 2017; Stevenson, 1943). In addition, the natural resources, including land, forest, and water of Aibur village also qualify to be CPRs as they are not only managed and used collectively but also defined clearly with physical boundaries. Similarly, the conceptual definition of CPRs and its governance regime are illustrated as “neither public nor private property” (Dasgupta, 2005), CPRs as “the resources accessible to the whole community of a village and to which no individual has exclusive property rights” (Jodha, 1986), and as “collective goods of members of recognized groups” (Ashenafi & Leader-Williams, 2005). All these definitions and illustrations support the relevancy of conceptualizing and framing the context of Chin customary natural resources and the governance system within the framework of CPRs.

4.4.2. CPRs to private property: Dynamics and factors

The changing dynamics of CPRs governance system and use in Chin State is analyzed in this paper using different methods, including interviews, informal discussion, personal observation and literature reviews. As mentioned earlier, one of the research objectives is to analyze the changing dynamic of CPRs governance in rural Chin communities. The overall study suggests that CPRs governance system has experienced a process of transformation over the past recent years. According to the finding, one of the critical factors that have shaped and influenced change in CPRs resource governance is the regulatory and policy changes in natural resource governance sector. Among many regulatory changes, the Farmland, VFV land laws passed in 2012 and the policy that promotes permanent farming over traditional shifting cultivation are the most prominent factors that shape the current dynamics of CPRs governance system. These laws and policy strongly encourage privatizing of natural resources, especially agricultural land, and forest. For example, one of the interviewees, Zo Bawi commented on the policy change that *“Our policy is to encourage the permanent farming through raising awareness and providing agricultural related educational training to local people.”* When

also asked about the privatization of land and forest resources, he said "*I think that privatization will help local people in producing more commercial agricultural products. The strawberry farm in Chung Cung village is one good example*" (May 29, 2018).

The comment from Zo Bawi indicates that the government is fully supportive to the privatization of land and natural resource. More interestingly, according to the Farmland and VFV land laws, individual farmers and interest groups now can register CPRs lands and receive land use certificates which provide them the right to sell and transfer to others. This indicates that the customary CPRs which were once governed as collective goods have come under pressure of privatization. The continuous implementation of the policy and laws will increasingly delegitimize the customary CPRs regime. This situation not only creates greater opportunity for free riders to grab more CPRs, land and forest resources, for their interests but also result in inequitable distribution of natural resources among the rural populations. The case study in Aibur shows that at least 49 out of 191 individual households have registered land for different purposes and many more are rushing to obtain land and other resources from CPRs. This registration process is also done in accordance with the provision of laws rather than following the customary norms and rules of the local people.

The local people's opinions over the current pattern of the natural resources governance and the government policy are mixed. Many people have a positive view on the policy of privatization and permanent farming, while some local people also worry that their land and resources would be taken away by the government and local elites. Some respondents also propose a third option. The respondents who propose the third option believe that the utilization of natural resources for more productive purpose is good. They suggest that the village's land resources should be allowed to privatize or granted to individual members of the village or community. But they oppose allowing outsiders to own farms or agricultural land. Thus, they

disagree with the laws and government policies that allow any permanent farming and privatization of resource without any restriction.

The change of people's perception over the natural resource is a valid topic to discuss because it has a lot to do with the current dynamics of natural resources use and governance systems. In the past, Chin State was always portrayed and described in both government documents and many works of literature as the most impoverished state in Myanmar. The poverty in Chin State was always reasoned as a result of the lack of valuable natural resources such as mineral, timber, natural gas, etc., which other states and regions in Myanmar mostly have. People argue that development is impossible without those valuable resources. However, this perception has changed over the past recent years. People began to see land, forest, and water as the natural resources that can be utilized as economic capital. For example, a family does not need to have private land because being a member of a community or village ultimately guarantee every household the right to use any CPR within the territory of the village. However, people are becoming more and more insecure if they do not have legally secured land and farm. This happens mostly after the political transition in 2011 and the increasing economic connectivity between Chin State and mainland central Myanmar. Thus, taking the opportunity of new Farmland and VFV laws people began to grab land in their hands. The recent grabbing and free riding of CPRs are largely encouraged by self-interest and benefits rather than collective betterment. A sense of collectiveness among members of the village is no longer solid in many respects as economic competition becomes stronger.

According to the findings, change in customary CPRs governance system to more centralized governance is also linked to the continued development of basic infrastructures. The major infrastructural developments include transportation, communication, and electricity. Until 2010, only a few towns were connected with roads. Most people in the rural villages traveled from one place to another either on foot or riding horses. Communication

infrastructure or tool such as a telephone landline or mobile phone did not exist at all. In addition, electricity was provided only for two hours per day in Hakha, the capital city of Chin State. Since 2011, the region experienced a significant change in all of these sectors. Today, even most remote villages are connected with small dirt roads and people living in both city and villages alike have access to the internet and mobile phone. Electricity remain the most significant challenge. However, rural households, with the support of NGOs and international donors, are able to use solar panels to light their houses and charge their phone batteries. With all these infrastructures in place, local people can trade their agricultural and forest products and livestock to generate more income. Murielle describes the relationship between infrastructural development and domestic natural resource use as

“During the survey in the village, I remember people told us that land-use change is due to demographic change meaning population growth. It might be right in 30 or 40 years ago that an increase of the population put more pressure on the lopil land. But our survey suggests that no population increase over the last 10 years. Only one village called Cawng Thia has experienced a slight rise in population, but the majority of villages we surveyed do not experience population increase. I think the increasing pressure on lopil or agricultural land-use is linked to an increase in material consumption and needs of the local people. People started to buy more food, and more expensive clothes and material need to be imported from Kalay to improve their living condition.”

What Murielle is explaining here is the role of economic and infrastructure developments and their links to the dynamic of material consumption and needs of the local people and the change in CPRs governance system. The increase in material consumption and need is entirely interrelated or the result of the rapid infrastructural and economic development.

4.4.3. Social and sustainable implications

The transition from CPRs governance system based on traditional customs and norms to commercially driven natural resource governance that promote privatization of CPRs may be economically more efficient, but it has its share of impact and challenges. The implication

of this transition can be observed in two ways. One is the implication on the sustainability of the environment and natural resource and the second is on social justice systems of the local communities.

Natural resources, as mentioned several times, are traditionally governed as CPRs in Chin State. Although economically unproductive, this governance system not only seems to be sustainable but also ensure equitable distribution of natural resource products. According to the Chin customary rules, every household in a village has equal right and access to any natural resource that is held in common. In some communities, better land and cultivation plots are given first to widows and more impoverished families to make sure they are not left behind. In addition, the sustainable use and management of natural resources are ensured. The most common threat to CPRs is forest fire and flood. The forest fire is very common in the dry season between February to May. During this period village usually, employ fireguard called “*Mai reveng* or *mei ralveng*”⁷ in the local dialect. The fireguard always watches over and report to the villager if there is overspread fire. In the same way, the mitigation system was developed to prevent farm and field from flooding. The customary CPRs management system works pretty well and supports sustainable use of natural resources. It might be extreme to claim the customary system as the best solution to sustainable governance of natural resource. However, the findings of the case study done in Aibur village illustrates that customary CPRs governance system is not only economically viable but also socially equitable. The study done by Leimgruber et al. (2005), also suggest Chin State as one of the highest forest covered areas and region of lowest deforestation rate in Myanmar. Similarly, many scholars and social scientists also agree on the CPRs governance system as a sustainable and equitable solution to the global problem of natural resource degradation (Ashenafi & Leader-Williams, 2005; Ostrom, 1990; Shivakoti et al., 2016).

⁷ *Mai reveng* or *mei ralveng* means fireguard

Unfortunately, the government and policymakers do not seem to recognize the role of that customary CPRs governance systems play in ensuring the sustainable use of natural resources and social and environmental justice. In contrast, the government is doing the opposite regarding natural resource management by promoting the capitalist model of natural resource management. According to the capitalist model, commonly held property resources are vulnerable to degradation (Gurung, 2005), and thus encourages privatization of common properties as a solution to the degradation. However, this privatization creates better the opportunity for the local elite to capture and grab the best resources land, forest products from CPRs. Although, there is no evidence to support the exclusion of vulnerable members of the village from access to the natural resource. However, some community members in the case study site express their concern over the increasing privatization. One member said, "*people who have the money is occupying the best areas of lands.*" Although no conflict has been documented, an assumption can be made that if privatization of natural resources, particular agricultural land is continued in the same direction and speed, exclusion among the community members and conflict over the land resource is highly likely to happen in the future.

5.0. CONCLUSION AND RECOMMENDATIONS

This paper focused on analyzing the dynamics of the customary natural resource governance system and identifying the key factors that play a role influencing the current momentum of the governance system in rural Chin State. The natural resource governance system in Aibur village was used as a case study to explain the context and dynamics of the natural resource governance system as well as the complicated relationship between different socio-economic factors and the natural resource governance system. To better understand the context of natural resource governance system in Chin State, the theory of common property resources (CPRs) governance system was used as a conceptual framework. Accordingly, the customary practice of natural resources governance in Chin State is illustrated as CPRs, natural resources that are collectively owned and managed by a group of people or community. This paper pays attention to the customary governance systems and uses of three different types of natural resources: land, forest, and water. Although the three different kinds of resources were equally paid attention to, the agricultural land governance was more prominently discussed in this paper in order to illustrate the whole dynamics of CPRs governance system.

This paper answered two critical questions regarding the extent to which the customary natural resource governance system has been transformed and what key factors play roles in influencing the dynamics of the transition of natural resource governance systems. The findings suggest that there are considerable changes in the governance of CPRs governance systems. The changes in governance and use of CPRs were classified into three. Firstly, the changes in CPRs governance institutions were discovered. This changes can be understood as overlapping governance systems or a shift of decision making authority over natural resource from localized institution to state's institution. For example, agricultural land and forest which were locally managed have come under the direct administration of state's institutions or Departments under the Ministry of Agriculture, Forestry, and Livestock. Secondly, the natural resources, which

were commonly held property resources, are experiencing increased privatization. Village's forest land that was used for shifting agriculture is now rapidly converted into permanent farms and privatized by individual farmers and interest groups. Finally, local people's perceptions of natural resources have changed. The traditional attitude of seeing land and forest products as the sources of food production and cultural identity have shifted and began to be regarded as commercially valuable commodities, which are tradable and exchangeable in stock. All of these changes have resulted in the constant de-legitimization of the customary CPRs governance system.

The research suggests that there are two main factors involved in shaping the dynamics of natural resource governance systems in China State. The recent policy and regulatory reforms and rapid economic and infrastructural development were identified as the key factors that play critical roles in influencing the dynamics of CPRs governance facing in China State. To be more precise, the institutional change and continued privatization of CPRs were carried out as part of the implementation of newly introduced regulations and policies. The policies and regulations include the Farmland, VFV laws and policies to increase National Parks and replace shifting cultivation with the permanent upland farming system. In addition, the change of people's perception of seeing natural resource as common property to commercial commodity is directly linked to the rapid integration of the local communities into a broader global economic system facilitated by the primary infrastructural development.

According to the research findings and history and literature reviews, the current dynamics of natural resource governance systems can be viewed as a common global phenomenon of socioeconomic transformation faced by many frontier and peasant communities. Daily practices and ways of life of many societies are rapidly transforming and adapting to a new situation and realities (Shivakoti et al., 2016). To some extent, the similar transition provides greater economic opportunities to the local population. However, unless the

dynamics are properly regulated with effective policy measures, the implications could be undesirable. For example, a handful of local elites capturing the benefits of the transition and increasing conflicts among multiple actors could be seen more often in the future.

To achieve more sustainable management of natural resources and to ensure inclusive development and an equitable share and use of natural resources, the government must recognize and utilize the existing customary practices and incorporate them as strategies in implementing natural management policy. In addition, further research also needs to be done on the implications of resource governance change on socioeconomics, environment, and politics of Chin societies.

6.0. REFERENCES

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