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Doctoral Dissertation of Philosophy in Education

**Knowledge Production and Diffusion of
Rural Social Movement**

**A Case of Agroecological Movement in the Province of
Chiang Mai, Thailand**

농촌사회운동의 지식형성과 운동의 확산에 대한

연구: 태국 치앙마이주 농생태학 운동 사례를

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Global Education Cooperation Major

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Knowledge Production and Diffusion of Rural Social Movement

**A Case of Agroecological Movement in the Province of
Chiang Mai, Thailand**

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To my research participants
who are taking care of our mother earth
through their wisdom, way of life, and knowledge

ABSTRACT

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At global scales, an increasing number of new social movements promote agroecology as their central agenda for transforming the industrialized agri-food system. This alternative agriculture movement raise questions about the dominant rural development thinking and policy and promote ecological as well as social and economic sustainability. The alternative movements advocating the integration of ecological principles into agricultural systems have been active in Thailand, while its agricultural sector has remained remarkably industry-based and export-driven. In particular, this study is focused on the agroecological movement in the province of Chiang Mai, Thailand which is considered one of the most active alternative agriculture movements in the country.

The primary purpose of this study is to investigate how a social movement is

diffused. By focusing on the case of the agroecological movement in Chiang Mai, the study explores the emergence and diffusion process of the agroecological movement in Chiang Mai, Thailand and investigates what has motivated the movement to be diffused in Chiang Mai. By viewing social movements as socially constituted and cognitive activities, this study assumes that alternative agriculture movements based on agroecological principles do not just react to the problems arising in the modern agricultural system but create their own cognitive space by producing new knowledge. To answer the research questions which have been developed corresponding to the research purposes, the data was mainly collected through field observations and interviews, and the case study method was applied.

Findings of the study are as follows. First, it describes the process of agroecological movement in Chiang Mai by focusing on why it emerged and how it has been diffused. In the initial stage of the movement, non-governmental organizations (NGOs) based in Northern Thailand played leading roles in promoting sustainable agriculture based on agroecosystems with their growing recognition of the industrialized agriculture's negative impact on rural society. Importantly, civil society organizations including those NGOs as well as universities, most of which are based in Chiang Mai, have been major participants in as well as supporters of the movement. In the mid of 1990s, the first farmers' market where organically grown products are directly traded was set up by an umbrella organization of local NGOs called the Institute for Sustainable Agricultural Community (ISAC) and has expanded inside and outside the Chiang Mai province. The following development of local organic certifications which were built up in a participatory manner contributed to building trust in local products grown in sustainable ways. Moreover, universities in Chiang Mai have

continuously supported the diffusion of agroecological ideas, knowledge, and practices through collaborative research with farmers, promotion of farmers' markets on campus, and education programs for farmers.

The next focus is on what has motivated the agroecological movement to be diffused in Chiang Mai, Thailand. The study finds that collaboration between farmers and supporters (*trust and partnership*), farmers' markets (*place*), and horizontal flow of knowledge (*knowledge*) have gradually contributed to agroecological transition in Chiang Mai. All of these contributors are related to knowledge production and dissemination in the movement. First, civil society groups and universities in Chiang Mai have supported farmers to put their agroecological ideas and knowledge into practice. Farmers, civil society groups, and universities have established an agroecological network in the process of establishing the farmers' markets and local organic certification standards. With the recognition of traditional knowledge systems, the supporters have worked together and generated knowledge together with the farmers so that they have more power. Second, organic farmers' markets in Chiang Mai have served as a place of conference as well as learning, which encourages agrarian sustainability. In the beginning stage, farmers' markets were intended as a place where farmers and consumers could discuss rural problems together and, as a result, enhance rural-urban solidarity. While concerns about individualized entrepreneurship exist, farmers' markets in Chiang Mai have provided a platform where small-scale farmers communicate with other farmers as well as urban consumers. Third, knowledge networks where farmers horizontally exchange their knowledge and ideas have increasingly appeared in Chiang Mai. As in the case of the open learning space in Maetha and the example of the Participatory Guarantee System

(PGS), these networks have expanded opportunities for ‘fugitive’ knowledge of farmers to be regenerated and exchanged.

Finally, the discussion section analyzes the diffusion of the agroecological movement in Chiang Mai with a theoretical framework developed by extending Eyerman and Jamison (1991)’s approach of cognitive praxis. To begin with, the dimensions of cognitive praxis - cosmological, technological, and organizational dimension - are applied to the case to explain knowledge produced in the movement process including new organizational forms and principles. Then, the study discusses how the organizational dimension which implies a social movement’s modes of communication gives a direction on the orientation of the movement. It was found that, in the agroecological movement in Chiang Mai, the participatory mode of knowledge production and horizontal knowledge exchange have constituted the movement as an ongoing cognitive process inside which new actors’ participation and broader opportunities of knowledge production are encouraged. In other words, this organizational dimension of the agroecological movement’s cognitive praxis has contributed to the diffusion of the movement by invigorating opportunities for knowledge to be produced, reinvented, and disseminated and for cognitive praxis to be expanded. Thus, the agroecological movement could be referred to as a series of educational activities that continuously develop knowledge and instigate social change, which is a key concern in the critical pedagogical approach.

Keyword: Agroecological movement, social movement, cognitive praxis, knowledge production and dissemination, learning, sustainability, Chiang Mai, Thailand

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LIST OF ACRONYMS

AAN	Alternative Agriculture Network
ACT	Organic Agriculture Certification Thailand
AEA	Agro-ecosystem Analysis
AOP	Assembly of Poor
CAEF	Community Agroecology Foundation
CARSR	Center for Agricultural Resource System Research
CMOAC	Chiang Mai Organic Agriculture Cooperative
CMU	Chiang Mai University
CPT	Communist Party of Thailand
CSA	Community Supported Agriculture
FAO	Food and Agriculture Organization of the United Nations
FFLM	Farmer First and Last Model
FFS	Farmer Field School
FGI	Focus Group Interview
FTA	Free Trade Agreement
GM/GMO	Genetically Modified/Genetically Modified Organism
IFOAM	International Federation of Organic Agriculture Movements
ILO	International Labour Organization
ISAC	Institute for Sustainable Agricultural Community
LVC	La Via Campesina
MTSAC	Mae Tha Sustainable Agriculture Cooperative
NGO	Non-Governmental Organization
NOSO	Northern Organic Standards Organization
NPF	Northern Peasant Federation
PGS	Participatory Guarantee System
PRA	Participatory Rural Appraisal
RIHES-CMU	Research Institute for Health Sciences, Chiang Mai University
RRA	Rapid Rural Appraisal
SAM	Sustainable Agriculture Movement
SAFT	Sustainable Agriculture Foundation Thailand
SDGs	Sustainable Development Goals
SMO	Social Movement Organization
TOAF	Thai Organic Agriculture Foundation
TRF	Thailand Research Fund

CHAPTER I. INTRODUCTION

1.1. Research Background

Alternative agriculture movements focusing on restoring a sustainable form of agriculture from modern food systems have been diffused not only in the global North but also in Thailand over the past thirty years. The movements have included a variety of environment-friendly initiatives which embrace community food systems, community-supported agriculture (CSA), permaculture, and shortened food chains (Kaufman, 2012). Alternative agriculture is regarded not only as movements for technical change but also as a pursuit of cosmological and organizational transition for rural regeneration (Tovey, 2002).

Alternative agriculture movements raise questions about the dominant rural development thinking and policy according to which rural economies must be connected to markets and to global growth in order to overcome poverty and maximize profit (Moore, 2015). The orientation of the orthodoxy in rural development is not so different to the ‘development’ paradigm which focuses on the growth of material wealth (McMichael, 2012). Meanwhile, movements for alternative agriculture have main interests in ecological sustainability as well as social and economic innovations for sustainable development. These movements, based on ideas of diversity, experiences, and circumstances, emphasize a new collaboration between science, local farmers, and social movements. This emphasis is in line with the Sustainable Development Goals’ (SDGs’) attention to

new forms of political coalitions and collaborations to deliver “social, economic and environmental value for communities across the globe” (Moore, 2015: 811).

At a glance, the diffusion of alternative agriculture movements in Thailand is puzzling when considering the contrasting aspects of its agricultural sector. Thailand has been one of the major exporters of rice all around the world and produces cheap agricultural products under the mainstream agri-food system ruled by transnational and domestic forces (Chiengkul, 2017). However, ironically, the country is viewed as one of the focal points for alternative agriculture movements including the agroecological movement. For instance, in 2012, the delegates of the international peasants’ organization – La Via Campesina – gathered together in Surin province, Thailand to have a meeting of the First Global Encounter on Agroecology and Peasant Seeds and adopted the Surin Declaration. Thailand hosted the meeting since it has been recognized that there is a growing transition made by small-scale farmers to move from “the green revolution model of industrial farming into agroecology” (La Via Campesina, 2013: 54). Agroecology in a broader term could be defined as “the integration of ecological principles into agricultural systems (Gliessman, 2015), and its philosophical and social orientation is strongly in line with an underlying assumption of alternative agriculture (Warner, 2007).

Historically, in the 1980s, domestic and international non-governmental organization (NGOs) began to seek alternative forms of agriculture and rural livelihoods in rural Thailand. These efforts started from their recognition on growing problems of rising agricultural debts, damaged soil fertility and farmers’ health issues. During the process, they found a group of farmers who adapted

themselves to solve their own problems through integrated farming in a few provinces including Surin and Ubon Rachatani. From these farmers NGOs learned lessons to solve the agricultural and rural problems and held meetings to discuss them.¹ They supported diverse forms of sustainable agriculture through participatory extension methods and assisted marketing activities mainly in Northern and Northeastern Thailand. Moreover, in 1989, the Alternative Agriculture Network (AAN) was created by proponents and NGOs to support “a national forum of NGOs, academics, and farmer leaders” (Samerpak 2006: 27; cited in Kaufman, 2012: 159). Since the 1990s, NGOs and rural social movement organizations’ policy advocacy efforts to promote sustainable agriculture based on agroecological principles have slowly but gradually shifted the state’s pursuit of modern agricultural development planning (Amekawa, 2010).

From this background, my research started from the following questions: why in Thailand of which agricultural sector is considerably industry-based and export-driven has sustainable agriculture with agroecological foundation emerged, and how has this alternative agriculture movement been diffused? By focusing on the process of knowledge production and dissemination, with particular attention to the case of Chiang Mai, Thailand, this study is expected to investigate how agents (e.g. civil society organizations, universities, farmers’ groups) have engaged in the agroecological movement and participated in a process of *cognitive praxis*. It is based on the assumption that social movements are not simply reactions to social phenomena but “socially constituted activit[ies]” (Eyerman & Jamison, 1991: 85)

¹ This information is received from the interview with Malie (*pseudonym*) the director of the Sustainable Agriculture Foundation Thailand (SAFT), conducted on January 16, 2017 during my pilot study in Thailand.

which produce, disseminate, and transform knowledge.

1.2. Need and Purpose of Research

Recently, growing scholastic and practical focus are put into the agroecological framework which is closely related to the endogenous development approach emphasizing sustainable agriculture as well as multiple values of agriculture and rurality and criticizing the shortcomings of conventional agriculture and agricultural modernization (Kim, 2015). In line with such emerging attention, a number of current studies have been conducted on conceptualizing agroecology (e.g. Wezel et al., 2009; Rosset & Martinez-Torres, 2012; Sevilla Guzmán & Woodgate, 2013). Some scholars cover expanded discussions on agroecology at a global level in relation to scale up food sovereignty approaches (e.g. Altieri & Nicholls, 2008; Menser, 2008; Wittman, 2009).

Another trend of recent studies on agroecology is increasing focus on agroecological efforts by utilizing case studies (e.g. Carruthers, 1996; Nelson et al, 2009; Rosset et al., 2011; Khadse et al., 2018). However, most investigations are based on the cases of Latin American countries² despite the fact that, on the field level, current attention to agroecology has recently been arising in other regions beyond Latin America.³ In addition, although a number of studies recognize

2 This regional concentration is assumed to arise from the dedication of a large number of Latin American scholars concerned in agroecology, as described by Ferguson and Morales (2010).

3 The observation was made during the 2017 Regional Meeting of La Via Campesina (Southeast Asia and East Asia) held in Yogyakarta, Indonesia where the author participated as a volunteer translator for Korean

agroecology as a social movement, studies rarely connect social movement studies to understand a certain case of alternative agriculture movements except for Tovey (2002) and Hassanein and Kloppenburg (1995). Furthermore, while teaching and learning methodologies widely utilized in the agroecological movements are discussed as significant in some studies (e.g. Rosset & Martínez-Torres, 2012; Méndez et al., 2013), social movements' knowledge production activities and contribution to the larger society have been rarely discussed except by Hassanein and Kloppenburg (1995).

The first point raised based on existing literature is that we need a new perspective to understand the agroecological movement in Thailand whose historical and political context is different from countries in Latin America and other continents. Second, as a number of studies see agroecology as a social movement, social movement studies can provide an analytical toolkit to understand a case of agroecological movement as well as other similar movements. Finally, a new approach is needed to understand alternative agriculture movements because their participants are not just reacting to the problems of the modern agricultural system but creatively producing new ideas and knowledge.

The primary purpose of this study is to investigate how a social movement is diffused. Prior research in social movements have focused on many different aspects of the diffusion process, including the spread of protest repertoires, the social networks and institutions which encourage collective action, the creation of

delegates. In the meeting in which several Asia-Pacific countries - Australia, Cambodia, Indonesia, Japan, Philippines, South Korea, Thailand, Timor Leste, and Vietnam – were involved, agroecology was discussed as one of the main agenda. Other important agendas included agrarian reform, food sovereignty, peasant rights, and women. The member organizations shared their country's experiences on those agrarian issues and actions conducted at the field level.

overarching issue frames, and the role of mass media (Givan et al., 2010). But it seems that attention has been rarely turned toward the cognitive processes or the activities of knowledge production and dissemination in the spread of social movements. A number of contemporary social movements (e.g. women, environment, local food) tend to take place in spheres of daily life, which means a plurality of actors participate in a process of collective action through their intended or unintended activism in their daily activities. And in the space and time in which participants' daily lives take place, new ideas, meanings, and knowledge are generated and exchanged through social interactions. Considering the growing opportunities for interaction in society, social construction of new knowledge and the influence of these cognitive activities to the diffusion of social movements are worth further exploration.

Among a variety of contemporary social movements, this study focuses on the agroecological movement in Chiang Mai, Thailand. When considering the strong presence of industrial agriculture in Thailand with the support of large hegemonic corporations and supporting bodies (Chiengkul, 2017), the diffusion of alternative agriculture movement is notable. Acknowledging the importance of the historical political context under which a movement is situated, it is necessary to explain and analyze why the agroecological movement emerged and, more significantly, how it has been learned and diffused from one site to another. With an assumption that a social movement is a process of interaction among participants and that knowledge and meanings are generated and transmitted during the movement process (Eyerman & Jamison, 1991; Hassanein & Kloppenburg, 1995; Starr, 2010), careful attention will be paid on activists and

organizations which have constructed the movement. Unlike traditional rural development approaches, in alternative agriculture approaches including agroecology, individual farmers, their groups, and civil society organizations are recognized as main actors who generate knowledge and discourses in the social movement network (Shepherd, 2005; Rosset et al., 2011; Arora, 2012; Méndez et al., 2013).

Based on the background and purpose of the research, my dissertation asks, “why did the agroecological movement emerge, and how has it been diffused in the province of Chiang Mai, Thailand?” Secondly, it asks “what has contributed to the diffusion of the agroecological movement in Chiang Mai?”

The geographical scope of the study will be limited to the provincial level - the province of Chiang Mai, Thailand. The agroecological movement in Thailand has emerged and expanded across the country, and there is an umbrella network such as the AAN whose headquarters is located near Bangkok. At the same time, the movement has also been developed and dispersed at the provincial level in rural Thailand. Therefore, to fully capture the phenomenon, the agroecological movement would have to be covered on both the national and the provincial levels. However, as the focus of this research is to analyze why one particular agroecological movement has emerged and, more importantly, how this social movement as knowledge producer has been constructed and diffused, an exploration of the case at the provincial level would be appropriate for the purpose of this in-depth study. At a provincial level, the main actors of an agroecological movement are individual farmers, farmers’ groups, civil society organizations, and academic institutes including universities. Although this case study is focused on

the agroecological movement in Chiang Mai, considering that interest in sustainable agriculture based on agroecosystems as an alternative agricultural paradigm has gradually arisen across the country and region, the findings of this study would have implications for cases outside the province.

1.3. Terminology

As the term agroecology is a key concept of this study, it has been applied to the whole process of research after careful consideration. Based on an understanding of alternative agriculture, agroecology is intentionally chosen in this study to clearly capture its meaning as a movement. Frequently defined as the integration of ecological principles into agricultural systems (Gliessman, 2015), agroecology is also understood as a scientific discipline, a set of practice, and a movement (Wezel et al., 2009).

In small scale “movements” for ecological agriculture in Thailand, the terms agroecology, sustainable agriculture, and alternative agriculture tend to be used interchangeably.⁴ For example, during the pilot study⁵, I found that the terms agroecology, sustainable agriculture, and alternative agriculture are used simultaneously among various stakeholders. In Surin province, staffs of Community Agroecology Foundation (CAEF), as well as member farmers, used the term ‘agroecology,’ while the director of Sustainable Agriculture Foundation

4 Agroecology is not synonymous with sustainable agriculture but rather stands in line with the latter in that they both raise questions on modernization and productivism in rural development and their impacts on nature and human society.

5 The pilot study was conducted from January 15th to February 9th, 2017 in the central (Bangkok), northeastern (Surin province) and northern (Chiang Mai and Lampang province) parts of Thailand.

Thailand (SAFT) employed the term ‘sustainable agriculture’ to describe an alternative mode of agri-food system against industrial agriculture. The director explained that the terms sustainable agriculture, alternative agriculture, and agroecology have similar meaning and can be used interchangeably. Meanwhile, in Nakawkiew village of Lampang province the villagers used the term of a specific model, which is ‘organic farming.’

In this research, the term agroecology is used with the focus on the increasing adoption and diffusion of ecological food systems⁶ by rural social movements, which should be distinguished from the current institutional appropriation of the term by hegemonic power (Rosset & Altieri, 2017). Although the term ‘organic’ farming is frequently used in Chiang Mai province mainly to describe a detachment from chemical-based agricultural practices, this term is also increasingly taken by large corporations and supermarkets. Similar to Goodman’s (2000) case in the United States, organic agriculture seems to consolidate its industrial standing in Thailand. Acknowledging the movement’s political as well as cognitive implications based on grassroots’ actions, this research employs ‘agroecology’ as a main analytic term.

Lastly, the term agroecology embraces diverse models of sustainable agriculture practices including organic farming, integrated farming, agroforestry, and natural farming. At the production level, in particular, it could enhance the understandings of diversified farming systems in practice.

⁶ In general, food systems refer to networks of food production, distribution, and consumption. Food systems includes multiple actors (farmers, farmworkers, consumers, food wholesalers, food retailers, food distributors, importers, exporters, suppliers and manufacturers of agricultural inputs), transportation systems, government regulatory apparatuses, and the larger economic, sociocultural, and political structure. While food systems exist at various levels including national and continental, their growing interdependence is embraced by a single global food system (Gliessman, 2015: 31).

However, this study describes Chiang Mai's alternative agriculture movement as a case of 'agroecological' movement rather than an 'agroecology' movement. The main reason for this is that most of the participants did not directly use the term agroecology during interviews and observations in the study. Nonetheless, many of the things they talk about, generate, and practice imply the characteristics and orientation of agroecology which will be discussed in detail in Chapter 3.

In addition to this, the term sustainable agriculture is frequently used in this study as a concept similar to agroecology. In this study, sustainable agriculture does not mean merely 'environmentally benign alternatives to agrochemical inputs' (Rosset & Altieri, 1997: 284) emphasized in input substitution discourse. Rather, it embraces the agroecological approach by criticizing monoculture structure and dependence on off-farm inputs and aiming at enhancing socioeconomic as well as environmental sustainability of the agroecosystems.

1.4. Contents of Research

The contents of this research are divided into seven chapters. Chapter 1 introduces the background, need, and purpose of the study with justification on why the term agroecology is utilized to investigate alternative agriculture movements which have arisen in the Chiang Mai province, Thailand. In Chapter 2, a literature review is conducted in three sections to discuss the concept of agroecology as a social movement, the theories on diffusion of innovations and social movements, and the cognitive praxis approach in social movement studies. Based on the cognitive praxis approach developed by Eyerman and Jamison (1991)

which emphasizes the aspects of knowledge production and dissemination in social movements, the theoretical framework is formulated to explain how the agroecological movement in Chiang Mai has been diffused. Chapter 3 specifies the qualitative methodological foundation of this study which in particular employs the case study method. It also discusses the research process with clarifications on the strategies to enhance validity and reliability. Finally, critical ethical considerations throughout the process of research are discussed.

Chapter 4 describes why the agroecological movement in Chiang Mai, Thailand began to emerge and how agroecological thoughts, knowledge, and practices have been diffused in the province. As social movements are influenced by the wider field movements, a short history of recent rural social activism in Thailand is discussed. This is followed by identifying the source of agroecological ideas in Thailand as well as the current change in Thai agricultural policies. The following sub-chapter explores a process by which the agroecological movement has been developed in Chiang Mai. In particular, lively and long-standing interactions between civil society groups, universities, and farmers in the process of the movement have been emphasized.

In Chapter 5, the contributors to the agroecological transition in Chiang Mai are analyzed based on the data collected through field research. It reveals that trust-based partnership between farmers and their supporters, the farmers' markets as the place of learning and conference, and the horizontal flow of knowledge have contributed to the gradual diffusion of the agroecological movement in the province. In other words, partnership, place, and organizational knowledge have stimulated the alternative agriculture movement in Chiang Mai, Thailand.

By focusing on the knowledge production and diffusion processes in social movements, Chapter 6 discusses the cosmological, technological, and organizational dimensions of the agroecological movement's cognitive praxis which emerged in Chiang Mai. And, furthermore, it tries to explain through a theoretical framework how the agroecological movement in Chiang Mai has been diffused. The following sub-chapter discusses how the cognitive activities of the movement participants have gradually constituted social change, which is expected to provide important theoretical contribution to educational studies. The final chapter briefly summarizes the contents of this study and discusses its implications and limitations with suggestions for future research.

CHAPTER II. LITERATURE REVIEW

2.1. Agroecology as Social Movement

Agroecology is the answer to how to transform and repair our material reality in a food system and rural world that has been devastated by industrial food production and its so-called Green and Blue Revolutions. We see Agroecology as a key form of resistance to an economic system that puts profit before life.

- Declaration of the International Forum for Agroecology at Nyéléni (LVC, 2015)

At a global level, agroecology has been importantly recognized and promoted in recent years by rural social movement actors including the global peasant movement, La Via Campesina (LVC), which understands the concept as a key element to achieve food sovereignty (LVC, 2015). The practices of agroecology both at regional and national levels also became a significant research topic for academic scholars (Altieri & Toledo, 2011; Rosset et al., 2011; Fernandez et al., 2013; Rover et al., 2016).

With acknowledgment of the growing acceptance of agroecology both in academia and in practice, this chapter explores the meaning and implications of agroecology with the concepts of contested territories, social movement, and alternatives to ‘development.’ While the term agroecology has both sociocultural/political and scientific aspects, this study places more focus on the former, designating it a form of social action.

2.1.1. Agroecology as Contested Territories

Agroecology could be generally defined as the integration of ecological principles into agricultural systems (Gliessman, 2015) and is variously referred to as the ecology of food systems (Francis et al., 2008).⁷ To be specific, agroecology is defined as “the application of ecological concepts and principles to the design and management of sustainable agroecosystems” (Gliessman, 2007: 18). However, agroecology is also regarded as having political and social implications, since the concept has developed in an ongoing dispute between capitalist modernization and resistance to it (Sevilla Guzmán & Woodgate, 2013). Similarly, Guzmán and Martínez-Alier (2006) point out that agroecology explicitly considers environmental and ecological aspects as well as economic and social aspects.

It is important to note that, as a concept, this term is not neutral but contested and disputed both materially and immaterially, which creates spaces of domination and resistance. Simply put, in the case of rural areas, disputes between grassroots social movements and agribusiness and their allies have risen over both material (“agroecology as farming”) and immaterial (“agroecology as framing”) territories (Rosset & Altieri, 2017: 120).

Agroecology has begun to gain global attention through grassroots social movements. Supported by LVC, agroecology, while introduced to academic circles earlier, has received global attention over the last 20 years as a key pillar in the construction food sovereignty. LVC, a constellation of many rural movements

⁷ Gliessman (2015) adds that the entire field of agroecology draws from one central concept – agroecosystem. An agroecosystem is “a site or integrated region of agricultural production understood as an ecosystem” and produces a framework which enables an analysis of the food production system as wholes (21).

and organizations, is recognized for developing and supporting the food sovereignty paradigm which is defined as “the right of people to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture system” (LVC, 2007). In the LVC’s food sovereignty framework, agroecology has been emphasized in linkage with agrarian reform. It means that while ‘peasants’ were guaranteed full rights to land through agrarian reforms⁸, land can only be restored through agroecological practices to recover functional diversity, rather than through the agribusiness model which tends to destroy nature (Rosset, 2013 quoted in Martínez-Torres & Rosset, 2014). In this way, agroecology is conceived as a social and political process to recover food sovereignty and produce genuine agrarian reform (LVC, 2013).

However, the recent adoption of the term agroecology by large institutions including international organization such as the World Bank, governments, and the private sector creates a dilemma for agroecologists mainly from the grassroots groups and the civil society (Rosset & Altieri, 2017). Since the International Symposium on Agroecology for Food Security and Nutrition was hosted by the Food and Agriculture Organization of the United Nations (FAO) in 2014, agroecology has become a more contested term disputed between the institutional camp and the civil society camp (see Table 2.1. for detail). While the civil society camp regards agroecology as an *alternative* to industrial agriculture and aims to

⁸ During Food and Agriculture Organization’s World Food Summit in 1996, LVC presented genuine agrarian reform as one of the seven mutually supportive principles that realize the human rights to food and defined an alternative paradigm for agriculture through their statement, *Food Sovereignty: A Future without Hunger* (Pimbert, 2018).

transform the existing structures of power, the institutional camp considers it as offering tools to reorganize industrial agriculture to survive the capitalist crisis and conform to the current power structure (Giraldo & Rosset, 2018).⁹ Similarly, Goodman (2000) points out with the case of the United States that sustainable agriculture movements (SAMs) based on “shared ethical, socio-ecological and political values” are under threat of “colonization” of agri-business capitals driven by the government’s technocentric regulation on organic agriculture (217).

[Table 2.1.] Two Camps of Contemporary Agroecology

	The Institutional Camp	The Civil Society Camp
Vision	Seeing agroecology as offering more tools to fine tune industrial agriculture and conforming to monoculture, input dependence and existing structures of power.	Seeing agroecology as the alternative to industrial agriculture and as part of the struggle to challenge and transform monoculture, input dependence and exiting structures of power.
Actors	World Bank, governments, many large NGOs, private sector, agricultural universities	Social movements, some NGOs, and allies
Examples	Climate smart agriculture, sustainable or ecological intensification, industrial organic, etc.	Peasant agroecology, natural farming, ecological or biological agriculture, peasant organic farming, permaculture, etc.

Source: Giraldo & Rosset (2018)

Although the narratives from governments, international organizations, and

⁹ In a similar line, from the perspective of the civil society camp, Rosset and Martinez-Torres (2012) regards agroecology as a way of defense against the threat to peasants’ way of life and farming. In rural areas, in particular, growing disputes between grassroots social movements and agribusiness are waged over immaterial as well as material territories. Rural social movements, therefore, are defending their material and immaterial spaces from the widening influence of agribusiness and their supporters and are trying to regain relative autonomy and acquire territory from agribusiness and their supporters.

the civil society have to be analyzed with more sophistication¹⁰, seeing agroecology as a territory in dispute implies that the term is more than a technoscientific concept and requires analysis in relation to socio-ecological agro-food networks. To understand agroecology as contested territories that construct spaces of dominance and resistance implies that agroecology is an important theme in rural social movements, which will be further discussed in the next chapter.

2.1.2. Agroecology as Social Movement and Alternative to Development

Although the term agroecology has been applied divergently in accordance with its historical evolution in different regions and countries (Wezel et al., 2009), it is widely discussed as a science, a set of practices, and a movement (Wezel et al., 2009; Rosset & Martinez-Torres, 2012; Rosset & Altieri, 2017). It is known as science in terms of the attempts to understand how the components of agroecosystems interact (Altieri, 1989; Rivera-Ferre, 2018). Agroecology is also recognized as a set of ecological agricultural practices which is in particular rooted in local traditional knowledge of indigenous and peasant cultures (Rivera-Ferre, 2018). Lastly, it is understood as a movement since a variety of local, national, and global rural social movements have in recent years adopted agroecology as part of their discourse and practice (Rosset & Martinez-Torres, 2012). Considering that agroecology as social movement emphasizes the social context and political potential of agroecology, this social movement approach might work as a frame

¹⁰ In this line, the study of Rivera-Ferre (2018) provides important findings according to which each of the five groups of narratives of agroecology underline different dimensions of agroecology and different scales.

which differentiates among institutional agroecology and transformative (Woodgate, 2015) or grassroots agroecology (Giraldo & Rosset, 2018).

As pointed out by some scholars in their conceptual discussion, the three narratives - science, practice, and movement - are intertwined and mutually interact (Sevilla Guzmán & Woodgate, 2013; Woodgate, 2015; Rivera-Ferre, 2018).¹¹ While recognizing the connectedness of the three narratives, however, this study is focused on the third discourse - agroecology as a social movement. By exploring it as a social movement, the research aims to capture the dynamics of social change and interactions among agents rather than seeing agroecology as techniques for agricultural production. It also means that, although agroecology is a trans-disciplinary theme which has been studied in both natural and social sciences, this study will rely more on the tradition of social science.

While agroecology is viewed as a relatively new realm of investigation, it has extensive foundations in agrarian social thought and sociological theory which embrace Marxism, dependency theory, peasant studies, post-development, and environmental social theory (Sevilla Guzmán & Woodgate, 2013). In particular, from the perspectives of post-development, agroecology goes beyond technological packages for 'sustainable development' and provides post-development discourse and practice (Woodgate, 2015). By providing alternatives to 'development'¹², agroecology is recognized as a discourse and practice

11 The concept of agroecology as a science, a movement, and a practice was first discussed by Wezel et al. (2009) which has been widely quoted in academia. However, its much reliance on science is challenged by studies in terms of fragmented understandings on the phenomenon (Rivera-Ferre, 2018) and instrumental orientation to the hegemony of industrial agriculture (Sevilla Guzmán & Woodgate, 2013).

12 Here, the term 'development' is in line with the discussion of Gustavo Esteva and Philip McMichael. Development is to escape from the undignified condition and assumes a desirable change, a step from the inferior to superior which is measured by economic prosperity in many cases (Esteva, 2010). From this perspective, 'underdevelopment' is viewed as an undesirable condition, and diversity of systems and lifestyles in the 'underdeveloped' countries tend to be inferior. Critics point out that this idea of development and underdevelopment did not naturally appear. Development seems to be an intentional political construct

supported by local knowledge and practices, which could overcome the critique that post-development discourse fails to provide clear alternatives (Pieterse, 2010).

Mostly, the scale of agroecology studies from social movement perspectives goes beyond the field and farm and reaches to the region or country level (see, for example, Rosset et al.(2011), Fernandez et al. (2013)). Some studies concentrate on agroecology movements on the global scale led by organizations such as La Via Campesina (see, for example, Rosset (2013), Martínez-Torres & Rosset (2014)). Studies on agroecology movements are also inclined to cover the research topic in relation to the existing agri-food system.¹³ Although the geographical scale of this research is situated at a provincial level – the province of Chiang Mai – the agroecological discourse, practices, and movements at wider scales including the national and global levels will also be carefully considered. This scope is based on the assumption that multi-scalar interactions occur within the current agri-food system including the case of the Chiang Mai province, Thailand.

2.2. Diffusion of Innovations and Social Movements

As the purpose of this study is to explore the process by which the agroecological movement has been diffused in Chiang Mai province with a particular focus on knowledge production, it is relevant to review theories on the diffusion of innovation and, more significantly, social movements. *Diffusion*

and resulting projects organized by hegemonic actors (McMichael, 2012).

13 With a concentration on the scientific discipline of agroecology, Wezel et al. (2009) discuss that between the 1930s and the 2000s, the scales of agroecological investigation have changed from focus on the plot and field to landscape agroecosystems and to the food systems.

indicates the spread of some specific item, ideas or practices from a source to an adopter via communication and influence (Strang & Soule, 1998).¹⁴ And rather than focusing on diffusion as an outcome, this study focuses on diffusion as a process. This perspective is in line with the discussion which regards diffusion as social change termed as “the process by which alteration occurs in the structure and function of a social system” (Rogers, 2003: 6).

Meanwhile, the insights from the diffusion literature have been increasingly applied to the study of social movements. While previous studies on the diffusion of social movements paid more attention to intramovement links and intermovement links within the same country, the literature on transnational diffusion has noticeably increased during the last two decades (see, for example, Tarrow (2005), Roggeband (2007), Shawki (2013)).¹⁵

In spite of the increase in literature, theories of diffusion of social movements tend to understand that diffusion is a linear process among the transmitter and the adopter. They hardly focus ‘inside social movements’, which is where the groups of diverse participants constitute their own meanings and knowledge with which to communicate with broader society. Considering various participants engaging in the agroecology movement which arise in the realm of everyday life, an investigation on how knowledge and meaning are constructed among participants might be important in describing, analyzing, and interpreting how this

14 This study accepts the term of use by Rogers (2003) according to which both the planned and unplanned spread of ideas are included in the term diffusion. In the area of agricultural research as well as international development, the seemingly similar term ‘scaling-up’ is frequently used in describing dissemination of technological or organizational/institutional innovations (e.g. Uvin & Miller, 1996; Altieri & Nicholls, 2008)

15 The categories of studying diffusion in social movements – intramovement links, intermovement links within the same country, and cross-national links between movements - were borrowed from McAdam & Rucht (1993).

contemporary social movement is created and diffused.

2.2.1. Diffusion of Innovations

Classical Diffusion Studies

Diffusion studies mainly explore the introduction and the adoption of an innovation.¹⁶ In this research tradition, innovation is not regarded as an objectively new invention or idea. It is rather “an idea, practice, or object that is perceived as new by an individual or other units of adoption” (Rogers, 2003: 12). Therefore, diffusion of innovations refers to the process by which ideas, technical information, and actual practices spread over time among the members of a social system, typically via communication and influence (Rogers, 2003; Wejnert, 2002). Social movements might be regarded as a form of innovation since certain ideas and knowledge are newly constructed and diffused among the members of a system via social interaction.

Rich literature in classical diffusion studies focuses on communication processes and channels with their concentration on the mass media, change agents, and interpersonal interaction within the adopting community (Strang & Soule, 1998). These researches with “micro” perspectives often focus on a single-practice case, tracing adoption patterns and factors which determine the decision of adopters (Wejnert, 2002). For instance, characteristics of actors are regarded as influencing the adoption pattern of innovations (See DiMaggio & Powell (1983),

¹⁶ Diffusion has become a research area widely studied in various majors in the social sciences including sociology, economics, political science, and communication (Wejnert, 2002).

for example, which focuses on the socioeconomic characteristics of individual adopters).

The classical studies on the diffusion of innovations were authoritatively reviewed by Rogers (2003). The research seeks to find regular patterns in the diffusion of innovations which could be applied to different cultures and diverse cases of innovations. Among other generalizations, it discusses how the rate of adoption is affected by five attributes including *relative advantage*, *compatibility*, *complexity*, *trialability*, and *observability*. Like other classical diffusion studies, it mainly focuses on communication patterns of individual actors in the diffusion of innovations, while acknowledging that the meanings of innovations are socially constructed in a diffusion process.

Institutional and Societal Cultural Emphasis in Diffusion

A growing number of contemporary literatures on diffusion are focused on the larger environment which includes institutional and cultural bases for diffusion. These perspectives put emphasis on adoptions by social collectivities more than individuals within those collectivities by typically studying the flow of behavioral strategies and structures rather than individual responses to technical innovations (Strang & Soule, 1998: 268).

Institutional approaches generally assume that the diffusion process is most effective when formal structures representing norms and values are deeply embedded in society and reflect common understandings of social reality (Meyer

& Rowan, 1977: 343).¹⁷ In other words, diffusion is enhanced by institutionalization, “the spread of rule-like behavioral models that are supported by common recipes and an implicit structure of incentives for the adoption of approved forms of practices, programs, or policies (Wejnert, 2002: 315).”

From the institutional perspective, Strang and Chang (1993) argue that the International Labour Organization (ILO) has successfully expanded social security programs among the modern welfare states. With an example of ‘modernity’, Strang and Meyer (1993) also support their argument on the effects of institutional conditions to the rate and form of diffusion. The study points out that diffusions of social elements in wider social systems are accelerated by the cultural codification of adopter identities and by the increase of theorization of adopters as well as practices (pp. 506).

While in institutional perspectives diffusion is stimulated by theorization, in practice diffusion is carried out in various shapes. From a rigid institutional point of view, actual practices are frequently understood as “partial, flawed, or corrupt implementations” of theorized models (Strang & Meyer, 1993: 499). But cultural approaches generally assume that these modified implementations are not abnormal. They, therefore, focus more on an interpretative process which mediates diffusion. The wide spectrum of societal culture in diffusion research includes belief system (values, norms, language, religion, ideologies), cultural traditionalism, and cultural homogeneity.

17 Strang & Soule (1998) points out that the term ‘cultural’ is used interchangeably with ‘institutional’ in some usage. This study, however, uses these terms separately by assuming that the term institutional is related to institution which was developed with human intention while the term cultural is rather associated with belief system and cultural traditionalism.

For instance, existing local cultural values may facilitate diffusion by providing early adopters with high status (Wejnert, 2002). An example of Montana farmers shows that positive perspectives toward sustainable agriculture, ingrained in the local culture, gave high status to adopters of those practices. As a result, the adoption of sustainable agriculture practices by Montana farmers had increased (Saltiel et al., 1994). The main assumption of cultural approaches – that is, the analysis of the interpretive work that selects and transforms diffusing practices – might explain why innovation may be reinvented, which will be further elaborated below.

Criticisms of Diffusion Research

The main criticisms of diffusion research include the pro-innovation bias, the individual-blame bias, and the recall problem of the respondents. In relation to practice, the issue of equality in the diffusion of innovations is also raised by critical perspectives (Rogers, 2003). Noting that all these shortcomings have been recognized since the 1970s, my literature review will focus on the pro-innovation bias which is related to my problematization of the main assumption of diffusion research.

The pro-innovation bias of diffusion research tends to deny the possibility that innovation could be re-invented or rejected since it implicitly or even explicitly assumes that the innovation is desirable. Diffusion research, therefore, is likely to assume that “the innovation should be diffused and adopted by all members of a social system and that it should be diffused more rapidly” (Rogers, 2003: 106). Basically built around assumptions of modernity, an innovation in

diffusion research is often associated with improvement (Downs, Jr. & Mohr, 1976; Strang & Meyer, 1993). The bias, therefore, makes diffusion researchers neglect the discontinuity or rejection of innovations, overlook re-invention activities and focus only on ‘successful’ cases of diffusion.

Actual practices of diffusion, however, are not identical with some flows existing elsewhere, as they are cognitive processes arising as socially constituted activities. Although an adoption occurs, they do not proceed such linear fashion as mainstream diffusion theorists assume. From this background, the concept of re-invention – “the degree to which an innovation is changed or modified by a user in the process of its adoption and implementation” – are recognized by diffusion researchers (Rogers, 2003: 180). Although many diffusion researchers investigate the cases of re-invention in relation to policy and program reforms (see, for example, Goodman & Steckler (1989)), the implication could be applied to the diffusion of social movements. Initiators of a social movement may design a theoretical model or adopt a principle from an existing case, but the flow of the movement does not always follow the model or the prior case. During the movement process, participants in a certain movement are expected to construct the meanings and knowledge under certain political and historical context. Investigating the intramovement dynamics, therefore, is fundamental to exploring how the process of re-invention occurs within social movements.

2.2.2. Diffusion of Social Movements

The mechanisms of a movement diffusion process have been extensively

investigated by the social movement scholarship. In recent years, the consequences of globalization and deepening interdependencies among actors, as well as events in different locales have prompted the revitalization of the topic of diffusion (Soule, 2004). From earlier approaches to cultural perspectives, social movement theorists have studied how social movements have been diffused within society or across societies. It is important to note that theoretical development in social movement studies is associated with changing historical conditions. With the key concepts of maladaptive impulses, organizations and opportunities, culture, and knowledge production, this traces the social movement scholarship's historical assumptions on how the diffusion of social movements occurs.

Earlier Approaches to Collective Action

Early thinkers in collective action understood diffusion as a form of spontaneous contagion of maladaptive and aggressive impulses. Through their observations on Nazism, fascism, McCarthyism, race riots, and lynching, the contagion was interpreted to spread from person to person and lead to collective action. Consequently, in such collective action individuals were seen as non-rational actors or crowds. Early scholars regarded collective action and its diffusion as something to be feared (Soule, 2004; Givan et al., 2010).

Meanwhile, new forms of social movements in the United States and Europe since the 1960s including the student movements and critical views on the earlier social psychological approach required new concepts and interpretations of social movements. In particular, according to the resource mobilization approach which began to be developed in the post-1960s, diffusion of social movements has been

interpreted as other than an abnormal or pathological process. It did not focus on the rationality or irrationality of individuals' intentions or behavior as participants, but rather on the effectiveness of movement organizations in using resources to achieve their goals (Eyerman & Jamison, 1991). The focus began to move away from individual participant toward movement organization with recognition of social movements as outcomes of social organization.

Organizations and Opportunities: Resource Mobilization Theory and Political Process Model

The rise of the civil rights movement other movements influenced by it were particularly observable in the United States and Europe, making the earlier social psychological approach lose its intellectual viability. Instead, a resource mobilization theory and a political process model emerged by suggesting that individual and social dissatisfaction, which exists in every society, cannot be a sufficient condition for social movement. Unlike earlier thinkers on the collective action approach who treated social movements as abnormal phenomena, these later approaches regarded the conditions of resources and opportunities as key factors in the development of social movements.

In explaining the emergence, continuity, and diffusion of social movements, the resource mobilization perspective puts emphasis on organizations, not on individuals. The resource mobilization approach assumes that the success of movements is related to how organizational goals are clarified and how available resources are effectively mobilized and used (Eyerman & Jamison, 1991). Accordingly, the resource mobilization theory tends to emphasize the behaviors of

social movement organizations which mobilize available resources. For example, McCarthy and Zald (1977) introduce the terms social movement (SM), social movement organization (SMO), social movement industry (SMI), and social movement sector (SMS) and investigate how resources are mobilized by social movement organizations. The resource mobilization perspective also assumes rationality in people's decision to participate in collective action. Unlike the social-psychological interpretation, participation in a social movement is seen as the "result of rational decision processes whereby people weigh the costs and benefits of involvement" (Klandermans, 1984: 583). Therefore, the resource mobilization theory could be referred to as an economic model of social action which focuses on resource flow and the central role of human agency (Morris, 2003).

Similar to the resource mobilization theory, the political process model or the political opportunity perspective is based on the assumption of rationality. But the political process approach is distinguished from the resource mobilization perspective when considering its emphasis on political opportunity structures, expectation of success or failure, and struggle between political systems and challengers. This political approach focuses on the importance of political opportunities which are seized and created by people as well as organizations. With the concept of the cycle of protest, Tarrow (1994) discusses how collective action is diffused by creating and capturing political opportunities. To be specific, the opportunities made by early risers encourage new movement organizations to form and create new networks. For example, the American protest cycle of the 1960s could be understood in this way. The civil rights and other earlier

movements including the antiwar and student movements provided much incentive and leverage to the latecomers which embrace antinuclear and gay movements (McAdam, 1995). The concepts of mobilizing structures and cultural framing constitute the theoretical components of the political process model. Unlike the resource mobilization theory, the political process theorists are “increasingly coming to realize that cultural dynamics are central to the origins and development of social movements” (Morris, 2003: 235), followed by an increase of recent discussions on culture and movements.

Resource mobilization theory and political process approach broadened the scope of social movement studies by viewing collective actions as organized and rational, thereby making them worth investigating. However, their emphases on organizational or political opportunities tend to focus on “what a movement does and how it does” (Eyerman & Jamison, 1991: 46) and conceal the cultural and meaning-making process among participants including various organizations and individuals. With oversimplification, according to the resource mobilization theory and the earlier political process approach, most organizations and individuals seem to respond to changing opportunities and environment rather than actively engaging in the creation of meanings. The increase of movements in the spheres of daily life means a social movement organization is not a single leader in the diffusion process, but rather one among many groups participating in the movement. While acknowledging the analytical utility of the resource mobilization theory and the political process model, Casas-Cortés et al. (2008) also point out that these models are tautological, since they stimulate researchers to investigate only what they are looking for.

Cultural Perspectives in Social Movement Studies

While the resource mobilization and political process models emerged as dominant paradigms in social movements studies in the post-1960s academy in the United States, the cultural or ideational dimensions of collective action received little attention. The resource mobilization theory overcame the theoretical weaknesses of prior approaches, but it increasingly came under challenge pointing out the framework's tendency to marginalize grievances, solidarity, and construction of meaning and ideology (Buechler, 1993). A growing number of recent studies on social movements have stressed the importance of cultural and ideational factors (Boström, 2004).

Cultural perspectives assume that to understand social movements it is essential to recognize the cultural process through which participants construct meanings of their action. Thus, this paradigm turns attention to interactions among actors, learning from the interaction, and small changes which they initiate (Jasper, 1997). The European 'new social movement' (or post-industrial) perspective also revived interests in cultural and cognitive factors in social movements (Jasper, 1997; McAdam, 2000). Rather than focusing on the "instrumentality of movement strategy formation", the cultural perspectives tend to focus on "identity formation, on how movements produced new historical identities for society" (Eyerman & Jamison, 1991: 27).

As they pay attention to the processes of signifying, interpreting, and constructing meaning in social movements, the cultural perspectives could be used interchangeably with the social constructionist approaches. As Swidler mentioned,

“a culture is not a unified system that pushes action in a consistent direction. Rather, it is more like a ‘tool kit’ or repertoire from which actors select differing pieces for constructing lines of action” (Swidler, 1986: 277). It implies that viewing social movements with cultural lens is to focus more on actors’ social constructionist activities including participation, meaning making, and identity formation in a particular movement.

Among a variety of discussions in the cultural perspectives, Klandermans provides an overview of five cultural frameworks that social movement scholars have developed. These frameworks tend to assume that a significant transformation in the collective consciousness of the actors leads to collective action (Klandermans, 1992).

The first framework, *cognitive liberation*, was suggested by McAdam (1982). This term implies the transformation of consciousness among potential participants in social movements. While recognizing the importance of ‘expanding political opportunities’ and ‘indigenous organizational strength’ as preconditions, he suggests that people and the subjective meanings they attach to their situations mediate between opportunity and action. Based on the discussion of Piven and Cloward (1979) on change in consciousness, McAdam shows the three ways through which cognitive liberation happens: (1) As defined unjust, the system loses legitimacy, (2) people begin to assert rights that imply demands for change, and (3) they develop a new sense of efficacy. He adds that shifting political conditions lead to “the necessary ‘cognitive cues’ capable of triggering the process of cognitive liberation” (McAdam, 1982: 51). According to McAdam, therefore, ‘structure’ is still important for successful collective action.

Second, the importance of *public discourse and sponsorship of ideological packages* in social movements was explained by Gamson (1989). He emphasized the roles of the mass media in mobilizing social movements. As the mass media has become increasingly influential in current societies, social movements are increasingly involved in symbolic struggles over meaning and interpretations through media discourse (Klandermans, 1992). Gamson and Modigliani (1989) conceive the media discourse as a set of interpretive packages that provide meaning to an issue. And these ideological packages imply a range of positions, allowing for the public discourse among sponsors of each package. Social movement organizations themselves constitute the public discourse by working as sponsors of ideological packages (Klandermans, 1992).

Third, another social constructionist thought was developed by Klandermans (1984) on the *mobilization of consensus*. He suggests that mobilization attempts by a social movement organization contain two distinguished components which are consensus mobilization and action mobilization. While action mobilization is the “process by which an organization in a social movement calls up people to participate” through the provision of concrete goals and methods, consensus mobilization is a “process through which a social movement tries to obtain support for its viewpoints” (Klandermans, 1984: 586). The latter involves a collective good, a movement strategy, confrontation with the opponent, and results achieved. Klandermans emphasizes that action mobilization cannot be achieved without consensus mobilization, while consensus mobilization is not necessarily accompanied by action mobilization.

The fourth framework is *frame alignment* which was elaborated by Snow and

his colleagues. The concept of “framing” has been widely discussed in social movement studies. By borrowing the term “frame” from Goffman (1974)¹⁸, Snow et al. (1986) note that frame alignment is a necessary condition for participation of individual participants. Here, the diffusion of social movements seems to be related to extended participation. To be specific, frame alignment indicates “the linkage or conjunction of individual and social movement organizations (SMO) interpretive frameworks” through which individual orientations and SMO activities, goal, and ideology become aligned and complementary (pp. 464). Four frame alignment processes - frame bridging, frame amplification, frame extension, and frame transformation - are elaborated and support the role of cultural alignment in social movements (Snow et al., 1986).

Lastly, for Melucci a social movement is a process through which *collective identity* is formed within groups of participants. Collective identity formation is understood “as a process in which actors produce the common cognitive frameworks enabling them to assess their environment and to calculate the costs and benefits of their action” (Melucci, 1989: 35). It is in part the result of negotiated interactions, relationships of influence, and emotional recognition. For Melucci, therefore, social movements are understood as social constructions where actors produce meanings, communicate, negotiate, and make decisions (Klandermans, 1992). In particular, contemporary social movements¹⁹ are

18 Goffman (1974: 21) mentions that the term “frame” refers to a “schemata of interpretation” which enable individuals “to locate, perceive, identify, and label a seemingly infinite number of concrete occurrences.”

19 Melucci (1989) suggests that in current complex societies, new forms of collective resistance to the globally diffused modern industrial ways of life have emerged. He sees that different constituents of collective conflicts have become increasingly separated. Therefore, collective action is not unified phenomena, but multiple processes through which actors construct meanings. Melucci also emphasizes that the recent forms of social conflict coexist with traditional social groupings (such as classes, interest groups,

embedded in “networks submerged” which are formed in everyday life, and these networks become visible whenever collective actors come into conflict with dominant power. And it seems that movements’ fundamental task is the “formation of a more or less stable ‘we’ from which they generate conflict” (Melucci, 1989: 26 quoted in Starr, 2010). To form a collective identity or “we”, members of the groups must develop shared goals, shared views of the social environment, and shared opinions about the prospects of collective action. Contemporary social movements, which are “interwoven with the fabric of everyday life and individual experience”, confront dominant meaning systems by “translating their actions into symbolic challenges to the dominant codes” (Melucci, 1989: 12).

In spite of their shared attention to the symbolic aspects of mobilization, these five frameworks emphasize different aspects. Gamson and Modigliani focus on changes in public discourse and public opinion through mass media, while Klandermans and Snow et al. emphasize persuasive communication by social movement organizations. (Klandermans, 1992). McAdam and Melucci have similar concerns on the changing collective consciousness of social actors, while McAdam’s discussion implies that the influence of culture (or cognitive liberation) in collective action is constrained by structure (Jasper, 1997). There has been a wide range of discussion in the cultural approaches to social movements, and some of the discussions have been criticized as treating culture reductively (Casas-Cortés, 2008). But scholars in cultural perspectives have rediscovered the importance of culture that had been lost in the rational approaches to social

and associations). And ‘submerged’ participation is supported by new networks based on daily life activities.

movements.

Among the five frameworks introduced by Klandermans (1992), Melucci (1989)'s argument is most similar to the position of this study in that he focuses on collective consciousness in social movements and production of alternative frameworks of meaning which challenge the dominant meaning systems. This study also agrees on the idea of Melucci according to whom social constructive activities of movements occur in the realm of everyday life. But Melucci (1989) and Eyerman and Jamison (1991) have a different emphasis. While Melucci focuses on the construction of collective identity or 'we' in social movements, Eyerman and Jamison are more concerned with knowledge production. While this study supports the social constructionist background of both scholars, more focus is put on the cognitive activities of knowledge production. Through a case study, this study will emphasize that alternative ideas are not only resistance to established power but also a constructive force which creates new knowledge. In this context, the primary concern of this study will be analyzing how a social movement is diffused by focusing on actors' interaction, learning, and knowledge production. While the study takes a cultural perspective, it particularly focuses on a cognitive approach in social movements.

Knowledge Production in Social Movements

Recently an increasing number of studies began to focus on dynamic and socially constructivist characteristics of social movements, particularly in terms of knowledge production (Eyerman & Jamison, 1991; Escobar, 1998; Chesters & Welsh, 2006; Casas-Cortés et al., 2008). The types of knowledge created in the

process of social movements and the ways knowledge is constructed are also investigated by adult education researchers (Kim, 2011). By adopting the concept of Eyerman and Jamison (1991)'s cognitive praxis, Holford (1995) notes that "movement generates identities for themselves, largely because they generate new knowledge." From this viewpoint, social movements are recognized as a site of interaction between knowledge, learning, and society (pp. 105). This implies that social movements could be understood as knowledge producers. And in line with this assumption, diffusion of social movements signifies an opportunity for knowledge formation, rediscovery, and dissemination, which invites more diverse participation in knowledge production in social movements.

The knowledge generated in the process of social movements tends to be more place-based, situation-based, and experience-based than the mainstream knowledge supported by academic, governmental, and legal institutions. For example, Hill (2004) explains that fugitive knowledge is often generated by citizen groups contesting environmental hazards in their communities. Fugitive knowledge is differentiated from 'official' or 'codified' knowledge which is produced by specialists or the dominant culture because it is based on everyday experience of people, situated "outside of the control of the knowledge elite or professional knowledge makers" (pp. 229).

Although the traditional scholarship in the sociology of education sought the political roles of knowledge in social transformation (Horton & Freire, 1990; Giroux, 1997), it seems that existing adult education research rarely connect knowledge production, diffusion of social movements, and social change. Unusually, the ethnographical analysis of Casas-Cortés et al. (2008) contributes to

making a linkage between knowledge creation/diffusion and activation of movements. Their key concept of ‘knowledge-practice’ implies placed-based knowledge which is generated by lively subjects or actors. And the form of such knowledge includes ideas, stories, narratives, and ideologies as well as theories, expertise, political analysis, and critical understandings of certain contexts. For them, knowledge generated in movements has concrete, embodied, and situated character. Moreover, knowledge-practice is regarded as politically crucial when acknowledging the close relationship between knowledge and power. Despite the importance of their study which made political orientations of knowledge-practice move visible, it seems that further theoretical explanation is needed for in-depth understanding on the implications of meaning and knowledge production process in contemporary movements and how diverse groups and individuals have engaged in this cognitive process.

One of the important characteristics of contemporary social movements (e.g. feminist, environmentalist, peace, and local food movement) would be the openness of membership from organizations to individuals and small groups and the realm of “everyday life” as a medium for movements (Starr, 2010). For an exploration of the politics-motivated and organization-centered social movements, organization-focused positivist approaches such as resource mobilization theory and political process model might be applicable. To understand many current social movements embedded in everyday lives of the participants, however, we might need an engagement that explores the cognitive process during which a movement’s meaning, knowledge, and identity are socially constructed. Knowledge constructed, reformulated, and disseminated in a certain movement,

in turn, might work as a mechanism which elaborates one's identity and amplifies participation in the movement. In this context, the analytic concept of cognitive praxis developed by Eyerman and Jamison (1991) might provide a useful tool for a deeper understanding of the agroecological movement in Chiang Mai, which has taken place in the realm of everyday life.

2.3. Reading Social Movements with Cognitive Praxis

As the focus of this study is on the process of agroecological movement in the Chiang Mai province, Thailand, and specifically on how the social movement as a knowledge production activity has been diffused, the concept of cognitive praxis articulated by Eyerman and Jamison (1991) would be usefully applied to understand the case since the scholars mainly recognize social movements as processes through which knowledge is produced and disseminated. Previous social movement studies such as resource mobilization theory, the political process model, and even the framing approach in cultural perspectives are interested in mobilization and tend to view movements as an outcome. But the cognitive praxis approach perceives a social movement as a process in formation and focuses on knowledge and meaning which are articulated and diffused in the movement.

Like Melucci (1989), Eyerman and Jamison (1991) turn their attention to the cultural roles of social movements in which the plurality of actors shapes cognitive practices. Movements clarify problems in societies, reveal power inequalities, and propose alternatives to existing order. Through its cognitive praxis a social

movement creates new conceptual spaces and, by doing so, contributes to ‘social change’ (Boström, 2004). And cultural learning occurs in a process of interaction in which individuals and organizations participate (Jasper, 1997).

In the following section, the concept and dimensions of cognitive praxis will be discussed based on the study of Eyerman and Jamison (1991). The dimensions of a social movement’s cognitive praxis – cosmological, technological, and organizational – elaborate the characteristics as well as the cognitive identity of a particular social movement in relation to other social movements. The concept’s implication to my study will be elaborated, which leads to the production of the theoretical framework in the next sub-chapter.

2.3.1. Concepts: *Cognitive Praxis*

Cognitive praxis is understood as “the way that human consciousness is acted out or put into practice” (Jamison, 2001: 42). It characterizes the “knowledge-production activity that takes place in social movements” (Jamison, 2006: 47). With a recognition of knowledge in making, cognitive praxis comprises both ideas and the procedures which validate them. As Hassanein and Kloppenburg (1995) demonstrate through a case study, cognitive praxis is the outcome of a process in which theory and practice dynamically interact with each other. An important characteristic of cognitive praxis is that it is situation or context-based and involves both formal and informal ways of knowledge production (Jamison, 2001).

Eyerman and Jamison (1991) bring the concept of cognitive praxis into social movements and understand social movements as cognitive praxis or knowledge

producers. According to Eyerman and Jamison, cognitive praxis transforms groups of individuals into a social movement, through the process social movements develop distinct meaning, consciousness, and identity. Therefore, social movements are not only understood as learning processes but the site where new thoughts and ideas are created and put into practice.²⁰ This new knowledge distinguishes a movement from others. However, they also emphasize that a social movement needs to be understood in relation to other social movements. It means that the historical and political context of a social movement should be considered. And a social movement can be understood as reflecting the more general features of contemporary social movements (Eyerman & Jamison, 1991).

Another important point raised by Eyerman and Jamison is that a social movement is a ‘socially’ constructive space of knowledge. A social movement does not consist of and represent one particular interest group or one organization. Similar to Melucci’s idea, in present-day social movements, formal organizations are not always the main initiators and carriers of collective action (Jasper, 1997). A social movement is rather a ‘cognitive territory’ which consists of a dynamic exchange between different groups and individuals. Through tensions and dialogues between different participants in the ‘*conceptual space*,’ the identity of social movements is created, articulated and formulated (Eyerman & Jamison, 1991: 55). Accordingly, social movements are seen as “*processes in formation*” in which new kinds of social identities are constructed through various forms of

20 Wainwright (1994) also noticed that social movements are more than resistance to existing power. They are social space where new forms of knowledge are created, and participants’ knowledge is recombined. She contends that “for if knowledge is a social product then it can be socially transformed through people taking action – co-operating, sharing, combining knowledge – to overcome the limits on the knowledge that they individually possess” (pp. 58).

activity (Eyerman & Jamison, 1991: 2).

Seeing social movements as cognitive space where knowledge is constructed provides implications on what knowledge is and how it is created. It should be reminded that this standpoint is based on a constructionist or post-rationalist approach. Firstly, knowledge is socially constructed and embedded (Eyerman & Jamison, 1991; McFarlane, 2006; Gaventa & Cornwall, 2008). Distinguished from information²¹, knowledge is regarded as “the sense that people make of information” (Hovland, 2003: 30 requoted in McFarlane, 2006). And in the context of social movement, it is formed through a series of social interaction which includes encounters amongst participants within and between social movements. The social constructive character of knowledge also implies that there are different ways of knowledge production and multiple potential forms of knowledge (Gaventa & Cornwall, 2008).

Secondly, knowledge is situated. It means that knowledge is context-specific and dependent on particular times and spaces. It is critically associated with identity and belief as discussed by Nonaka et al. (2000) with their term ‘justified belief.’ And discourses justify what kinds of knowledge are valuable (McFarlane, 2006). As an example, local lay knowledge which was considered inferior to experts’ knowledge under the modern agricultural system has been reconstructed and reinterpreted in present days’ alternative agriculture movement. A social movement constructs its particular situated knowledge. While scientific codified knowledge has not been ignored, agroecology proponents in Chiang Mai has had

21 McFarlane (2006) distinguishes knowledge and information by describing information as “data or facts that can be readily communicated” which could be interpreted in multiple ways (pp. 294).

a lot of confidence in local lay knowledge.

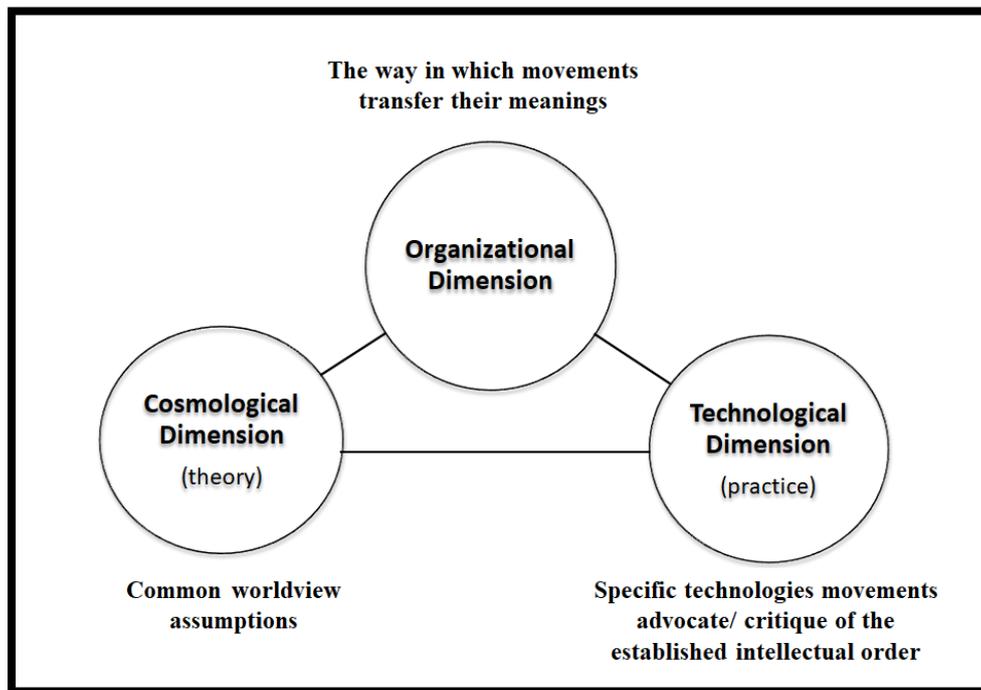
The definition and scope of the concept of knowledge based on the constructivist perspective is rather expansive. As clarified by Casas-Cortés et al. (2008), knowledge means “experiences, stories, ideologies, and claims to various forms of expertise that define how social actors come to know and inhabit the world” (pp. 27). It means that knowledge is not merely produced by sanctioned professionals but also by all the participants constituting social interaction. Therefore, knowledge is both formal and informal, explicit and tacit, and, more importantly, professional (scientifically codified) and popular. It originates from and constitutes the broader cognitive praxis which is found in all social activity (Eyerman and Jamison, 1991). But it is important to note that the agroecological movement has shed light on farmers’ informal, tacit, and popular knowledge which was neglected under the modern agricultural system. Based on the starting points mentioned, the dimensions of cognitive praxis will be introduced in the next section to elaborate and categorize knowledge produced in the process of social movement.

2.3.2. Dimensions of Cognitive Praxis

Eyerman and Jamison introduce three dimensions of cognitive praxis which translate the knowledge constituting interests that Habermas (1971) discussed. As described in Figure 2.1., the dimensions include cosmological, technological, and organizational aspects. First, the cosmological dimension refers to “the common worldview assumptions” that render a social movement “its utopian mission” (Eyerman & Jamison, 1991: 68). Borrowing the term of Habermas, the

cosmological term is related to the emancipatory interest.

Secondly, the technological dimension refers to the specific technologies particular movements advocate as well as critiques of the established scientific and intellectual order. This dimension was translated from Habermas's technical-practical interest. But unlike Habermas whose focus was on broader technological knowledge, Eyerman and Jamison pay attention to the practical technological activities or examples of challenges to the established scientific order.



<Figure 2.1.> Dimensions of Cognitive Praxis
Source: Composed by Author based on Eyerman & Jamison, 1991

Finally, the organizational dimension is the way in which movements transfer their meanings, and “the organizational forms within which their cognitive praxis

unfolds” (Eyerman & Jamison, 1991: 69). The organizational dimension links theory in the cosmological dimension with practice in the technological dimension (Hassanein & Kloppenburg, 1995). For example, participatory decision-making as the organizational dimension is noticeable in the environmental movements in the 1960s in Europe. The organizational dimension is linked to the communicative interest of Habermas. All social movements have their own organizational paradigm which constitutes both ideals and modes of organizing the production and the dissemination of knowledge (Eyerman & Jamison, 1991).

2.3.3. Social Movements as Cognitive Space

Conceiving social movements as forms of cognitive praxis proposes a way of focusing on the ‘processes’ of articulating new knowledge and identity of a movement (Eyerman & Jamison, 1991; Starr, 2010). A particular social movement, therefore, is unique since it creates particular meanings. However, Eyerman and Jamison do not neglect the historical and political context in which each movement is situated. And with the three dimensions of cognitive praxis - cosmological, technological, and organizational - they explain how knowledge is formulated or cognitive praxis is activated during social movements. Rather than emphasizing the roles of a leading organization or group in a movement, a social movement is understood as a cognitive space where the plurality of interactions among constituent actors are made through tension as well as collaboration.

Understanding social movements as cognitive praxis means seeing a movement as a ‘process in formation’ which is a dynamic activity rather than a

static product (Eyerman & Jamison, 1991: 59). Based on these moving and constructive characteristics of social movements, the dimensions of cognitive praxis can help explain how a movement is diffused in a certain historical and political context. It is difficult to contend that all social movements are inclusive and participatory in their organizing principle. But certain aspects of the organizational paradigm or communicative interest might further activate and articulate the other dimensions of cognitive praxis, which means that a social movement's cognitive praxis is extended. It also implies that the participation of new actors and the opportunities for their knowledge production have increased. By extending the conceptual discussion of Eyerman and Jamison, therefore, a theoretical framework is produced to understand the diffusion of the agroecological movement in the Chiang Mai Province, Thailand.

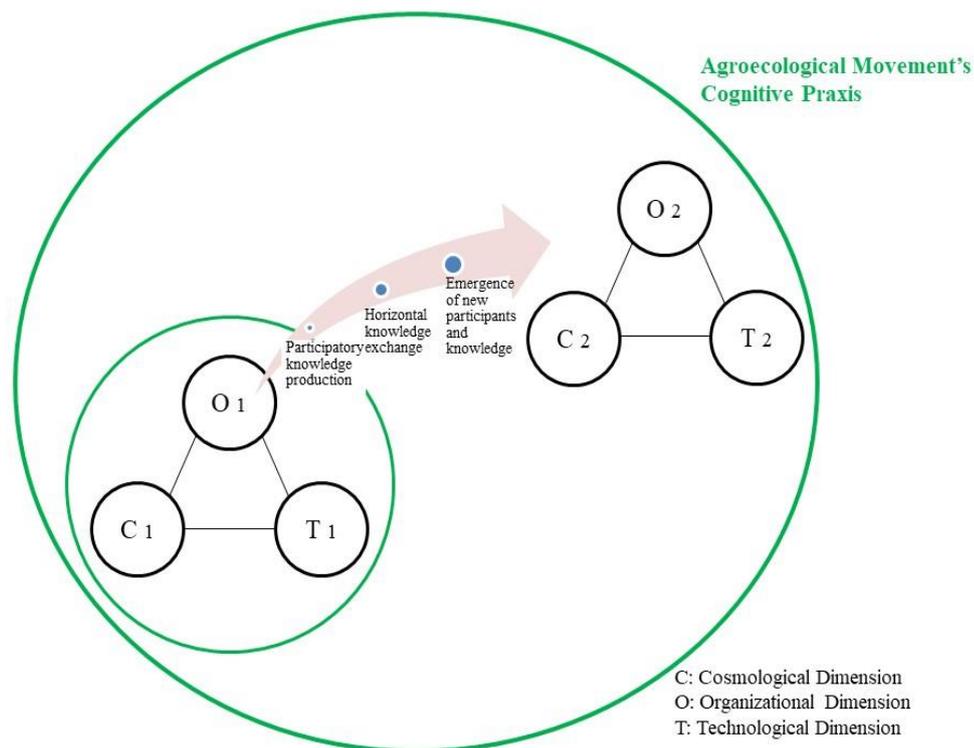
2.4. Producing the Theoretical Framework for the Study

Conceptualizing social movements as cognitive praxis leads to seeing social movements as a socially constructive force. As space where knowledge is created through the collective action of social groups and individuals, a social movement is not a static outcome of mobilization but “a conceptual space that is filled by a dynamic interaction between different groups and organizations” (Eyerman & Jamison, 1991: 55). This fluid as well as interactive characteristic of social movements implies that movements can be diffused and reinterpreted more frequently in the contemporary era when collective actions tend to arise from daily life.

The theoretical framework for this study is created by adopting and extending the discussion of Eyerman and Jamison (1991) on the three dimensions of cognitive praxis. But the diffusion of social movements is not their primary concern. Interpreting knowledge production in social movements as a collective process implies that the character and dynamics of knowledge production can mediate the diffusion of social movements. Considering social movements as cognitive praxis means the modes through which knowledge is produced and disseminated could affect the invigoration of knowledge re-/generation of social movements and encourage new actors' participation, which is regarded as the diffusion of social movement itself. In this line, I extend the discussion of Eyerman and Jamison on the dimensions of cognitive praxis to make my theoretical framework to explore how the agroecological movement has been diffused in the province of Chiang Mai, Thailand. From a cognitive perspective, this study sees the diffusion of a social movement as the proliferation of opportunities for knowledge to be created, transformed, and disseminated.

The theoretical framework assumes that the organizational dimension of cognitive praxis, which connects cosmological and technological dimensions, works as a mediator that stimulates (or weakens) cognitive activities in social movements. In other words, the mode through which knowledge is produced as well as disseminated affects the emergence of new participants and knowledge. If cognitive activities including those of the new-comers are encouraged through a cooperative way of knowledge production and dissemination, the chance of expanding the cognitive praxis increases. The social constructive process of knowledge and its mode of organization, in result, has influence on the diffusion of social movement. All movements have their own cognitive praxis since they

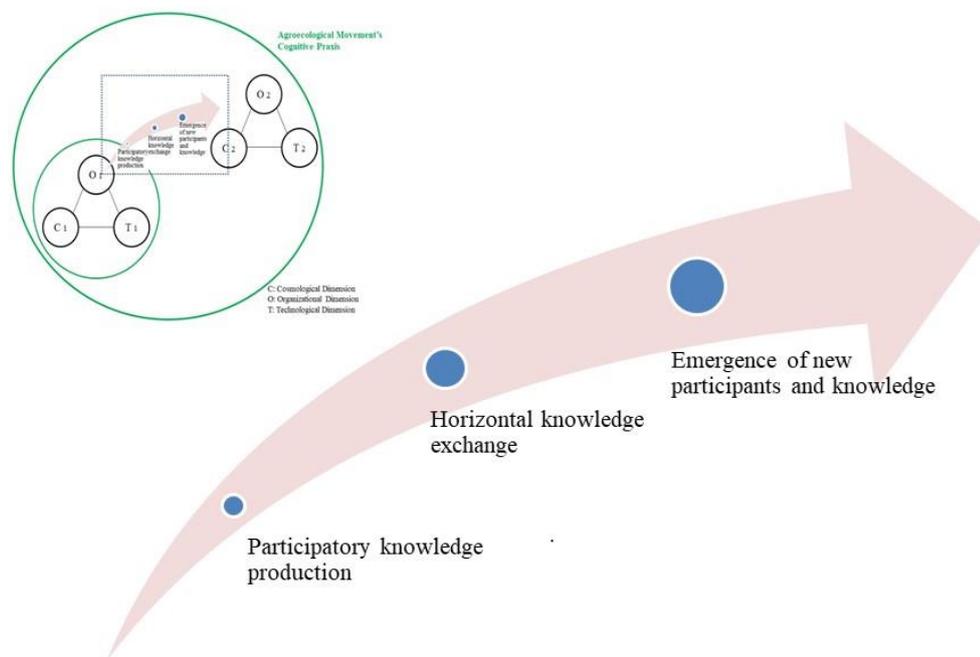
“have both ideals and modes of organizing the production and, even more importantly perhaps, the dissemination of knowledge” (Eyerman & Jamison, 1991: 69).



<Figure 2.2.> Framework to Explain the Diffusion of Social Movement
Source: Constructed by Author based on Eyerman & Jamison, 1991

To be specific, if the modes of organization in a social movement encourage participation in knowledge production and horizontal exchange in knowledge dissemination, the opportunities of creating extended cognitive praxis increase as illustrated in Figure 2.2. In particular, a participatory organizational principle of a movement tends to provide individuals, groups, and organizations with better opportunities to join the movement and propose their idea. In the case of the agroecological movement in Chiang Mai, such organizational principle is featured

as participatory knowledge production and horizontal knowledge exchange. And the increasing opportunities for participation makes the movement create new knowledge and reconnect distinct types of existing knowledge more easily. Accordingly, the participatory character of a social movement's cognitive praxis can generate new types of knowledge and ideas which lead to new cosmological, technological, and organizational dimensions. The main focus of this study will be placed on the process of knowledge production and dissemination which has emerged in the agroecological movement in Chiang Mai based on its cognitive praxis' organizational dimension. In other words, the actors' activities to socially construct knowledge, as illustrated in Figure 2.3. (the arrow part in Figure 2.2. is here enlarged), will be importantly investigated as a process which creates expanded cognitive praxis and leads to the diffusion of the social movement.



<Figure 2.3.> Modes of Organization in the Case's Cognitive Praxis and Its Influence
 Source: Constructed by Author based on Eyerman & Jamison, 1991

Through the entire process, a social movement as cognitive praxis can be diffused in alignment with a certain organizational mode according to which knowledge is produced and disseminated. As this study understands the diffusion of a social movement as the proliferation of opportunities for knowledge to be produced and disseminated, the theoretical framework implies the modes of organization influences the orientation of cognitive praxis and, accordingly, how the movement is diffused.

The recent finding of Rogers (2003), according to which a higher degree of re-invention leads to a higher degree of sustainability of an innovation, supports the theoretical framework for this study. Many diffusion studies agree that, if members of an organization or a group can get directly involved in the re-invention of adopted innovations, they tend to sustain innovations. It implies that the re-invented innovation may fit more appropriately to local or changing conditions, which encourage the innovation to be more sustained and even disseminated (Rogers, 2003: 185).

The theoretical framework produced for the study does not mean that all social movements are progressive. All social movements have their own organizational paradigm, and the organizing principle of knowledge production and dissemination can vary as movements are socially constituted activities created by a plurality of participants. But it is important to note that the organizational dimension of cognitive praxis affects how knowledge of social movements is produced and disseminated. So when interpreting social movements as cognitive praxis, I could infer that the organizational principle and practice help

to explain how knowledge is created and communicated as well as how the cognitive praxis is changed, which eventually affects the process of the movement's diffusion.

Based on the findings, this study will investigate three dimensions of the agroecological movement's cognitive praxis and, in particular, analyze the modes of organizing knowledge production and dissemination which has arisen in the movement. Then, the study will discuss current changes in the cosmological, technological, and organizational knowledge found in the agroecological movement. Finally, it will explain how the modes of organization in the social movement is linked to the opportunities of knowledge production and dissemination, which is related to the creation of extended cognitive praxis and eventually the diffusion of the agroecological movement.

CHAPTER III. RESEARCH METHODS

3.1. Research Methods

3.1.1. Methodological Consideration: Case Studies

As the purpose of this research is to describe the emergence and diffusion of the agroecological movement in the province of Chiang Mai, Thailand and to analyze how the movement has been diffused with a focus on knowledge production, the case study method is mainly applied to the study. Applicable to diverse units of analysis, the case study approach's target of examination includes simple as well as complex phenomena, and enables researchers to investigate "the manifest interaction of significant factors" constituting the research subject (Berg, 2007: 283). Importantly, qualitative case studies have a primary aim of understanding a phenomenon with "thick descriptions" (Geertz, 1973). But case studies could also make a theoretical contribution by way of theory testing or theory development (Yin, 2003).²² Considering such nature, the case study method was adopted for this research, aiming to describe the phenomenon – the diffusion of agroecological movement with a focus on the case of the Chiang Mai province – and to apply a theory for explanatory purpose.

²² Stake (1995) uses the term 'generalization' instead of theory. While a case study arguably provides a poor basis for generalization, petite generalizations regularly occur in the process of conducting case studies, and grand generalizations may also be modified by this method. The case study method may strengthen confidence in generalizations.

The case study adopted in this research is, therefore, instrumental as well as intrinsic. An intrinsic case study is conducted if researchers have an intrinsic interest in a particular case, while an instrumental case study is to understand and get insight beyond a specific case (Stake, 1995). The approach of this research is regarded as ‘intrinsic’ since the agroecological movement in the Chiang Mai province of Thailand is a representative case to be studied when it comes to its depth, extensiveness, and invigoration. On the other hand, the approach is intended to be ‘instrumental’ as the case is expected to provide a theoretical explanation into the phenomenon and could be a steppingstone for further generalization (Berg, 2007). As the sustainable agriculture based on agroecosystems has distinctly arisen as a movement at various levels not only in Thailand but also in a number of different countries (see, for example, Altieri & Toledo, 2011; Rosset et al., 2011; Fernandez et al., 2013; Rover et al., 2016), the results of the case study and theoretical explanation on it are expected to have implications for other cases.

3.1.2. Selection of Case

The case selection strategy of this research considered a critical case or a crucial case, and the agroecological movement in the province of Chiang Mai has been finally chosen. A critical case is discussed as an important criterion and strategy for case selection by various researchers in qualitative methodology (Miles & Huberman, 1994; Creswell, 2013; Patton, 2015). Classified as a type of single significant case²³, a critical case and the weight of evidence from this case

²³ Patton (2015) defines a single significant case as “one in-depth case that provides rich and deep understanding of the subject and breakthrough insights, and/or has distinct, stand-out importance (266).”

leads to “logical generalization and maximum application of information to other, highly similar cases (Patton, 2015: 266).” The possibility of generalization and application implies that a critical case not only provides a rich and deep understanding of the research topic but also works as a representative and typical case among similar ones.

In this study, the agroecological movement in the province of Chiang Mai, Thailand has been chosen as the case for investigation since it has been one of the most active alternative agriculture movements in the country (see, for example, Pattanapant & Shivakoti, 2009; Chiengkul, 2017). As an example, the first direct organic market was set up in Chiang Mai in the mid of 1990s by the local NGO, Institute for Sustainable Agricultural Community (ISAC). And both local and national NGOs, including ISAC and the Earth Net Foundation, as well as universities located in Chiang Mai have consistently supported sustainable agriculture based on agroecosystems. Considering its duration of continuity and a wide range of network which has constituted the movement, the case could provide abundant information and insights into the research questions. The existence of hospitable informants and experts who could provide consultation is also an influential factor for selecting a case (Stake, 1995). When the pilot study for this research was conducted in January and February 2017, I could visit the province of Chiang Mai and develop a rapport with some important informants and experts.

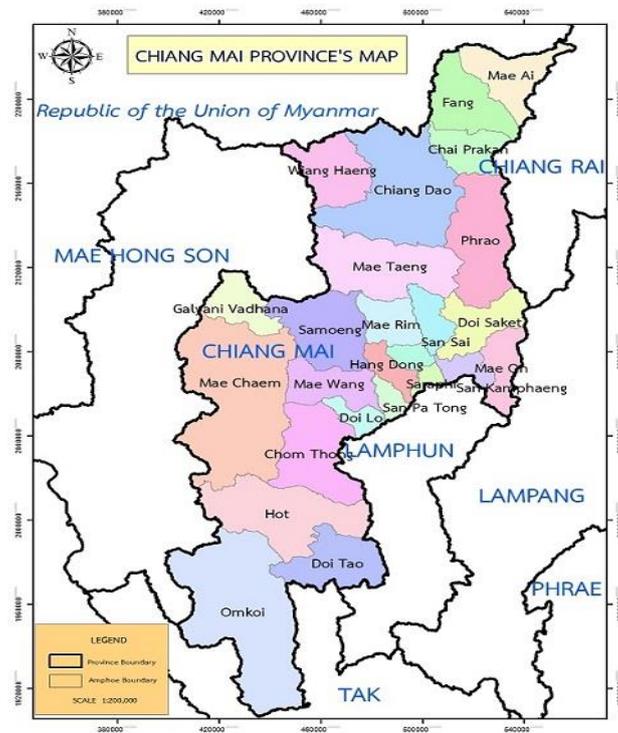
In this way, the agroecological movement in Chiang Mai is regarded as a crucial case, but considering its attention to ecological and political principles, it could also be referred to as typical of other global and domestic rural social

movements adopting agroecological foundations. Similar to the Campesino-to-Campesino agroecology movement in Cuba (Rosset et al., 2011) and the Zero Budget Natural Farming movement in Karnataka, India (Khadse et al., 2018), horizontal communication processes, respect of farmers' experiences and local knowledge, and dependence on internal logic rather than external projects have been observable in the Chiang Mai movement. In addition, the movement has closely linked with broader social movements as the two cases mentioned have with the LVC's activism. But the Chiang Mai case is distinctive in terms of its emphasis on markets as a tool for enhancing urban-rural solidarity and the supportive role of universities in research and collaborative activism. It means that it is worth investigating to gain a thorough understanding of the phenomenon, while implications of the agroecological movement as a typical case could be applied to other rural social movements.

As a study cannot cover "everything" in a certain case or multiple cases, defining the unit of analysis is important at the stage of research design (Yin, 2003). The unit of analysis in this study is defined as the activities of the agroecology proponents including civil society organizations, universities, and farmers in the process of the agroecological movement in Chiang Mai, Thailand. To study how the movement has been diffused in the specific geographic area, it is important to investigate the interactions of main actors constituting the movement as a socially constructive process. This study aims to explain the diffusion of social movements, but focuses on the cognitive activities and their modes of communication and characteristics in the agroecological movement which have occurred at the micro level.

In addition to identifying the unit of analysis, specific time and geographic boundaries for research are needed to determine the limits of the data collection and analysis (Yin, 2003). The time boundaries of this study are set from the late 1980s to the late 2010s, the period between the emergence of the movement and the time when my recent observation was made. The geographical boundaries for research are limited to the Chiang Mai province in Thailand with a particular focus on the five districts surrounding the capital district (Mueang Chiang Mai). The five districts - Mae Taeng, San Kamphaeng, San Sai, Mae Rim, and Mae On – were selected as it was expected that the agroecological practices had widely arisen in these districts due to their closeness to the capital district and higher demands for agroecological products. While the geographical focus has been placed on the Chiang Mai province, activities in other neighboring provinces are not out of consideration given their geographical and cultural closeness.

As the focus of this research is placed on the agroecological movement as a phenomenon in the province of Chiang Mai, it may be important to understand some geographical and sociopolitical characteristics of the province. The province of Chiang Mai, one of the 77 provinces in Thailand, is located in the northern part of the country, and most of the territory consist of agricultural farms and forests. It is one of the country's main producers of agricultural products with the second largest agricultural area in northern Thailand (Pattanapant & Shivakoti, 2009), and the percentage of agriculture in the province's total Gross Domestic Product is estimated as 22.2 in 2013 (Chiang Mai Governor Office, 2018). As seen in Figure 3.1., the province is divided into 25 districts including the capital district and shares its border with Myanmar.



<Figure 3.1.> Map of the Province of Chiang Mai
 Source: <http://www.chiangmai.go.th/english/index.php/welcome/information>

Northern Thailand, where the Chiang Mai province is located, could be regarded as ‘a space of resistance’ in terms of the history of social movements for environmentalism and community rights.²⁴ In other words, it is concerned by previous studies as the space where social movements to protect the environment and community forests had actively arisen (Phongpaichit, 2002; Walker, 2004; McKinnon, 2006). The ecological movement in Northern Thailand also affected and stimulated environmental movement in Thailand in general. The hill tribes – the Karen, in particular – were among the main actors in this movement against

²⁴ The concept of “space of resistance” was borrowed from the discussion of Trakansuphakon (2007). Similarly, Scott (2010) describes the hills as a space of political resistance, as his example of the vast expanse of uplands in Southeast Asia shows.

the government's expansion of protected areas, and their knowledge on the use and protection of the environment was embedded in the actions of resistance (Trakansuphakon, 2007).

3.1.3. Research Methods

This study mainly stands on the assumptions of qualitative research and accepts its common characteristics including natural setting (field focused), multiple sources of data, and inductive data analysis (Creswell, 2013). Field engagement and multiple methods not only enhance an in-depth understanding of the phenomenon in question (Denzin & Lincoln, 2008) but also secure the validity of research findings. Data analysis in qualitative research is conducted inductively by organizing the data, then reducing them into themes through a process of coding, and finally visualizing the data in figures, tables, or text (Creswell, 2013).

Data Collection

For collecting data, I used research methods of multiple forms as the following: (i) literature reviews, (ii) field observation, (iii) individual interviews, (iv) focus group interviews and (v) writing field notes, gathering documents including posters, pamphlets, and booklets, and taking up photography.

To be specific, literature reviews were conducted on the research topic before as well as during the period of data collection. Different types of sources include academic journal articles, books, newspaper articles, documents published by international, governmental, and non-government organizations, and web-based

resources. Upon request, some web-based resources were translated from Thai to English through the assistance of the Humanities Academic Service, Chiang Mai University.

Field observation was carried out from March to August 2018 at the places where agroecological practices and discussions had arisen. Those places include farmers' markets in the capital district of Chiang Mai including the Jing Jai market, the Organic Hall, and farmers' markets in the Chiang Mai University. First, regular observations occurred every two weeks or more frequently at the Jing Jai market and Chiang Mai University farmers' markets. And some participants who joined interviews were recruited at those markets. Secondly, short observations were conducted at the venues where farmers practicing agroecological farming gathered for meetings, in individual farms, and at organic shops and restaurants.²⁵ All the places where the field observations were conducted are located in the province of Chiang Mai, except Nakawkiew village which is in neighboring Lampang province and the office of the Sustainable Agriculture Foundation Thailand located in Nonthaburi province. Photos were taken during the observation under the agreement of the participants, and field notes were written during and after the observation.

Interviews conducted with individual participants and focus groups are the major sources of data collected for this research. The interviews were held from

25 The meeting venues include the meeting room of the Institute for Sustainable Agriculture Community where members met once three months to decide the price of their products and the office of the Chiang Mai Organic Agriculture Cooperative. Individual farms observed were mainly farms of interview participants in the district of Mae Taeng, San Sai, and San Kampheng except a natural farming garden in the Nong Tao village, the Mae Wang district and organic farms in the Nakawkiew village, Lampang province. Most observations of organic shops and restaurants were made in the Chiang Mai municipality and the Mae On district.

November 2017 to August 2018 in the province of Chiang Mai except two cases which were separately conducted in the province of Nontaburi and Lampang²⁶. As Table 3.1. shows, interviews were employed with participants from the three representative groups of “agroecology” advocates including civil society organizations, individual farmers as well as farmers’ groups and cooperatives, and universities. The types of interview used in my research were individual and focus group interviews. In both cases, semi-structured interview questions were prepared before conducting each interview. But during the interview, the questions were modified or added depending on the participants’ response.

The main sampling strategies used for the interview are *key informants sampling* and *snowball sampling* (Patton, 2015: 268-270). Identified participants in civil society organizations, farmers’ cooperatives, and universities were assumed to have experience in and knowledge on the agroecological practices and activities in the Chiang Mai province. A number of participants who are individual farmers were recruited by snowball sampling. A few relevant interviewees whom I met at the farmers’ organic markets agreed to joined interviews, and upon requests or voluntarily they introduced additional relevant participants.

In total, twenty-one participants joined the interview of the study, and specific information is provided by Table. 3.2. They include five participants from civil society organizations, two individual farmers, nine farmers and one staff from farmers’ groups or cooperatives, two university professors²⁷, and one staff from

26 Due to an unexpected incident, the interview with a participant from Lampang was replaced by an email interview.

27 Among those two professors, one participant reported that he transferred his profession from a NGO activist to a university lecturer in 2012.

the local youth group which supports organic farmers' activities.²⁸ The farmers who participate in the interview are from the district of Mae Taeng, San Sai, and San Khampaeng in the Chiang Mai province. Each interview was recorded with a written consent agreed by each participant and transcribed for analysis immediately after the interview. To protect participants' identity, fictitious names were assigned to all of the participants and mentioned when quoted in the study.

[Table 3.1.] Interview Participant Grouping

Civil Society Organizations (CSOs)	Farmers/ Farmers' Groups or Cooperatives	Universities
- Officers of civil society organizations based in Chiang Mai province working on agroecology or sustainable agriculture	- Farmers who had practiced agroecological ways of farming for more than 3 years - Members of farmer groups or cooperatives who promote agroecological/ sustainable/organic way of agriculture	- Members of universities or affiliated bodies with programs or projects on sustainable agriculture based on agroecosystem.

[Table 3.2.] Participants of the Interview²⁹

Grouping	Affiliation/Location	Occupation	Name	Age	Date
CSOs	Sustainable Agriculture Foundation Thailand (SAFT)	Director	Malie	60s	Nov 2, 2017
	Alternative Agriculture Network (AAN)	Coordinator	Nok	30s	Nov 2, 2017
	Association of Safety Food Products and Plants Producers	Chairman/ Farmer	Joe	50s	Mar 24, 2018
	Northern Organic Standard Association (NOSA)	Manager	Sudarat	50s	April 5, 2018
	Green Net Organic Center	Organic Agriculture Researcher	Aom	30s	Aug 13, 2018

28 Exceptionally, he was doing activities based on Lampang which is a neighboring province of Chiang Mai.

29 Fictitious names were used at all stages of this study for participant confidentiality. Indicated age is based on the age at the time of the interview.

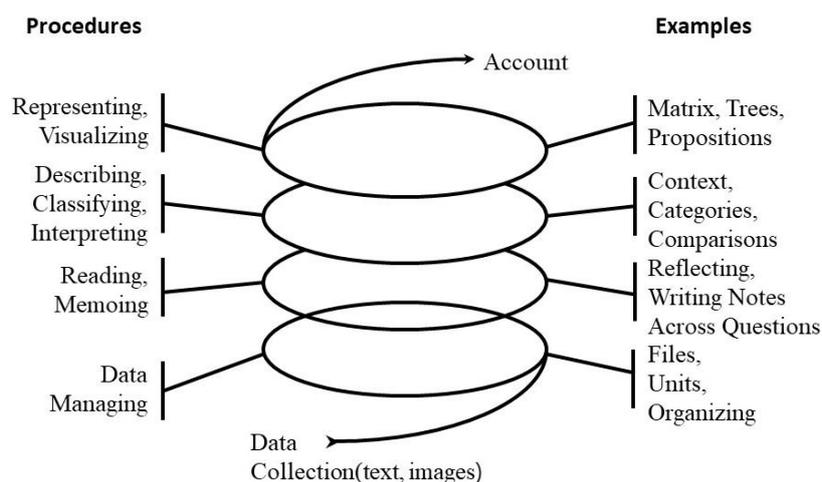
Grouping	Affiliation/Location	Occupation	Name	Age	Date
Individual Farmer/ Farmer's Groups or Cooperatives	Mae Taeng Organic Group MAE TAENG DISTRICT	Farmer	Earth	50s	April 29, 2018
	Mae Taeng Organic Group (FGIs) MAE TAENG DISTRICT	Farmer	Arisa	40s	May 13, 2018
		Farmer	Pam	60s	
		Farmer	Toey	50s	
	Baan Wasunthara SANSAI DISTRICT	Farmer	Pond	50s	May 15, 2018
	Chiang Mai Organic Agriculture Cooperative	Manager/ Farmer	May	40s	June 10, 2018 July 1, 2018
	Earth Home MAE TAENG DISTRICT	Owner/ Farmer	Noon	50s	July 2-3, 2018
	Pun Pun Community MAE TAENG DISTRICT	Farmer	Jane	30s	July 3, 2018
	San Kamphaeng PGS Group 1 SAN KAMPHAENG DISTRICT	Farmer	Nan	50s	July 23, 2018
		Farmer/ Restaurant Worker	Praew	50s	July 23, 2018
San Kamphaeng PGS Group 2 SAN KAMPHAENG DISTRICT	Farmer	Andy	30s	July 23, 2018	
Hug Nam Jang/ Hug Green	Staff	Nut	30s	Aug 28, 2018	
Universities	Maejo University	Lecturer/ Former ISAC Director	Sarawut	50s	April 25, 2018
	Center for Agricultural System Research, Chiang Mai University	Professor	Anurat	70s	June 19, 2018, July 18, 2018
Others	Jing Jai Farmer's Market (FGIs)	Manager	Pim	40s	March 23, 2018
		Market Manager	Sirada	40s	

Field notes, documents, and photographs also worked as important sources of data collection and analysis. Descriptive field notes were made at the place where observations and interviews had been conducted, and analytic field notes were written after I came back to the desk from the fieldwork. Documents

collected from the field include posters, pamphlets, and booklets, and they were also valuable data to be analyzed since they represent the vivid voices of the agroecology promoters. Web-based resources covering newspaper articles and organizations' websites also worked as important sources of data for exploring the research topic. I utilized photographs to observe what I missed in the field and to more deeply understand participants' behaviors and activities which have arisen in the process of the agroecological movement.

Data Analysis and Interpretation

Data analysis and interpretation of this study adopt the data analysis spiral suggested by Creswell (2013). Figure 3.2. indicates that the researcher involves in the process of moving in analytic cycles which are composed of data management; reading and memoing; forming codes or categories through describing, classifying, and interpreting data; representation and visualization.



<Figure 3.2.> The Data Analysis Spiral
Source: Creswell, 2013: p. 183

As the first step in the data analysis spiral, I organized the collected data into computer files. The record of the interviews was all transcribed and converted into text. And photos taken from the field of observation and field materials were transformed into computer files. Secondly, I read the entire materials (transcripts, field notes, and web-based information) several times and wrote down ideas, questions, or key concepts by hand besides the highlighted information. For the transcripts, in particular, I also used a computer program called MAXQDA to classify data. As a next step, the process of coding aggregated the visual data into categories of information after continuous review and re-review. In making categories, *in vivo codes* (Creswell, 2013) which use the exact words used by participants were also utilized with other codes named by the researcher. Finally, those categories were reduced and combined into main themes. Then I tried to interpret as well as represent the data by contextualizing them with the theoretical framework and the larger research literature (Wolcott, 1994).

In the process of data analysis and interpretation, this study developed a theoretical framework by extending Eyerman and Jamison's sociological theory of knowledge production in social movements. As Eisenhardt (1989) describes, existing theory can be confirmed, sharpened, or extended after a step in data analysis in case study research. After initial analysis of the data collected for the research, the necessity to modify and extend the existing theory was raised. The cognitive approach of Eyerman and Jamison might support readers to understand the features of knowledge production in the agroecological movement in Chiang Mai. But it is difficult to capture the dynamic process through which new cognitive processes appear, which is interpreted as the diffusion of a social movement. After

the initial data analysis, a theoretical framework which extends the three dimensions of a social movement's cognitive praxis (Eyerman & Jamison, 1991) was developed with a particular focus on organizational knowledge.

3.2. Research Process: A Focus on the Field Research

My interests in agroecology as an alternative agriculture movement and the process of meaning making and knowledge making from the grassroots might have started from my working experience in the field of international development cooperation. As a research associate who studied rural development issues and a program coordinator who worked for capacity development of public officials from East African and Southeast Asian countries, I learned that local knowledge from everyday life had been undervalued in the process of knowledge production and dissemination. From the direct as well as indirect experience, I could also learn that there are voices which continuously raise questions on the conventional development paradigm based on experts' knowledge and its widespread impacts on the life of the people who live in the urban as well as rural area. These voices are expressed not only in a form of resistance but also in various ways of constructing alternative thoughts, practices, and knowledge. My interest in the research topic started from the realization of these seemingly small but important actions and reactions.

After consolidating the research topic with the help of existing literature, I conducted a pilot study from January 15th to February 9th in 2017 in Bangkok and Nonthaburi (Central), Surin (Northeast), and Chiang Mai and Lampang (North) to

understand the agroecological movement in Thailand. The main methods used during the preliminary research were field observation, individual interviews, and focus group interviews. Although the results are not directly covered in this research, the pilot study contributed to sharpening the research purpose and questions and building up a specific research plan. Importantly, I could meet key participants in the province of Chiang Mai and Lampang who provided insightful and constructive comments on the research topic and introduced relevant figures who later participated in the interview.

After the pilot study, the research proceeded with two main parts: literature reviews and preparation for the field research. Literature reviews had been conducted throughout almost the entire process from research design to data analysis to find a conceptual and theoretical framework. In particular, academic journal articles and books were studied with the keyword search on agroecology as movement and diffusion of innovations as well as social movement.

With the approval of the Institutional Review Board (IRB) of the Seoul National University (IRB No. 1710/002-005), field research was conducted between October 2017 and August 2018 in the province of Chiang Mai, Lampang and Nonthaburi. The first part of data collection was done between October and November 2017 in Bangkok and in Nonthaburi province where I met participants from relevant civil society organizations. The second field research was conducted in the province of Chiang Mai (and additionally neighboring Lampang) between March and August 2018. During the second field research, I had served as an affiliated researcher at the Regional Center for Sustainable Development and Social Science (RCSD), Chiang Mai University, which means I had enhanced

accessibility for fieldwork. Next, coding, analyzing, and interpreting data and writing proceeded between September 2018 and February 2019. After the field research, the completion report was submitted to the IRB Committee.

3.3. Validity and Reliability

To ensure validity and reliability of the research process and findings, I selected the guidelines at the beginning stage of my research and embedded them into the whole process of research from study design to data analysis. In qualitative research, concerns and discussions on validity and reliability have distinctly increased, and their importance has been widely accepted by qualitative inquirers (Cho & Trent, 2006). Although various perspectives exist on the concepts of validity and reliability in qualitative studies, I find that ensuring validity is closely related to enhancing the accuracy of findings (Creswell, 2013), and reliability is more linked with the rigor of data sources that can represent what actually occurs (Martella et al., 2013).

3.3.1. Validity

My strategies to improve the validity of research are *disconfirming evidence*, *researcher reflexivity*, *prolonged engagement in the field*, *thick descriptions*, and *peer debriefing*. Those guidelines were drawn from the nine different types of validity procedures suggested by Creswell & Miller (2000) within a lens and paradigm perspective (see Table 3.3.). By placing my worldview in the

constructivist paradigm, from the lens of the researcher, I have tried to search for disconfirming evidence in the process of data collection. But as I tend to have a natural proclivity to find confirming evidence which fit into my framework, another validity procedure of researcher reflexivity was brought in. I have tried to self-reflect and self-examine my assumptions, beliefs, and biases in the process of research. As a number of research participants are from rural areas and share rural culture, I continuously tried to observe and reflect on my assumptions and habitus of thought as an urban dweller. Indeed, as a researcher as well as an individual who is interested in alternative voices of development, I tried not to presuppose that the ‘agroecologists’ always have good intentions or that they are an exceptional and ideal group of people.

[Table 3.3.] Validity Procedures within Qualitative Lens and Paradigm Assumptions

Paradigm assumptions/Lens	Postpositivist or Systemic Paradigm	Constructivist Paradigm	Critical Paradigm
Lens of the Researcher	Triangulation	Disconfirming evidence	Researcher reflexivity
Lens of the Study Participants	Member checking	Prolonged engagement in the field	Collaboration
Lens of the People External to the Study	The audit trail	Thick, rich description	Peer debriefing

Source: Creswell & Miller (2000)

Prolonged engagement in the field, which is related to the lens of the study participants, was employed mainly in the process of data collection. I stayed in the research site for six months and tried to build trust and rapport with many research participants. This might invite participants to more readily disclose information,

and I could have enough time to check out and compare the collected data. As the geographical scope of the research is at the provincial level, in cases of a few participants, I could meet them only one time. But in those cases, I tried to keep in contact them after the interview and share the tentative findings of the study via email or social media.

To enhance credibility for the readers, I tried to describe the setting, the participants, and the themes in rich and vivid detail. With thick descriptions, researchers convince the readers that the account is reliable (Creswell & Miller, 2000). Thick descriptions, however, are not mere application of detailed cultural descriptions as noted by Atkinson and Delamont (2008). By paying attention to multiple sources of data for a prolonged period of time, I sought to understand “multiple motivational frames” in interpreting social actions (Atkinson & Delamont, 2008; 299). These multiple perspectives are expected to contribute to deeper, denser, and more detailed accounts (Denzin, 1989).

In addition to these strategies to improve validity, peer debriefing was utilized to check the research process and enhance the accuracy of findings and interpretations. It is referred as “the review of the data and research process by someone who is familiar with the research or the phenomenon being explored” (Creswell & Miller, 2000: 129). Two types of peer debriefing were used during the process of research. One is the review and feedback provided by experts at the Chiang Mai University. During my stay in Chiang Mai, I had a chance to present the research process and tentative findings to professors and students at the RCSD, Chiang Mai University. In particular, research methods and tentative findings were carefully reviewed by the professors. They provided oral comments and asked

important questions which helped to enhance the credibility of the account. The other is a peer review made by doctoral students who are studying at the same degree program as myself. They asked a number of critical questions on the structure, contents, and methods of research.³⁰

3.3.2. Reliability

To improve the reliability of the research data, careful attention has been put into two considerations. One is writing systematized field notes, and the other is verifying the authenticity of the translated data.³¹ Field notes are important sources of data collection along with other methods discussed in this chapter. To write the field notes which represent what occurs and what is talked about, I made two kinds of field notes. The first ones are short notes made at the time of observation and interviews. The others are expanded notes which were written more analytically on the same day after each field session (Spradley, 1979; Silverman & Marvasti, 2008). These two versions of notes complemented each other and improved the reliability of data by deepening the understanding of the researcher.

Enhancing the reliability of translated data was a critical challenge for this study, as the field research had been conducted in a multi-lingual setting. While the mother tongue of the researcher is Korean, all of the participants use Thai as

30 The seminar was held on August 29, 2018 at the subaltern room, Faculty of Social Sciences, Chiang Mai University with the title “Constituting cognitive praxis with plural voices and diffusion of social movements: The Agroecology Movement in Chiang Mai, Thailand.”

31 The issues of translation in qualitative inquiry are usually discussed under the concept of validity by many scholars (Kapborg & Berteró, 2002; Temple & Young, 2004; Van Nes et al., 2010). But by focusing the authenticity of data, this research relates the translation issue with reliability.

their native language except one participant whose nationality is Canadian. Some of the interviews were done in English and transcribed in the same language. However, there were interviews which were conducted in Thai. Three interviews including one focus group interview proceeded with a translator. And two individual participants partially talked in Thai in each of their individual interviews that were mainly conducted in English. In these cases, the first draft of the Thai transcript was written by the translator who is a graduate student of the Faculty of Social Science in Chiang Mai University. Then, Thai-English translation was conducted by a professor of the English Department in Chiang Mai University, which ensures the reliability of the data.

3.4. Ethical Considerations

As the main sources of data are from interviews and observations of social relations, ethical issues have been importantly considered during the entire research process. First, the issue of protecting privacy has been taken into account. I have used pseudonyms for participants to conceal their identities and maintain confidentiality of the data. A dilemma, however, appeared since a few participants expressed that they did not care whether they remained anonymous or not. After careful consideration, I decided to use pseudonyms for all participants since they had not clearly expressed the ‘desire for identification’ (Crow & Wiles, 2008). But the places of research were clarified as the identification of the locations seemed to not cause great ethical problems to communities.

Another issue of privacy protection is related to photographs. With field notes, photographs which were taken at the time of observation are important data

sources. Unlike formally arranged interviews or observations, in public space including farmers' markets and cafés it was difficult to get consent from all the participants when collecting data. When I took a photo of an individual or individuals for a closer look, I tried to get the oral consent of the individuals or the shop owners. When anonymity seemed to be secured in photographs, however, an oral consent of the participant was not requested.

Secondly, the ensuring the rights of the participants is another ethical issue which has been raised during the process of research. By reading an information sheet and a consent form which were translated into Thai and approved by the IRB of the Seoul National University, all the participants received information about the research and acknowledged their rights of withdrawal during or after the interview. Due to the limitation of time and difficulty in contact, most of the participants were informed about the contents of the information sheet and consent form at the beginning of the interview. When each interview started, therefore, I tried to emphasize the rights of participants, in particular, their rights of withdrawal and rights of privacy. After the interview, moreover, tentative findings and analysis were shared with some interview participants who had been reachable not only to reduce bias in research but also to respect participants' right to know.

CHAPTER IV. DIFFUSION OF THE AGROECOLOGICAL MOVEMENT IN CHAING MAI, THAILAND

4.1. Agroecological Path of Thai Rural Social Movements

The agroecological movement in Chiang Mai would be better understood in the context of the recent rural social movements throughout Thailand as agroecological activists and NGOs have developed a national-level network for promoting alternative agricultural systems. The first sub-chapter, accordingly, will cover the short history of the recent rural social movements in Thailand from the 1980s to the present with a focus on the activities of the Alternative Agriculture Network (AAN). And the second part will investigate the sources of agroecological ideas derived from the global, national, and local levels. It helps to understand the underlying ideological assumptions that motivate activists and farmers to join in agroecological practice. Although the focus of the research is on the activism of non-state actors, the change of the Thai government policy orientation is noteworthy; it is partially resulted from interactions with civil society groups. While the Thai government has long been a supporter of industrial agriculture, recent policy change toward sustainable agriculture is closely linked to the achievements of the Thai rural social movement.

4.1.1. A Short History of Thailand's Recent Rural Social Movement: A Focus on the Alternative Agriculture Network

Recent rural social movement in Thailand, advocating socially and ecologically alternative forms of agricultural production and the entire food system, has mainly arisen since the mid-1980s. As social movements never occur in a vacuum, paying attention to the historical and socio-political context in which the movement began to appear is important.

Blessed with vast land, abundant natural resources, and diverse ecology (Dayley, 2011), Thailand has been one of the major exporters of agri-food products.³² Such natural abundance might help Thailand to be referred to as ‘the kitchen of the world.’ But it should be noted that Thai agriculture began to shift into industry-based and export-oriented agriculture during the 1960s and 1970s, affected by the Green Revolution, agri-businesses and their monopoly power, and pro-commercialization agricultural policies and regulations of the government (Chiengkul, 2017). As a significant example, the Thai government prioritized the establishment of new infrastructure for spreading modern production techniques and agricultural commercialization in the Third National Economic and Social Development Plan (1972-1976). The Rockefeller Foundation, the Green Revolution’s major supporter, promoted new crops in collaboration with the Thai government and Kasetsart University which specializes in agricultural sciences. During the 1960s and 1970s, most farmers changed their way of farming into industrial or conventional methods by adopting “chemical-based methods” and

³² According to USDA (2018), Thailand is the second largest rice exporter in the world. As of 2017/2018, Thailand's rice exports are about 10.2 million tons, accounting for 22.4 percent of the world's total rice trade.

using “commercially-developed seeds” (Dayley, 2011: 351).

In the 1980s, a growing number of civil society organizations including NGOs and farmers’ groups began to pay attention to the negative impacts of mainstream agriculture such as health problems or indebtedness of farmers, and took collective action to promote alternative agriculture.³³ Activists and NGOs have played significant roles to promote the concept and models of alternative agriculture to the farmers as well as the public since the mid-1980s (Vandergeest, 2009; Bopp, 2016). During that time, there were many NGOs who tried to tackle the rural issue, and they found some farmers who cultivated crops and vegetables in the non-monoculture style. Through a series of workshops, seminars, and farm visits, a group of NGOs tried to conceptualize the alternative patterns or models of agriculture which they learned from the experiences of farmers. These models included integrated farming, natural farming, agroforestry, and mixed farming, and they varied depending on the different ecology of Thailand. In 1989, relevant NGOs from the Southern, Northern, Northeastern, and Central of Thailand set up an influential network called the AAN.

The political context of Thailand in the 1980s was also favorable to the expansion of NGO activities and rural social movements for alternative agriculture. The important factor which influenced the expansion of NGOs in this period was “the re-opening of the political space by the government in order to cope with the deteriorating political situation and to regain the political initiative in the struggle

33 This explanation is also supported by an interview with the director of Sustainable Agriculture Foundation Thailand (SAFT) conducted during the pilot study. She has been involved in the alternative agriculture movement in Thailand since the 1980s.

against the Communist Party of Thailand (CPT)” (Phatharathananunth, 2006: 53). The democratic uprising from below in 1973 ended the authoritarian regime, and it helped to promote the creation and activism of civil society organizations. However, a military coup occurred in October 1976, and it led to rapid growth of leftist insurgency as well as support for the CPT. As a result, the new government which took power through the coup in 1977 allowed peaceful political activities, and this renewal of democratization process helped NGOs to recommence their activities. With such political opportunity, conflicts over the use of natural resources and the environment in the countryside also led to stronger activism by NGOs. As the case of the AAN shows, Thai NGOs of the 1980s did not work as separate groups, but as a broad social movement by setting up networks (Phatharathananunth, 2006).

From this political background, the AAN was created as an umbrella organization and has expanded their activities to cover the issue of knowledge production and dissemination, certification, marketing, and research. In 1991, the AAN organized the first forum on alternative agriculture. In this period, the network published four books which had conceptual discussions on alternative agriculture, sustainable agriculture, the government’s policy on agriculture, and agroforestry. The alternative agriculture patterns and models suggested by the AAN through the forum and its publications were drawn from the lessons learned in the process of working with the farmers. In 1996, another national forum was held, and the issue of certification was significantly discussed. Around this time, an organization for organic certification Organic Agriculture Certification

Thailand (ACT) was created.³⁴ In addition, the members of NGOs also tried to promote the marketing of agricultural produce in an agroecological way by inventing farmers' market. The first farmers' market started from the province of Chiang Mai (Vandergeest, 2009).

In the late 1990s, participants of rural social movement in Thailand began to widely recognize the concept of 'sustainability.' While alternative agriculture was conceived as alternatives to monoculture farming or mainstream agriculture by the members of the AAN, it did not directly reflect sustainability (Yaimuang, 2015). So to focus more on sustainability issues in agriculture, the Sustainable Agriculture Foundation Thailand (SAFT) was founded at the meeting of the AAN in 1998 with responsibilities of research and public relations.

During this period, the AAN began to expand its scope of activism by collaborating with the government and taking joint action with other networks. In 1996, for example, civil society groups succeeded in pushing the concept of sustainable agriculture to be included in the eighth National and Economic Social Development Plan of Thailand. Their demand for the national pilot program for sustainable agriculture was accepted, and the program was funded by the government (Chiengkul, 2017). Starting with the participation in the protests by the Assembly of Poor (AOP)³⁵, the AAN has collaborated with other networks on diverse issues including gender, labor, and natural resources. Young farmers and city farming are the issues in which the AAN and its sister organization the SAFT

34 The former name of ACT was 'Alternative Agriculture Certification Thailand', but the name was changed to clarify its focus on certifying organic produce, using international standards (Vandergeest, 2009).

35 Alternative agriculture is included in the 125 core issues which were presented to the Thai government during the 1997 protest led by the AOP. It is a network of groups working for people's rights over land, water, and forest resources (Baker, 2000).

are currently taking actions.

In recent years, the concept of agroecology has been introduced to rural social movement activists in Thailand by the networks or NGOs which work closely with international peasants' movement organizations, in particular La Via Campesina. The AOP and the Northern Peasant Federation (NPF) have been involved in discussions on agroecology by participating in La Via Campesina's meetings as member organizations.³⁶ And in the province of Surin where the First Global Encounter on Agroecology and Peasant Seeds was held, the concept of agroecology has been widely used by the region's Community Agroecology Foundation as well as the farmers. The interview participants who have been involved in these rural social movements for more than 30 years accept that sustainable agriculture and agroecology can be interchangeably used as their implications and intended outcomes are almost the same.³⁷ Although the movement activists recognize the concept of agroecology, it is difficult to change the more prevalent terms alternative agriculture or sustainable agriculture that had gradually become recognized by the public after long efforts of the participants in the movement. The director of the SAFT who has contributed to the sustainable agriculture movement in Thailand over the past 33 years notes that the public

36 This observation is based on the La Via Campesina Southeast Asia and East Asia Regional Conference held in May 2017 in Jokjakarta, Indonesia and the 2nd Women's workshop held in January 2018 in Seoul, South Korea. I had a chance to participate in these meetings as a volunteer translator.

37 While the interview participants who have worked in civil society would emphasize agroecology as practice, the participant from research background seemed to stress agroecology as a scientific discipline. To be specific, the SAFT director, Malie and Sarawut who had worked for the Chiang Mai agroecological movement see that diverse models of sustainable agriculture are based on the agro-ecosystem. And Sarawut, a professor of the Center for Agricultural Resource System in the Faculty of Agriculture of Chiang Mai University regards agroecology as the scientific base of sustainable agriculture.

might get confused if the main concept used in the movement is changed.

Malie: Now we are talking about agroecology because of the international movement. And when we use sustainable agriculture, companies also use this one. So it may be confused about how sustains something like that. But we already used sustainable agriculture. When we change the word to agroecology, we have to explain again to the public what is ecology and what is agroecology. So we decided to use sustainable agriculture. But we do not refuse agroecology because concrete model of farming is agroecology. It means that, in different ecology, we have different models of farming. This is agroecology in terms of practice. And now we consider to promoting agroecology because now we have problems from climate change. So we try to find some knowledge on agroecology like ecological farming. If we change our words depending on the political change, it will be very difficult for us to maintain our movement. So we do not use the agroecological movement in terms of Thai word

(2/11/18, In an individual interview)

To sum up, in recent rural social movements in Thailand, activists and NGOs have played important roles in promoting alternative agriculture, and later, sustainable agriculture. The political opportunity that came with the renewal of the democratization process in the 1980s contributed to the expansion of civil society groups of which their main agenda includes alternative agriculture. In the 1990s, the concept of alternative agriculture had been gradually reframed as sustainable agriculture (Vandergeest, 2009: 11). Recently, the term agroecology has been accepted by movement activists inspired by international peasants' movements, while the principle and practices of agroecology had already been accepted by the

Thai rural social movements in diverse models of alternative agriculture or sustainable agriculture based on agroecosystem.

4.1.2. The Sources of Agroecological Ideas

This section focuses on the sources of agroecological ideas in Thailand, as they have directly and indirectly affected and provided the philosophical foundation to the agroecological movement in Chiang Mai province as well as all over Thailand. At a global level, the ideas on food sovereignty and food security have influenced the Thai agroecological movement, in particular the activism of civil society organizations. At the local and national level, Buddhism, thoughts inspired by spiritual leaders in Thai society, and the self-sufficiency philosophy have provided a foundation for agroecological ideas and discourses that have been mainly accepted by Thai farmers and farmers' groups.

Centered on Thai civil society groups and activists, the concept food sovereignty has been accepted from the global agri-food counter-hegemonic movements (Chiengkul, 2017). And agroecology has been understood as a means to achieve food sovereignty which emphasizes the inseparable connection between food, culture and democracy (Wittman et al., 2010). To Thai NGOs and sustainable farmer groups, the ideas on food sovereignty are well known since many of them exchange their ideas with civil society groups in other countries through meetings (e.g. Via Campesina South East Asia and East Asia Regional Meeting) or site visits (Chiengkul, 2017). But as the term food security (*qwam man kong dan ahan*) in Thai language is more popular to the public than food sovereignty (*a tip pa tai*

tang ahan), Thai civil society organizations tend to frequently use food security to imply food sovereignty.

Buddhism which has been an important source of identity for the Thai people for a long time (McCargo, 2004) lays a foundation for the agroecological thoughts and practices. Buddhist concepts of interdependence of all living things and preservation of life are closely connected with diversified agroecological farming which rejects the uses of environmentally harmful chemical inputs or monocultural practices. In addition, agroecological engagement is considered to make ‘merit’ for farmers who do agroecological farming as noted in an FGI with the Mae Taeng organic farmers. The Mae Taeng farmers who regularly sell their products at Chiang Mai University campus mentioned that selling organic products is good for the following reasons:

Pam: *We are helping people.*

Toey: *We make merit.*

Pam: *We make merit.*

Toey: *Help them healthy, both us and them.*

(13/5/18, In an FGI with a group of Mae Taeng organic farmers)

As implied in the conversation, ‘merit-making’ means doing something good for other people and living creatures. In the Thai Buddhist thought, making merit is believed to help reduce the effect of bad karma and balance the positive karma for another person. Karma is important in the Buddhist system since it is regarded as affecting the status that a person will reach to in the future life (Burnard &

Naiyapatana, 2004). By providing healthy produce for customers and doing good for the environment, therefore, agroecological farmers in Thailand see that they are making merit.

The ideas of spiritual leaders and activists in the Thai society also affected the recent rural social movement on agroecology. Those figures include the prominent notabilities from Thailand as well as other countries, such as Sulak Sivaraksa³⁸, a Thai Buddhist activist who founded many NGOs dedicated to alternative models of development (Rothberg, 1993); Jon Jandai who co-established a self-reliance community consisting of organic farms and a learning center in Chiang Mai province in 2003; Masanobu Fukuoka from Japan who is the author of *One-Straw Revolution*, celebrated for his natural farming philosophy and techniques. The writings of E.H. Schumacher and related ideas on small-scale technologies also inspired the supporters of agroecology-based models (Chiengkul, 2017).

The notion of ‘sufficiency economy’ supported by King Bhumibol Aduyadej has been widely recognized across Thailand after the Asian financial crisis in 1997 (Hewison, 2000). Based on principles in Thai culture, sufficiency economy refers to having enough to support oneself by adhering to a middle path. New Theory is the application of the principles of sufficiency economy to the agriculture sector. New Theory suggests that the essential principles of sufficiency economy – moderation, due consideration, and self-immunity – can be applied to the practice of farming through specific formula (see, for example, the explanation by the

38 Sulak Sivaraksa (2009) noted that modernized agriculture brings massive depletion of natural resources, but true development is in harmony with nature.

Chaipattana Foundation). Many interview participants who joined this study acknowledge the concept of sufficiency economy. For example, Pond, an organic farmer of the San Sai district says:

***Pond:** When we (he and his wife) come back from Japan, we lived in Bangkok and then came here. And at that time, the king's idea on self-sufficiency came to match with my idea. And I also learned from his idea to extend my knowledge. But it was always in my heart already. After I got influence from the king, it became bigger.*

(16/5/18, In an individual interview)

There are also critical voices, pointing out that sufficiency economy is a “royal propaganda against the political red movement” in Thailand (Bopp, 2016: 78). While recognizing the concept is prone to political controversy, the discussion will not touch on this debate as it is beyond the scope of this study.

4.1.3. Government's Response to the Agroecological Movement

In the 1990s the activities of civil society groups were strengthened and the health problems of the farmers were highlighted. This was followed by the era of the Thai government policy change to embrace sustainable agriculture. The term ‘alternative sustainable agriculture’ was officially stated in the 8th National Economic and Social Development Plan in 1997 (Government of Thailand, 1996: 4). The Plan set up concrete targets to convert 20% of the national arable land to

sustainable agriculture, although they were not actually achieved. The 12th Plan provides more specific descriptions of sustainable agricultural development strategy including strengthening production towards sustainable agriculture and supporting practices based on “sufficiency economy philosophy” (Government of Thailand, 2016).

From the 1990s to the present, agroecological movement activists have long worked with the central government and local government units despite the existing discrepancy between policy and practice (Vandergeest, 2009; Chiengkul, 2017). For example, the AAN implemented the Pilot Project on Sustainable Agriculture Development for Small Farmers with local organizations, which was funded by the government and implemented in 34 provinces (Pattanapant & Shivakoti, 2009). And the Thailand Research Fund (TRF) has supported participatory research projects on diversified farming and agro-ecosystem including the recent joint research conducted by Chiang Mai University and the provincial administrative organization of Nan province.

Health authorities in Thailand are important stakeholders who have interests in alternative agroecological production and distribution. Noticeably, the Thai Health Foundation has supported sustainable agriculture projects of Thai NGOs and operated pop-up farmers’ markets as seen in the province of Chiang Mai.

The Thai state has also supported many of the royal projects, encouraged by King Bhumibol’s sufficiency economy. However, while in the early years the state designed sustainable farming methods that depended on the local environment, in recent years, it is increasingly recognizing organic plantations (Bopp, 2016). Even though the Thai government has made more extensive effort in cooperation with

the civil society for sustainable agriculture than before, the steady and broad support of corporate and industrial agriculture seems to offset this effort (Vandergeest, 2009).

4.2. Agroecological Movement and Its Diffusion in the Province of Chiang Mai

The agroecological movement in Chiang Mai has developed in close connection with the national-level movement, but it also has unique characteristics, in particular, active and long-standing interaction between the civil society, the university, and the farmers. Since the late 1980s, civil society groups have played a major role in promoting sustainable agriculture based on agroecosystems in Chiang Mai. Considering the small size of land owned by an average Northern farmer, they mainly advocated organic farming as an agroecological model. Organic markets intended to be a place for learning and urban-rural solidarity were set up by the Institute for Sustainable Agricultural Community (ISAC) in the mid of 1990s and have expanded to other provinces. These organic produces could attain more trust through the development of local organic certification and standards which reflect local values and the environment. Meanwhile, universities in Chiang Mai have diffused agroecological ideas, knowledge, and practice through participatory research, organic markets on campus, and education and training programs for farmers.

The agroecological movement camp that mainly consists of civil society groups, universities, and agroecological farmers and farmers' groups has

contributed to the emergence and diffusion of agroecological thought, knowledge, and practice. But the grey area between the movement and large business companies seems to be expanding. As this could affect the current direction of Chiang Mai's agroecological movement, this phenomenon is also noteworthy.

4.2.1. Emergence of the Agroecological Movement in Chiang Mai

The province of Chiang Mai is located in Northern Thailand which is a mountainous area intersected by flat-bottomed valleys. Most of the province consists of forests and agricultural farms, and its favorable climate (an average temperature of 25.4 degrees Celsius) made Chiang Mai one of the country's major source of agricultural produce. The agricultural products from the province have been for both domestic consumption and export. The major plants grown in the province include rice, soybeans, longan, lychee, oranges, garlic, and onions (Pattanapant & Shivakoti, 2009). While upland plots are occupied by field or tree crops, lowland plots are usually irrigated. And in remote mountain areas, hill tribes have harvested crops through shifting cultivation (Vanwambeke et al., 2007). The mild climate and geographical diversity make Chiang Mai an important region in Thai agriculture.

Before the introduction of the green revolution technologies and pro-agroindustry policies, Chiang Mai was a part of subsistence agriculture system where commodities were produced mainly for family consumption in traditional and sustainable ways (Pattanapant & Shivakoti, 2009). For example, the primary focus of upland farmers in northern Thailand has arguably been on satisfying local

needs, which implies “a balanced relationship between upland communities and the forest ecosystem” (Walker, 2004: 313).³⁹

As in other parts of Thailand, the shift in agricultural policy into benefiting export-oriented production has invoked many northern Thai farmers to use chemical inputs in larger quantities since the 1960s (Pattanapant & Shivakoti, 2009). Moreover, the landscape of the rural area has changed as monoculture became commonplace. But more serious problems emerged through farmers’ health issues⁴⁰, environmental destruction, and poverty and debt. Penetration of agri-business companies into agricultural production has not only strengthened monocultural agriculture but also aggravated the economic and social status of the farmers as described by Sarawut who has joined the Chiang Mai agroecological movement over 30 years ago as a co-founder of ISAC and now teaches at the Maejo University:

Sarawut: Before 1991, in Chiang Mai, we had many problems. Especially, farmers did the mono-crops and they also got lost. During that time, in Chiang Mai, they did mono-crops based on contract farming. They produced for companies, and they got lost. That’s why we are promoting sustainable agriculture.

(25/4/18, In an individual interview)

39 This argument is still raised by the community forestry movement in northern Thailand, supported by NGOs and activist academics (author’s observation).

40 According to the report published by the Department of Disease Control, Thai Ministry of Public Health in 1997, Chiang Mai is included in the country’s top 10 provinces which have a high number of patients having health problems related to pesticide application (Sununtapongsak, 2006 quoted in Pattanapant & Shivakoti, 2009).

Acknowledging the growing negative impacts of industrial agriculture, NGOs based on Northern Thailand have played leading roles in encouraging and publicizing sustainable agriculture. In the late 1980s, NGOs in Chiang Mai province had a number of meetings to discuss how to solve the problems arising from conventional agriculture and to promote ecology-based sustainable agricultural systems as a solution. Based on the results of field-based studies conducted by Northern Thai NGOs that had long worked with farmers, models of sustainable agricultural systems were suggested. These models include integrated farming, natural farming, agro-forestry farming, and organic farming (Pattanapant & Shivakoti, 2009). This period coincides with the time when the policy change in Thailand has widened the political space of civil society groups and social movements.

From this background, in 1991, an NGO called ISAC which has played an influential role in the agroecological movement in Chiang Mai was created. Similar to the AAN, ISAC⁴¹ is a network organization constituting of local NGOs and farmers. Notably, this Chiang Mai-based organization has tried to promote sustainable agriculture, particularly through an organic farming model. Compared to other development NGOs, ISAC has a clear political purpose in its activism to support agroecosystems through a transfer of more power to the rural villagers and farmers in solving rural problems.

41 Malie who worked for the AAN from its creation in 1989 to 2002 informs that ISAC is a member of Northnet as well as the AAN. Northnet is a network of some small NGOs in Northern Thailand (2018.11.15. In an email follow-up interview).

While the NGOs of Chiang Mai started to promote sustainable agriculture as a means of solving protracted rural problems, at the same time, the Faculty of Agriculture of Chiang Mai University began to support academically sustainable agricultural system through research and education programs. This academic orientation is based on a multiple cropping project that began in the same university in the late 1960s. For example, the professor Anurat who has been involved in research and teaching in the Faculty of Agriculture of Chiang Mai University since 1971 reflects that the Faculty began to actively engage in sustainable agricultural systems in the late 1980s:

Anurat: My activities or our activities here at the center, we are part of teaching graduate program in the agricultural system. I have also developed sustainable agriculture activities or research and development since late 1980s and early 1990s. We have also designed a course called sustainable agriculture for teaching purpose. In terms of research, we work mainly on farms. On farm activities are like to strengthen farmers' capacity in changing from conventional mainstream agriculture to more what we call sustainable or environment-friendly agriculture. That includes the pesticide-free urban farming. Pesticide-free, this is vegetable-based system in peri-urban area.

(18/7/18, In an individual interview)

Thus, from the late 1980s to the early 1990s, civil society groups have made efforts to model and promote sustainable agriculture based on the agro-ecosystem, and the university has begun to strengthen sustainable agricultural research and

lecture based on on-farm research. Despite the emergence of the new rural social movement in Chiang Mai, farmers who decided to implement this alternative agricultural model faced difficulties in finding stable market to sell their agroecological produce, and urban consumers had little information about these products.

4.2.2. Market as a Place for Learning and Urban-Rural Solidarity

While promoting organic farming as an important model of sustainable agriculture which adopts agroecological approaches, local NGOs in Chiang Mai began to develop markets to strengthen urban-rural solidarity in the mid-1990s. As the NGOs recognized that villages alone cannot fight with the business sector's penetration into agriculture, they chose to use the power of the middle class in the society. In other words, "the network was built up between the villagers and the middle class in the city" so that they could "work together and have more power" to propose relevant policies to the government.⁴² Creating organic markets in the city in particular was one of the important implementation strategies for enhancing urban-rural solidarity or formulating a "we" (Starr, 2010: 482).

Local NGOs have played important roles in creating and setting up the sustainable local market. After conducting a feasibility study on a marketing model for organic produce in 1993, ISAC proposed two models of marketing – cooperatives shops and direct marketing. While cooperative shops were

⁴² This description is based on an interview with Sawawut, the former director of ISAC.

unsuccessful at the beginning stage, an organic farmers' market has steadily operated and disseminated from Chiang Mai to other provinces. The Organic Hall in the capital district (*Muaeng*) of Chiang Mai, operated every Tuesday and Thursday, is one of the examples of these direct local markets (see Appendix II). In Chiang Mai, currently, there are a number of regular organic markets including a farmers' market supported by the Faculty of Agriculture of Chiang Mai University.

In the beginning stage, the local organic markets served as a place for buying and selling as well as "learning" between farmers and consumers. At present, Chiang Mai NGOs are worried that the organic markets are too focused on sales and purchasing only, unlike their initial intention for it to be a place where participants can discuss rural issues, as indicated by Sarawut as below:

Sarawut: To summarize, we tried to use our products to truly build up network. We hoped that farmers, villagers, consumers and middle-class come to work together and change some policies of the government. That is the main aim. The market is conference places. Learning places. Not only for buying and selling.

(25/4/18, In an individual interview)

The growth of local organic markets in Chiang Mai has increased the demand for agricultural products grown in sustainable ways. Consumers' increasing concerns about pesticide contamination and food safety has also contributed to the

growth of local organic markets. Those social concerns have been promoted by “a community coalition of actors for safe agricultural commodities” (Wyatt, 2010: 111). However, agricultural produce grown in organic or agroecological manner required organic certification to gain greater trust from consumers.

4.2.3. Development of Local Organic Certification

The development of local organic certifications was one of the most important aspects of the Chiang Mai agroecological movement. In addition to establishing standards for food safety that reflect local values and the environment, various stakeholders such as farmers, consumers, researchers, and NGOs participated in the process of designing the certification to form discourse coalitions. At the provincial level, the Northern Organic Standards Organization (NOSO)⁴³ was created as a local organic certification body around 1995. At the lower level, there are sub-district level certification standards such as the Maetha Organic Standard. Finally, the Participatory Guarantee System, a participatory quality assurance process, has been widely accepted and spread throughout Chiang Mai.

The establishment of NOSO (later, NOSA) and its organic standard in the mid-1990s coincides with the creation of local organic markets in Chiang Mai. Although local organic markets were initially promoted by civil society groups, consumers still questioned who certified the produce. As no local organic standard

⁴³ The name was changed into the Northern Organic Standard Association (NOSA) around 2008 since the new law required a certification body to be registered as an association.

existed in Thailand at that time, various stakeholders including farmers, consumers, NGOs, and researchers had discussions and decided to set up the NOSO. The Committee of the organization also included members from those diverse groups.

As in the process of establishing the organization, the organic standard of NOSO was also set in a participatory manner. To develop an organic standard, researchers from Chiang Mai University studied and reviewed existing organic standards of Thailand as well as foreign countries. It is important to note that they did collaborative research with farmers for six years to set up the organic standard suitable to the Northern part of Thailand, as described by Sudarat, a manager of NOSA. The research team did not directly borrow the foreign or Thai standards⁴⁴, but they reflectively translated them with consideration of “local values and beliefs on safety, security, environment, and social responsibility” (Wyatt: 2010:110). This point is similar to Sudarat’s comments:

Sudarat: The research persons from Chiang Mai University, they studied from another country like standard from Europe. They did research with the farmers. They did the research together. It took six years to do the research. After establishment of the organization, for six years they tried to set up the standard. They learnt from the standard of the Western countries, and they made research in Northern part of Thailand. And they applied and set up the new standard suitable to Northern Thailand. We cannot use the Western standard in Northern Thailand, so we have to adapt and apply and set up some new criteria.

(5/4/18, In an individual interview)

44 Those organic standards include Vermont Organic Farmer of USA, Nova Scotia Organic Growers Association of Canada, Biological Farmers of Australia, Japan Organic Standards, and regulations developed by Northnet in Chiang Mai, Thailand (Wyatt, 2010: 114).

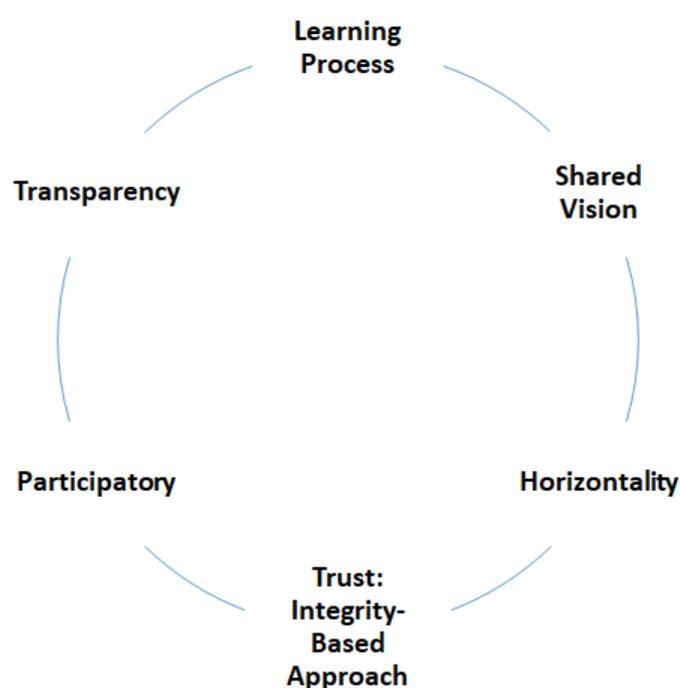
NOSO certification began to be known in local organic markets through direct communication with consumers. NOSO standards have gained the trust of Chiang Mai residents through logos and labels, but the meaning of 'organic' has gradually begun to emerge through face-to-face contact between farmers and consumers in local markets (Wyatt, 2010). The number of farmers whose products were certified also increased. After the creation of the NOSO organic standard, six farmers initially got certification from the Organization. And in 2018, it is estimated that around 400 farmers have been certified by the NOSO or the NOSA.

At the smaller administrative level of Chiang Mai, local organic certification standards have also been developed. One of them is the Maetha Organic Standard, developed in Maetha sub-district (*tambon*) in Mae On district of Chiang Mai. The standard was reflexively adopted from the standard of the International Federation of Organic Agriculture Movements (IFOAM) by the Organic Project of the Maetha Cooperative. Based on their own standard, members check farms belonging to the Project every two months. The members also inspect other farms under ISAC's projects in neighboring districts such as Mae Taeng and Mae Rim.⁴⁵ This cross-district quality assurance system is referred to as the Participatory Guarantee System which is closely examined in a next paragraph.

In Chiang Mai, the Participatory Guarantee System (PGS), a locally focused quality assurance system, has been spreading and has gradually gained the confidence of consumers as well as producers. It is a collaborative approach in which farmers and other stakeholders verify the authenticity of organic produce. Instead of expensive intervention by third-party audits, the verification process

⁴⁵ This description is based on an interview with Aom, an organic agriculture researcher of the Green Net Organic Center.

depends on community members to certify each other. In this system small and marginal farmers can have easier access to organic certification (Kongrut, 2017). As described in Figure 4.1., key elements of the PGS are learning process, shared vision, horizontality, trust, participatory, and transparency.



<Figure 4.1.> Key Elements of PGS

Source: Pomsirichaivatana (n.d.)

The PGS principle is known in other countries including New Zealand and Brazil, but the actual implementation is done and developed at the local level. The Chiang Mai Organic Agriculture Cooperative is administratively in charge of PGS practices at provincial level. The PGS was first implemented in five provinces of Thailand including Chiang Mai with the support of the Asian Development Bank

and the Thai Organic Agriculture Foundation (TOAF). PGS inspectors are trained by the TOAF and receive a checklist giving instructions for them to inspect farms. In Chiang Mai, inspectors are not allowed to check a member's farm located in his own district. For example, a farmer or a PGS inspector from the Mae Taeng district is not allowed to inspect farms located in the same district. Nan, an organic farmer from San Khampheng as well as a PGS inspector, elaborates this principle of inspection.

Nan: We also made a deal among our group to cross check this by ourselves. However, certifying the standard cannot be done by the members who are from the same area. Thus, the certification and cross checking must be done by members from other areas.

(23/7/18, In an individual interview)

NOSO's organic standards were created in a participatory manner, but in the inspection process, a third party - Finnish inspectors - has been involved as in many other certification systems. Still, the PGS could be considered a more locally focused quality assurance system in which on-site inspections are driven by local stakeholders. The PGS, through which participating communities actually monitor as well as communicate with each other, is highly trusted by a growing number of people in Chiang Mai including an organic market manager and farmers who joined the interviews for this study.

4.2.4. Universities' Support of the Agroecological Movement in Chiang Mai

Universities in Chiang Mai have contributed to the diffusion of the agroecological ideas, knowledge, and practices through collaborative research with farmers, provision of farmers' markets on campus, and education programs for young farmers. As previously discussed, particularly the Faculty of Agriculture of Chiang Mai University has strengthened research and development on the subjects of sustainable agriculture based on on-farm research activities particularly since the late 1980s. The close linkage between universities and farmers in Chiang Mai appears to have begun at a time when participatory research methods were getting widely utilized. In the 1980s and 1990s, collaborative research methods such as rapid rural appraisal and participatory rural appraisal were gradually applied to on-farm research since sustainable agriculture concepts value a process of problematization by as well as the local knowledge of farmers (Carolan, 2006).

In addition to collaborative research, Chiang Mai University has provided a marketplace on campus to sell agricultural products grown in agroecological ways. This market not only provides a direct market for Chiang Mai farmers, but also provides an opportunity for university members to communicate with farmers and to enhance their understanding of agroecological farming and the food system.

In Chiang Mai University, there are two stakeholders who initiated farmers' organic market on campus. One is the Faculty of Agriculture, and the other is the Research Institute for Health Sciences (hereafter, RIHES-CMU). In the mid-2000s, the Faculty of Agriculture opened a Saturdays and Wednesdays' market on campus as part of a research project on peri-urban farming systems.⁴⁶ Although the project

⁴⁶ This description is based on an interview with Anurat who is a professor of Chiang Mai University. In the

was completed, the market continues to be actively operated. The main customers of this market include not only Chiang Mai University members but also Chiang Mai residents and tourists. In addition, the RIHES-CMU has set up booths on campus, allowing farmers to sell organic produce directly and verifying those produce periodically. It was observed that on every Tuesday, Thursday and Sunday farmers from Mae Taeng district⁴⁷ regularly sell fresh fruits such as banana and guava, and organically grown vegetables in front of the main canteen of the University.

Moreover, universities in Chiang Mai have supported agroecological farming practices through education and training programs. Recognizing that younger generations leave for the city for better opportunities for employment, universities teach young future farmers that agriculture can be a new opportunity, introducing them to agroecological models such as organic farming and related techniques. In particular, Maejo University in Chiang Mai emphasizes the importance of sustainable agriculture, especially in its vision and curriculum. The university has established a strategic roadmap for 15 years starting in 2012. It is divided into three parts: Organic University (2012-2017), which is to lead in the organic agriculture sector, Green University (2018-2023) that focuses on renewable energy and green technology, and Eco-University (2024-2029) represented as zero waste, zero carbon, and climate smart agriculture.⁴⁸

early 2000s, he was involved in the project called 'Sustainable farming at the rural-urban interface (RURBIFARM)'.

47 This group of farmers are called 'Mae Taeng Pusanpit', and they are all relatives.

48 More information is available at Maejo University (n.d.). About Maejo. Retrieved from http://www.global.mju.ac.th/community_services.aspx?id=7.

4.2.5. Self-reliant Communities in Chiang Mai

Chiang Mai has a number of self-reliant communities, which appear to be closely related to its socio-geographical characteristics of the place where the global and the local meet.⁴⁹ The fact that paddy fields, fruit trees, and national parks are located less than half an hour from the center of the authentic city drives Thais as well as foreigners to form a community that seeks alternative lifestyles in rural Chiang Mai (Tubtim, 2012). The goals of these communities are different from those of NGOs and universities in that they are more multi-layered and aim toward independent communities. However, these communities seem to be influenced indirectly by the agroecological movement in the province of Chiang Mai.

The two communities in this study, Pun Pun Community and Maetha Organic Group, are not completely self-reliant, but are strongly oriented toward self-reliance. There is a similar word self-sufficiency in the sense of non-expansionism, but here the term self-reliance is used to describe cultural identity in addition to the economic concepts (Mies & Benholdt-Thomsen, 1999). As a self-reliant community tends to promote a vision of sound relationship with nature and preservation of the social fabric of rural communities through diversified agriculture, its orientation is closely related to agroecological thoughts and practices (Rosset & Altieri, 1997: 293).

Pun Pun Community in Mae Taeng District is unique in that it includes not

⁴⁹ Chiang Mai, a historic and ancient city located in the north of Thailand, has been for decades one of the most popular destinations for both Thais and foreigners. As the economic, communications, cultural, and tourism center of northern Thailand, it welcomed about 9.6 million Thai and international tourists in 2016 (Tubtim, 2012; The Government Public Relations Department, 2017).

only the local people, but also Thais and foreigners from outside Chiang Mai as long-term community members. Co-founded in 2003 by Jon Jandai, a farmer and a widely known earthen builder, and his friends, Pun Pun has operated organic farms, a seed saving center, and a sustainable living and learning center. With around twenty community members and short- and mid-term volunteers, it attempts to find ways “to live a more self-reliant lifestyle by growing organic food, building their own natural homes, and experimenting with low technologies” (Pun Pun, 2018). Based on an experimental and experiential learning approach, members practice organic farming without the use of any chemical inputs in allocated farms and organize workshops and training on sustainable living for both Thais and international audience. As everyone in Pun Pun is acknowledged to have valuable skill sets, long term community members get the same salary, which is 6,000 Baht a month. As Jon Jandai and Pun Pun gradually became known through social media, more young people have visited this community to participate in workshops or to volunteer.

Compared to Pun Pun, the Maetha Organic Group in Mae On District is a loose form of self-reliant community. But the Group seems to have more diverse partners including NGOs, local governments, and consumers.

From seeding to marketing, the Maetha Organic Group has become increasingly self-reliant, as this agroecological food chain works at the community level. The learning community on sustainable agriculture is active. This implies that members’ knowledge covers the whole value chain (Ferrazin, 2014). With long term support of the Green Net, a Thai NGO, the Group has helped shift over 100 monoculture farms into diversified organic farms since its creation in the late

1990s. The Group also has a local certification standard called Maetha Organic Standard, and local seeds are produced at the Green Net Organic Center in which all of the four staffs are from the village. In the beginning organic produce were sold abroad mainly through the Green Net Cooperative, but currently the Group has more diverse markets. The members deliver a vegetable box every Wednesday in a form of Community Supported Agriculture (CSA)⁵⁰, and some large quantities of vegetables are sold by the Maetha Cooperative or to the supermarkets in Chiang Mai or Bangkok. They also sell produce directly in farmers' markets in Chiang Mai including in the Organic Hall operated by ISAC⁵¹.

4.2.6. Growth of Organic Food and Emergence of Grey Area

The term 'organic' has become more and more popular in Chiang Mai. In the capital district (*Muaeng*) of Chiang Mai, it is not difficult to find a restaurant which advertises their food made with the organically grown produce. A growing number of customers also visit organic or pesticide-safe vegetable corner in big supermarket chains. While local farmers' organic markets started from civil society groups' activism in the mid-1990s and have been actively operated until now, the newest huge shopping mall, One Nimman, in Chiang Mai opened a Sunday organic market during the time of my field research in 2018. In Chiang Mai, the grey area located between the agroecological movement and agribusiness

50 IFOAM notes through its website that "CSA is a partnership of mutual commitment between a farm and a community of supporters that provide a direct link between the production and consumption of food." Four fundamental ideas of CSA are discussed as partnership, promotion of local exchange, solidarity between actors and those involved, and the producer/consumer tandem based on direct person-to-person contact.

51 The contents are based on the interview with Aom, an organic researcher of the Green Net Organic Center which is located in Maetha, Mae On district who has worked closely with the Maetha Organic Group.

actors is increasingly noticeable.

This description reveals that the term ‘organic farming’ or ‘organic agriculture’ has received more and more attention as a representative model of agroecological practice in Chiang Mai for the last two decades, but it now seems to be increasingly adopted by private companies. According to some discussions, increased engagement of large companies in organic markets imply that there will be an opportunity for organic produce to be traded in larger scales and volumes (Coombes & Campbell, 1998 quoted in Chiengkul, 2017).

But there are studies pointing out that increased domination of gigantic agri-businesses and their large-scale organic farms tend to co-opt or hijack organic agriculture through a process of corporatization (Buck et al., 1997; Johnston et al., 2009; Chiengkul, 2017). In a similar vein, input substitution discourse in “sustainable” agriculture is criticized as keeping farmers dependent on expensive inputs and technologies from agribusiness and ignoring the socioeconomic crisis facing modern agriculture (Rosset & Altieri, 1997).

Some of the Chiang Mai farmers who participated in this study expressed their concern with the penetration of large agri-business in today’s organic food sector. For instance, Pond, an agroecological farmer in San Sai district, argues that large agri-businesses involved in organic markets focus on large scale of production instead of considering socioeconomic relationships including labor and sustainability issues.

***Pond:** The (big) company just focuses on the products more than relationship and sustainability. But maybe in the future they might say “only my company works on organic and produce organic products.” Maybe they are happy. But*

of course most people will not be happy.

(16/5/18, In an Individual Interview)

He also adds that the large companies rarely transfer their knowledge and techniques on organic farming to contracted workers and employees. In addition, meaningful interaction between farmers and consumers (Johnston et al., 2009), which should be promoted in the agroecological movement, is difficult to find in an organic corner at the big supermarket chain where only few of the produce give information on which farm they are produced.

The fact that Central Group is providing the site for the Jing Jai Farmers' Market, one of Chiang Mai's most active and popular organic markets, is a symbolic image of the grey area surrounding organic agriculture. While not all intervention by large businesses are negative, as with the case of Jing Jai Market, those changes are noticed by the agroecological movement camp. If the government gets involved in the grey area, the situation gets more complex. For example, there was some conflict between ISAC and the government over the way Jing Jai Market operated. ISAC, which was in charge of the market on Saturday, insisted that only pure organic produce should be sold, while the government suggested that the standards should be relaxed and pesticide-safe food should also be sold to expand the number of participants⁵². Finally, ISAC withdrew from the operation of Jing Jai Market. Although currently not noticeable, the influence of Central Group in this market will be increasingly visible and cause some concerns

⁵² This information was inferred from interview participants who have been involved in the activities at the Jing Jai Market directly or indirectly.

among advocates of the Chiang Mai agroecological movement.⁵³

⁵³ During my observation at Jing Jai Farmers' Market between March 11 and August 26, no logo of the Central Group was visible on site, so it was difficult to notice that the Group is engaged in the market. But during an interview with the manager of the Jing Jai Farmers' Market, I found that the Group has a plan to get more businesses such as hotels and restaurants involved in organic tourism. In 2019, for example, the Group has a plan to set up farmers' labs run by bigger supermarket chains.

CHAPTER V. PARTNERSHIP, PLACE, AND KNOWLEDGE: CONTRIBUTORS TO THE AGROECOLOGICAL TRANSITION

5.1. Trust and Partnership: “Work Together and Have More Power”

A good farmer, on the other hand, is a cultural product; he is made by a sort of training, certainly, in what his time imposes or demands, but he is also made by generations of experience. This essential experience can only be accumulated, tested, preserved, handed down in settled households, friendships, and communities that are deliberately and carefully native to their own ground, in which the past has prepared the present and the present safeguards the future.

- Wendell Berry (2015)

Chiang Mai farmers had knowledge from their older generations on agroecological farming, but it was a huge challenge for them to shift their way of production, marketing, and processing from conventional to socially and ecologically sustainable methods. Despite widespread problems arising from industrial agriculture, particularly for farmers who contracted with companies or leased land, it was difficult to make new choices. As it takes a few years for their production and income to reach stability after transition, farmers who had agroecological ideas found it difficult to put them into practice. The market for selling agroecological produce by small farmers rarely existed in Chiang Mai before the mid-1990s and limited number of consumers recognized sustainable agricultural products.

Civil society groups and universities in Chiang Mai are important actors who

have supported farmers to bring their agroecological ideas and knowledge into practice. Both groups set up farmers' markets where agroecological farmers could directly and regularly sell their products. Through the process of establishing the organic market and organic certification standards, farmers, the civil society, and universities in Chiang Mai were able to establish an agroecological network. Notably, rather than guiding or funding farmers or farmers' groups, civil society groups and universities have worked together and generated knowledge with the farmers. Both NGOs and universities were intentional in trying to "work together" with the farmers as partners so that they "have more power". This horizontal collaboration seems to have made a growing number of Chiang Mai agroecological farmers become confident to create and share their own stories about their produces and their way of work as well as life.

5.1.1. "They Already Have Their Knowledge"

Even before the emergence of the agroecological movement in the late 1980s, Chiang Mai farmers already had traditional knowledge of how agroecosystems should be sustainably managed. Rather than depending on external inputs and monoculture techniques, the modes of production in traditional agriculture were based on culture (Berry, 2015) and revealed a strong ecological basis, which leads to the preservation and regeneration of natural resources (Altieri, 2004). Pong, a 53-year-old agroecological farmer from San Sai district, mentions that organic agriculture has been passed down from previous generations based on indigenous knowledge. He also emphasizes that, external inputs such as chemical insecticides did not exist in the past.

Pond: ... organic is like de-technique. It is just from the past maybe hundred and hundred years ago. In the past, there were no chemicals and fertilizers. People just grew by using cow manure and chicken and ducks (manure) to put in, then grow, and get healthy. There were not much insects and diseases. But nowadays people get chemicals from the insecticides and all kind of things. When they grow potatoes, they have to put in Furadan which causes cancer. Insects cannot eat, but people can eat.

(16/5/18, In an individual interview)

Although Chiang Mai farmers knew how to farm in a sustainable way through knowledge and experience that had come down from generation to generation, it was not easy to put it into practice in the age of commercial agriculture (Yaimuang, 2015). In the 1980s, as many farmers were already not subsistence farmers, and they needed markets where the produce grown in an agroecological way could be sold. As it takes a few years for production and income to reach stability after they change a mode of production from the conventional to the agroecological, farmers who wanted to change their farming methods needed courage. This decision also meant that they would experience transformation in other domains of food system including marketing, processing, and relations with people as well as nature.

Agroecological farming was a difficult choice, particularly when monoculture based on contract farming with the business sector had been widely spread until the early 1990s. Even Sarawut, the former director of ISAC, learned monoculture techniques before he learned about integrated farming, and his parents grew only one crop in their field. And in monoculture-based industrial

agriculture, farmers had to invest in production inputs and machinery, which added up to chronic indebtedness (Yaimuang, 2015). Sarawut emphasizes that monoculture is linked to landlessness, debt, and health problems.

Sarawut: We were aware of that if farmers do the monoculture, they will be poor, become the landless and get debt and problems on health. Many things which are not sustained.

(25/4/18, In an individual interview)

Many of these rural problems were linked to industrial farming practices including monoculture and intensive cultivation (Gliessman, 2015), which required solutions in environmental, social, and economic terms. In this context, in the late 1980s Chiang Mai NGOs presented models for an alternative agriculture system to tackle rural problems. These models include natural farming, agroforestry, and integrated farming embracing New Theory. In spite of this effort, Chiang Mai NGOs increasingly recognized the difficulty of solving rural issues by only relying on village members and agreed that a network should be formed between cities and rural areas.

5.1.2. “Building Up Network”

Since the beginning stage of the agroecological movement until recently, civil society groups including Chiang Mai-based NGOs and associations have made continuous efforts to link agroecological farmers to other farmers as well as consumers and universities for promoting a sustainable food system. Through this

process, an agroecological network of NGOs, universities, and farmers in Chiang Mai was gradually formed. It is notable that the civil society participating in the agroecological movement perceived the farmers not as the subjects of a project but as the agents of a process of sharing, discussion, and collaboration together for common goals. In particular, the establishment of organic markets and local organic standards led by the civil society has become a medium for forming an agroecological network in Chiang Mai.

The organic market has become a mechanism for establishing a network of farmers, consumers, and civil society groups as well as guaranteeing stable sales to farmers. Noticeably, the Institute for Sustainable Agricultural Community (ISAC), initiated in 1991 with local NGOs and farmers as members, has supported organic farmers' markets in the capital district of Chiang Mai province to enhance urban-rural solidarity since 1994. It was intended that through networks established at the market, villagers and the urban middle class "work together and have more power" to tackle rural problems including indebtedness, health issues, and environmental degradation. As of 2018, ISAC is still supporting the Organic Hall, a direct organic market held every Tuesday and Thursday, and 30-40 farmers' booths are operated to sell organic vegetables, fruits, and processed products. Most visitors seem to be regular customers who had come to the market more than once. Many of them come in motorcycles or cars, and they slowly looked around the products and talked to the sellers. Also, at each quarterly ISAC meeting, member farmers have the rights to decide on selling prices in the organic market, make suggestions, and share information with each other.

The Mae Tha case also shows that the fair-trade market provided by Green Net, a Thai NGO that operates nationwide, has played a role in linking farmers

and consumers and providing organic produce. In particular, Mae Tha's community leader and his colleagues were concerned that contract farming centered on tobacco and baby corn had relied on excessive external inputs and harmed farmers' health as well as nature. In this context, the Mae Tha Sustainable Agriculture Cooperative (MTSAC), which was established in 2000 (Green Net, 2010), actively sought to utilize its partnership with Green Net. As Aom, an organic agriculture researcher of the Green Net Organic Center and a daughter of the former community leader, explains, the Cooperative not only secured a market by utilizing the organic fair-trade market supported by Green Net, but also aimed to change the agricultural practices of many farmers to be sustainable.

Aom: My father was a leader before. And he thought how to use the strategy of baby corns because Mae Tha people produced conventional baby corn at that time. And almost people exported them. And my dad thought if we have organic market and can export the products, it will be helpful to bring people to the sustainable agriculture. We used baby corns as a strategy to change people from conventional to organic way. And when people change to organic baby corns, it means that we also promote them to make more diversity in their farm. They plant many vegetables, fruits mixed with baby corns. It is not only mono-cropping. It means that we change them in future because we also have local market and organic market here and in Chiang Mai also. It means they can sell another product too.

(13/8/18, In an individual interview)

About twenty years after the MTSAC was established, it is estimated that

around 100 families in Mae Tha are involved in agroecological farming in Mae Tha. Although this figure is less than ten percent in the total of 1,400 households in the village, the changes they made are not small. Since production stabilized, the main markets for organic farmers have diversified into vegetable box delivery systems, local organic markets, and wholesale markets. Green Net no longer supports the fair-trade market for the Cooperative, but the Green Net Organic Center is still working closely with the Cooperative members and other Mae Tha farmers. And four local staff members belong to this Center. Currently, the Center's main activities are knowledge sharing of organic farming methods and local seed production and saving.

In a process of forming a local organic certification body and its standards, an agroecological network was established based on partnership amongst agroecology proponents. To build up the Northern Organic Standards Organization (NOSO, which later becomes NOSA) and its standards, cooperation among farmers, consumers, NGOs, and universities was facilitated by studying standards from Europe, discussing the need for standards appropriate to northern Thailand, and establishing standards through joint research. Suradat, a manager of NOSA, explains that NOSO was founded in 1995 by the real demand of farmers and consumers, and it was important to cooperate with NGOs and university researchers during the establishment process.

Sudarot: ISAC, they promoted farmers to do organic farming, right? And the farmers have products. They produce vegetables and some products from organic farming. And ISAC organized with farmers small organic markets in the town. At that time there were few farmers, about six farmers. They did

organic farming and brought their products to the organic market in the town. When they sold the organic products, nobody was certified. And consumers asked who certify your products. Who certify your organic vegetables? The consumer had questions to the product. So they discussed between farmers, consumers, NGOs and research persons from universities. Maybe Chiang Mai University or Maejo University. And they discussed on how we can get certified from some certifying bodies. At that time no certifying body existed in Thailand. So they set up the Northern Organic Standard Organization.

(5/4/18, In an individual interview)

The collaborative network formed by farmers, NGOs, researchers, and consumers continued to be activated after the establishment of NOSO. As an example, these four groups constituted the NOSO's committee. In addition, after the establishment of the organization, researchers from the Chiang Mai university conducted research with the farmers for six years to establish standards for organic certification that would be applicable to Northern Thailand. In this way, professional knowledge and popular knowledge were communicated and produced an integrated organic standard that is easily understood by farmers.

NOSA is in close cooperation with ISAC, which is based in Chiang Mai. ISAC promotes sustainable food systems mainly through providing education and training on organic production, supporting marketing, and doing policy advocacy activities, while NOSA is mainly in charge of organic certification. In particular, NOSA provides lectures on organic standards when ISAC organizes training programs for farmers. The fact that NOSA, ISAC, and Chiang Mai Organic Agriculture Cooperative share office sites in the San Sai district reveals the close

relationship between farmers' cooperatives (or farmers) and major civil society groups in promoting a sustainable food system in Chiang Mai. This geographic closeness facilitates unimpeded communications for collaborative partnership among these organizations.

5.1.3. “On-farm Research Basically Working with Farmers”

It is common to see farmers selling organic produce and chatting with students and university staffs on university campus in Chiang Mai. In the space near the main cafeteria at Chiang Mai University, for example, a group of farmers from Mae Taeng district sells their products including bananas, garlic, and various kinds of vegetables three days a week. Students seem to enjoy buying organic bananas and some snacks made by organic products. As this observation implies, in Chiang Mai's agroecological movement, universities have maintained a collaborative relationship with farmers in research as well as practice by valuing local knowledge. In particular, this sub-chapter will focus on how universities have interacted with farmers and their groups to promote sustainable agriculture by focusing on the case of Chiang Mai University.

Chiang Mai University has pursued a participatory approach and a horizontal learning process including farmer field school in the study of ecology-based sustainable agricultural system at the Center for Agricultural Resource System Research (CARSR). Collaboration between the Center and farmers began with the multiple cropping project launched in 1969 and continues to this day. Professor Anurat, who has worked at CARSR since 1971, explains that modern agriculture is characterized by vertical knowledge transfer from experts to farmers on the use

of new varieties and fertilizers, but in contrast, research and practice through farmers' participation and co-designed intervention are important in sustainable agriculture. In addition, the participatory approach is able to empower farmers because it involves farmers' active engagement in the process of knowledge production and learning.

Anurat: With sustainable agriculture, by truly working together with farmers, you empower farmers so that we are equal and we are partners. But with the modern agriculture, you more or less see that you know better than farmers because you come with the new varieties and fertilizer management. Farmers do not know how to put fertilizers in that amount. But with the participatory action research within the sustainable agriculture concept, you have to do together in participatory actions. I think in this way practice is learning by doing. One concept about sustainable agriculture which is important is that you develop co-designed intervention. We try to work together with farmers. So the participatory approach is important. And then through participatory approach, you empower farmers.

(18/7/18, In an individual interview)

As a sustainable food system consists of uncountable small- to medium scale agroecosystems (Gliessman, 2015), participation of farmers is essential in studying, collecting, and practicing agroecological knowledge. In the same vein, "local ecological knowledge", which is embodied in farmers' experience and practices, is valued in research on sustainable agroecosystems. Anurat adds that local ecological knowledge covers beyond identifying plant species. It also deals

with how well the plants are grown, what environment they fit in, and how they are utilized or cooked.

Anurat: When you are talking about sustainable agriculture, one thing we have to recognize is local knowledge. Sometimes we call it as local ecological knowledge. It is not only about plant species but also how the plant grows and what environment fits in to these species. So that is the ecological knowledge.

(18/7/18, In an individual interview)

Methodologically, as a participatory approach, the CARSR of Chiang Mai University has utilized rapid rural appraisal (RRA), participatory rural appraisal (PRA), agro-ecosystem analysis (AEA), and farmer first and last model (FFLM)⁵⁴ in farming system research with an on-farm perspective. These approaches have received growing attention in the field of rural development in the 1980s. And farmer field school (FFS), a season-long group training activity (Carolan, 2012), is conducted by the Center. The FFS' experiment happens in the field under guidance of at least one facilitator, and it provides experimental learning opportunities to a group of farmers who select their own special topics (ibid.).

While participatory research efforts on sustainable agricultural systems have been undertaken by universities, farmers' perceptions on knowledge and theories generated in universities are sometimes different from those of researchers. Mae Taeng farmer Earth, who sells organic produce three times a week at Chiang Mai

⁵⁴ The farmer first and last model (FFLM) begins with "holistic and interdisciplinary appraisal of farm families' resources, needs and problems, and continues with on-farm and with-farmer R and D, with scientists, experiment stations and laboratories in a consultancy and referral role" (Chambers & Ghildyal, 1985: 1). From diagnosis to evaluation, farmers' acceptance is the vital component.

University with the support of the Research Institute for Health Sciences (RIHES-CMU), emphasizes that theories developed by university experts are different from farmers' practice. He talks about the difficulty of fully applying the plans suggested by university researchers into practice because he assumes that the experts "do not know about nature." From the perspective of Earth, they are like a "commander only working at office" who cannot take proper actions in real situations (Earth, interview, 2018).

Although the discrepancy between theory and practice is pointed out by farmers who adopt agroecological methods, the on-campus farmers' market where Chiang Mai farmers can sell organic agricultural products has been steadily operating and consolidating cooperation between the university and the farmers. The Wednesday market initiated by the project⁵⁵ of the College of Agriculture of Chiang Mai University has been operating for 15 years as of 2018. In addition, RIHES-CMU supports the farmers' market next to the student cafeteria, which has been open for more than three years on campus on Tuesdays, Thursdays, and Sundays to welcome staffs and students as well as Chiang Mai residents. In the beginning stage, the researchers at RIHES-CMU persuaded some farmers in Mae Taeng to start organic farming for their health and provided them with sales booth space on campus. They also randomly check the agricultural produce and measure the chemical content each month.

55 The full name of the project is Sustainable farming at the rural-urban interface (RURBIFARM) – An integrated knowledge-based approach for nutrient and water recycling in small-scale farming systems in peri-urban areas of China and Vietnam. The European Community supported the project, and three universities in Vietnam, Thailand, and China worked together. Chiang Mai University was one of them.

5.2. Encouraging Agrarian Sustainability Through Market

The various forms of markets which were created in Chiang Mai have contributed to informing consumers of the value of agricultural products produced by agroecological methods. As seen in the previous discussion, civil society groups and universities in Chiang Mai have recognized that the entire food system, including distribution and sales as well as production, had to be considered for promoting social, economic, and ecological sustainability. As a means to achieve this objective, markets were promoted in all around the province for the farmers to sell their own produce. In particular, civil society groups such as ISAC have intended the market as a conference place for discussing issues between participants including farmers and consumers. And occasionally, agriculture-related issues mobilized farmers to take collective action with civil society groups. The farmers participating in regular organic markets have had opportunities to visit and learn from each other's farms. But there are also opinions that the solidarity of agroecological farmers as a group has not fully matured, while individualized entrepreneurship of Chiang Mai farmers who have been doing agroecological farming has remarkably developed.

5.2.1. “For Sustainable Farmers, Market Is Very Important”

One of the most visible space of agroecological practice in Chiang Mai is the regular organic market. Organic markets are already lively with people in the early morning, which reflects the climate in Chiang Mai. Nowadays some markets have become famous tourist attractions. Here, farmers meet consumers by selling their

own produce including vegetables, grains, fruits, or processed products which were certified organic by the certification bodies or the PGS. The initial organic market in Chiang Mai was formed in the mid-1990s by ISAC, a local NGO, to enhance urban-rural solidarity. Various regular markets, including the Organic Hall and Jing Jai Farmers' Market, are currently being operated throughout as well as outside the capital district. In addition, non-regular markets such as the pop-up stores supported by the Thai Health Promotion Foundation can be seen opening around Chiang Mai with banners which provide information on organic products. In addition, agroecologically grown agricultural produce have reached consumers in a variety of forms of distribution such as food supplies to schools and hospitals, and vegetable box delivery.

In particular, the steady presence of markets is very important for farmers who are engaged in ecological agriculture or want to change the way of participating in the food system more sustainably so that they can sell their produce and preserve their agroecological way of farming. The market is important because, as Anurat who is a professor of the Chiang Mai University says below, farmers are no longer subsistent and rely on the market for income. In addition, Anurat emphasizes that it was crucial for farmers and their partners to secure a market to sell agroecological produce in the early stages of the Chiang Mai agroecological movement.

Anurat: You can see the expansion or scaling-out of organic or what we called the sustainable agriculture movement at the beginning was trying to change the farmers' behaviors. Not easy. But to change the farmers, you have to introduce the thing that they are capable of selling because these farmers are

not subsistent. His or her income depends on agriculture. So in that case, you cannot depend on other market. You have to set up market. And in early days, the market was not easy because no farmer and no consumer know about it. So we helped them and set up like health deliver. We went to the different faculties and ask, and we even organized the market linked to the hospital. We went to the Chiang Mai University Hospital at Suan Dok and asked the space to display the products.

(18/7/18, In an individual interview)

Organic markets have played a key role in the spread of sustainable agriculture based on agroecosystem, in particular organic farming models, in Chiang Mai. In addition, more and more farmers and consumers have become active in the organic markets located in the capital district. For example, at the beginning of the establishment of the Jing Jai Farmers' Market, the government provided participating farmers with subsidies to encourage their participation, but nowadays they have been participating in the weekend farmers' market by paying a small amount of money to rent a place without any subsidies from the government.

As discussed in the previous sub-chapter, the role of the university and the civil society was important in invigorating the organic market. But the regional characteristics of Chiang Mai are also closely connected with its activation. The Gross Provincial Product (GPP) per capita of Chiang Mai in 2016 is estimated 130,000 Baht, which is 26th among 77 states (NESDB, 2018). But the region has been a popular tourist destination in Thailand for both foreigners and Thais. As many retired Thai people have also chosen to live in Chiang Mai, there are a

growing number of people who have purchasing power and have concerns about their health. The presence of the middle-class and long-term residents seeking organic and safe food even at a higher price has activated the organic markets in Chiang Mai.

However, there is also concern that the increasingly active Chiang Mai organic market is focused solely on sales. As discussed earlier, the initial organic market was conceived by the civil society groups in Chiang Mai as a mechanism to solve rural problems through rural and urban solidarity. Sarawut, the former ISAC director and a lecturer at the Maejo University, points out that the market is moving away from its transformational purposes, such as social justice or ecological justice as it was initially intended.

Sarawut: ... most of them (NGOs, universities, and farmer groups) use the market only for buying and selling, not for changing society and not for building up network between rural and urban. They only open place for the farmers coming to sale. Most of them are based on economics not for justice society and ecological society. This is a problem.

(25/4/18, In an individual interview)

Despite the criticism, organic farmers' markets in Chiang Mai have been a social space as well as an economic space. Although it will be examined in more detail in the next section, the solidarity and collective action by the civil society and the farmers concerning agriculture-related issues emerged at the marketplace. Meanwhile, individualized entrepreneurship has also grown mainly among the new generation of farmers. The organic market is becoming diversified and

creative, but the possibility of future solidarity within it seems increasingly uncertain.

5.2.2. Farmers in Organic Market: Activists or “Individualistic” Entrepreneurs?

In Chiang Mai, the first organic farmers’ market was set up in the mid -1990s by a local NGO called ISAC. At the time of creation, the market was intended to function as a place where local farmers can continue to sell their products, and as a tool to enhance rural-urban solidarity. Farmers and consumers were expected to discuss rural problems and solutions at the market. This expectation is in line with the agroecologists’ assumption on the urgency of “defending rural communities and agroecological cultures against the negative impacts of capitalist industrialization” (Guzmán & Woodgate, 2013: 42).

Since the establishment of the organic market in Chiang Mai, there have been several instances of collaborative activism between civil society groups and farmers, or between farmers’ associations and farmers on agriculture-related issues. It is in line with the vision of agroecology in terms of joint struggle toward social transformation (Giraldo & Rosset, 2018). For example, at the Organic Hall, FTA Watch, a Thai NGO, and agroecological farmers had collaborated on agricultural trade and commercialization issues that could impact rural communities. In particular, as multinational corporations had more room to expand patents on indigenous plant varieties⁵⁶, FTA Watch informed the member farmers of the

56 Wipatayotin, A. & Ashayagachat, A., ‘Activists rally against FTA’, Bangkok Post, 19 Sep 2013, <https://www.bangkokpost.com/thailand/politics/370386/activists-rally-against-eu-thai-free-trade-talks>, (accessed 5 July 2018).

Organic Hall about this issue. And a group of farmers of the Organic Hall urged public awareness through rallies with civil society groups. Pond, an organic farmer in San Sai district who joined anti-FTA rallies with Chiang Mai colleagues, explains that the big companies' commercialization of local plants is not acceptable.

Pond: Okay. Normally at that time, at the Organic Hall in Chiang Mai, we already had this group. FTA Watch had activities. But of course people who are like NGOs always did that. I was also like NGO. When they had things, we had to. Of course we had to think the same way and think the same things. At that time, we were anti about the medicine because we got information that big companies from abroad came to Thailand, said "okay these plants I already registered a license," and made medicine with those plants. Then like a rule they said "these plants you cannot use for medicine in Thailand." But for me, I think this is my plant, and this is my country's plant. You cannot do that. When they make medicine, they sell to Thai people in a high price which is expensive. But why Thai people cannot make medicine from this one? So that is why I was anti. So we went to join the group.

(16/5/18, In an individual interview)

As a case that shows the transformative potential of the agroecological movement, Chiang Mai Organic Agriculture Cooperative that sells seeds and grains produced by its members at the Jing Jai Farmers' Market publicized the necessity of producing and consuming non-GMO crops to its members as well as consumers. In its brochure distributed at the market, the Cooperative notes that organic agriculture is:

An alternative agricultural system that uses ecological basis by adhering to the principles of sustainable agriculture, making it safe and helping to preserve and restore nature without using synthetic chemicals. This includes not growing crops or raising animals that are genetically modified. It also highlights of the cooperative learning process on organic production.

Considering that agricultural GMOs have been mainly developed and promoted by international and Thai agribusiness, anti-GMO activism spreading through the organic market could be related to the idea of food sovereignty. May, a manager of the Chiang Mai Organic Agriculture Cooperative, emphasizes that the member farmers are encouraged to keep local seeds for sustainability instead of accepting GMO seeds. Although they may not encourage participation in visible social protests or rallies, the non-GMO activities of the Cooperative could be interpreted as a quiet movement against the actions of industrial agriculture.

***May:** With regard to the production of Non-GMO crops, members themselves are encouraged to keep the seeds for sustainability. Seeds from outsiders which are bought annually may add up the costs. We teach them how to keep their seeds and breed their crops for the future, sustainability, and food security for their own, family, and community before disseminating the knowledge to the youths or students or those interested.*

(10/6/18, In an individual interview)

Meanwhile, a new kind of entrepreneurship has emerged in the Chiang Mai organic markets in recent years. There has been an increase in the number of

farmers selling organic produce or processed goods based on unique stories on their food chain and novel decorations (See Appendix III). The new generation of farmers whose parents were also farmers or those who grew up in the city belong to this emerging group. They communicate directly with consumers in the marketplace to talk about how their product is produced and finally came to the market. But they also promote their own produce through social media. Creative and unique entrepreneurs' shops have attracted more and more people including tourists to the Chiang Mai organic markets.

While there have been collective actions among civil society groups and farmers as well as farmers' associations whose activities are based on the organic market, several research participants point out the uneasiness in Chiang Mai agroecological farmers to work within a group. On the one hand, as pointed out by Sarawut, since the selling and purchasing functions of the organic market have been strengthened, the organic farmers who are active in the market seem to become more individualized and fragmented. According to this opinion, it seems that market-based solidarity for social and environmental justice is not easy to achieve. On the other hand, it is emphasized by some participants that the "individualistic" nature of the farmers in Chiang Mai makes it difficult to act as a group of farmers not only in organic markets but also in the entire food system.

5.2.3. "The Market is Conference Place, Learning Place"

Despite concerns about individualized entrepreneurship, the activation of organic farmers' markets in Chiang Mai has strengthened participants' interaction by providing a supportive social context in which small farmers communicate with

other farmers as well as consumers. In other words, Chiang Mai organic markets mainly set up by civil society groups and universities function as a “conference place” and “learning place” based on face-to-face relationships, which contributes to the production and dissemination of knowledge in the agroecological movement. Market activities and behaviors are influenced by the structures of formal social institutions, but they are flexibly shaped by the level of social interaction (Hinrichs et al., 2004). Moreover, in recent years, the younger generation in the agroecological movement have utilized café spaces for gatherings, which function as a place for creation as well as exchange of knowledge and experience in relation to sustainable food systems.

First, through the regular organic market, learning has occurred among farmers who have produced and processed agricultural products in agroecological ways. Organic markets in Chiang Mai are open on a regular basis from one to three times a week.⁵⁷ When a market is open, farmers from different districts in the province of Chiang Mai have the opportunity to talk naturally about each other’s products, farming techniques, and new information on agriculture. This means that organizational learning has arisen on various topics including crop variety, production methods, and packing. As Sudarat, the former ISAC director, explains, farmers can diversify their farm by encountering various crops and vegetables sold by other farmers in the market.

Sudarat: For the concept of the marketing, every farmer we promote them

⁵⁷ While the Jing Jai Farmers’ Market and the Organic Hall separately open two times a week, the organic market set up in front of the main cafeteria of the Chiang Mai University is operated three times a week. The market supported by the Faculty of Agriculture, Chiang Mai University previously welcomed customers two times a week, but now it opens only on Wednesdays.

should to be vendors. They should sale the products. If they are only producers, they cannot get any. But if they do processing it or they do the market by themselves, they can get a lot... They should have entrepreneurship. Also when they come to the market, they can learn a lot because they can see other farmers who sell also. They can look at others' and say why they can plant like this and maybe I have to plant. That makes them more diversify their farm. And also when consumers come, they do know what the consumers' needs are and how can develop their farm. For the sustainable farmers, the market is very important. The market should be the local market rather than the wholesale market.

(5/4/18, In an individual interview)

In addition, knowledge sharing among organic farmers takes place not only in the marketplace but also in mutual farm visits that are market-mediated. For example, farmers participating in ISAC's Organic Hall have a chance to join the organization's workshops as well as routinely visit farms of ISAC members in other districts of the Chiang Mai province. Through this inter-farm visit, member farmers observe other farms and learn from each other by exchanging questions and comments. This is field-based learning based on the social network developed through the market.

Furthermore, learning in the organic market occurs between farmers and consumers. Direct sales of sustainable agricultural produce by farmers means that at these marketplaces trust is built between farmers and consumers, as farmers can directly explain to consumers the process of production and distribution of their produce. The farmers even teach customers how to cook with organic produce.

There are also cases in which farmers provide customers opportunities to visit their farms, as in the case of Pond who sells his products at the Jing Jai Farmers' Market and the Organic Hall. Individual farmers verify the safety and sustainability of their produce by displaying organic certificates and promotional banners. And groups such as the Chiang Mai Organic Agriculture Cooperative distribute brochures to publicize their activities and their members' engagement. As Sudarat mentioned earlier, farmers can also get information on consumer preference and demand by being a vendor at the organic market.

In recent years, cafés located in the village have played an increasingly important role in the Chiang Mai agroecological movement, serving as a space for selling food and beverage made from organic produce as well as a space for communication and learning. While organic markets in Chiang Mai is mainly located in the city, these cafes are easily found and accessible by the villagers. The northern part of Thailand is the main place of coffee production and many cafés are operated. It means that the café of the village is a friendly space for the villagers, particularly the younger generation.

The interview with Aom took place at the Maetha Organic Café in Mae On district where members of the Cooperative and villagers, including children, were freely chatting and enjoying their beverage. Aom who grew up in Maetha and works for the Green Net Organic Center explains that this café is a "learning space." It is because the café brings villagers together and provides them a chance to learn about sustainable agriculture. Upon request, experienced farmers become instructors to teach the villagers on a part of the sustainable food chain from seed production to marketing. As described below by Aom, processed products including dried bananas and jam are also sold in the café, although not all the

products are organic.

Aom: I think we have many young farmers here. We try to do the coffee shop here together. We opened here. This café can bring people to meet together here. And then we promote four portion - marketing, processing, seed production and learning space. But this café is like a meeting point. And we also sell some organic products. Some maybe not organic, but almost is a produce from.. like jam, dried banana, and some others.

(13/8/18, In an individual interview)

Similarly, the Pun Pun Community's coffee shop, located in Mae Taeng district, also connects the community members with local villagers and visitors, Inside the coffee shop, books related to organic agriculture are displayed, and seasonal products processed by villagers (e.g. kaffir lime shampoo, hard soaps, nut butter, and seasonal jams) are sold. In addition, seed registration and exchange are available here which is aimed to secure edible as well as ecological diversity.

5.3. Horizontal Flow of Knowledge Among Farmers

As previously discussed, local knowledge of farmers has been respected by civil society groups and universities which have participated in the agroecological movement in Chiang Mai. A key observation is that among the farmers who have joined or who are willing to participate in the agroecological practices, the knowledge seems to be openly and horizontally generated and disseminated rather

than transferred top-down. Ecological balance is an essential basis of sustainable agriculture, which means the knowledge of farmers who know nature best is valued. As a result, farmers' knowledge, in particular local knowledge inherited from older generations which is intentionally ignored in industrial agriculture, is very much respected. In agroecological practices, the older generations also learn lessons from the younger generation's innovations. Moreover, horizontal networks inside which learning arises have been created and maintained in the Chiang Mai province. These networks have expanded opportunities for 'fugitive' knowledge (Hill, 2004) to be regenerated. For instance, learning opportunities for farmers from different districts have been provided through field visits based on their activities at the organic market. And on organic certification, the Participatory Guarantee System (PGS) has been diffused across the province, which provides learning opportunities to both the inspectors and the farmers whose produce get inspected.

5.3.1. Learning by Doing with "Taking Care of Mother Earth"

Considering that industrialization of agriculture was promoted without consideration of local ecological and cultural contexts (Guzmán & Woodgate, 2013), it is of primary significance for agroecology supporters to understand agroecosystems in establishing an ecological basis for sustainability (Gliessman, 2015). To understand local contexts, the embodied knowledge of farmers who have accumulated experience on their own field is essential. In this context, local knowledge generated by farmers is important in promoting sustainable agriculture.

For Chiang Mai farmers, doing sustainable agriculture, in which one of the models is organic agriculture, means considering the ecology. The term 'sharing'

which is often heard among the Chiang Mai farmers is related to their sociocultural and ecological contexts. Many agroecological farmers who participate in the study emphasize that they share with people as well as nature through sustainable practices. For instance, Noon, a Mae Taeng farmer and an owner of the Earth Home⁵⁸, recognizes that sustainable agricultural practices mean sharing as they take care of mother earth and the forest. From her experience practicing and offering workshops on permaculture since 2003, she believes that it is connected to the concept of sharing. According to her, practicing permaculture leads to “sharing anything not only with people” but also the animals, the air, and the water (Noon, interview, 2018).

Under this cosmological assumption of caring for nature, farmers practicing sustainable agriculture have formed their own knowledge and techniques through their own experience accumulated through experiments as well as lessons from older generations. No farmers' ideas and knowledge are identical because they have different experiences. Jane, who has been a member of the Pun Pun Community for over 13 years, explains below that member farmers could build "self-confidence" and their own "methodology" through the process of experimentation.

Jane: ... you can get your own experiment within your own area. Even within your own place, you can have two rows of tomatoes and plant them two different ways. So you can check and see. I think some of these are about that like allowing people to experiment and see what happens and build their own

58 Earth Home (Maejo Baandin) in Mae Taeng district is a hand-built adobe brick guesthouse with houses, a café, and permaculture gardens. It also works as a learning center by “offering workshops with a specific focus of working in harmony in nature and empowering people and communities”. The contents of the workshops include natural building and permaculture (Earth Home, 2019).

self-confidence and methodology.

(3/7/18, In an individual interview)

Unlike the process of knowledge formation by agroecological farmers as explained by Jane, a San Sai farmer Pond mentions that big agribusiness companies which even adopt the concept of organic farming, "try to block the knowledge and let workers just work and work". To conduct contract farming with companies, farmers have to focus on increasing production, and their autonomous experimentation and knowledge production is limited.

5.3.2. Farmers as Teacher: “They Share Knowledge with People”

As discussed in the previous section, in sustainable agriculture based on agroecosystems, the knowledge of farmers is considered essential. Therefore, the knowledge of farmers engaged in agroecological farming is recognized by, shared with, and communicated to ‘certified’ experts (Carolan, 2012) as well as farmers themselves. While the knowledge of scientists and agricultural extension agents has gained authority in industrial agriculture, in alternative agriculture farmers themselves are important agents of knowledge formation and exchange. In Chiang Mai, civil society groups and universities in the agroecological movement support and interact with farmers to gain lessons from their experience. As individual experience is respected, at local levels, the knowledge of farmers is transferred not only from the older to the younger generations but also from the younger to the older.

The case of Maetha in Mae On district reveals that farmers who practice

sustainable agricultural methods share local knowledge among generations in diverse ways. Informal learning about agricultural methods in everyday life happens among farmers. But non-formal learning also takes place through events such as open learning space or youth camps related to specific themes. In the case of Maetha, a youth camp to promote sustainable agriculture is held once a year with the assistance of the local government. Also, when there is a request for learning about sustainable agriculture both inside and outside the village, experienced villagers from Maetha become program leaders. They share their experience with the Maetha people as well as the people who come from outside the villages. In the example below on the open learning space on food security, older generations in Maetha visited the forest with younger generations to share their knowledge of edible plants and ways to utilize them.

Aom: On the food security under climate change. If we have problem of climate, how we adopt here in the Maetha community? But the topic is for food security. For activities, we went to the forest and looked for which varieties of plants can be eaten. It was for older people to transfer knowledge to young people. It means older people and young people go together to the forest. And they found together which one can be eaten and which one cannot be eaten like that. And they also tried to cook some food because some knowledge young people do not know. About plant, we do not know whether we can eat this or not. It was like transfer of knowledge from old to young generation. I think the gap of the older and young people cannot be matched together. But here we can connect it now.

(13/8/18, In an individual interview)

Meanwhile, younger generations also provide other farmers opportunities for learning, including older generations. In Maetha, young farmers are also exceptionally active. The younger generation in the village work together to run the Maetha Organic Café and arrange for opportunities to take various courses on sustainable food systems through the café. In addition, some young farmers such as Aom who studied agriculture at the university have returned to their village and transferred their knowledge on accounting, computers, and small technologies to the older generation.

In the Hug Nam Jang Group, which was created in 2006 in Na Kaw Kiew village of Lampang province that neighbors Chiang Mai, organic products are produced and distributed by the members, and both older and younger generations have become teachers as well as learners. Older generations in the groups communicate with the younger generations in the occasional green market, regular group meetings, and other informal settings. They share their accumulated experience on organic farming practices. When groups from other villages visit to learn about sustainable agricultural methods, the members become instructors.

Hug Green, a younger generation unit in the Hug Nam Jang Group, runs the Green Market and Youth Camp, supports packaging of organic products, and promotes the Group through social media. Thus, the older generations in the Group for whom agriculture was previously restricted to production only, learn from the younger generations that sustainable agriculture can be promoted from production to marketing and distribution.

5.3.3. Horizontal Learning Networks: Inspectors Are Also “Advised”

In Chiang Mai’s agroecological movement, the opportunity to transfer the farmers’ knowledge of socially and ecologically sustainable practices from one district to another has increased, contributing to the formation of horizontal learning networks. As one important example, formal and informal field visits between farmers have steadily continued. Moreover, the local certification system called the PGS, which was established as a low-cost alternative verification system, provides a network of learning and trust-building to the Chiang Mai farmers who participate in the system. Lastly, in a process of collective action to protect sustainable agricultural systems, participating villagers formulated an identity of ‘we’ and produced knowledge on how to manage the land for sustainability.

It is noticeable that formal and informal farm visits and learning between farmers involved in sustainable agriculture have been continuously developed. Official visits have been arranged by universities (e.g. Maejo University’s San Sai Model Program) and organic markets (e.g. Organic Hall operated by ISAC), and the main aspect is mutual visits between organic farmers in different districts.⁵⁹ Informal farm visits have been made among farmers from different villages or districts through personal networks or direct contact. In particular, young farmers have been constantly exchanging information on agricultural technologies, marketing and distribution, and best practices through social media such as Facebook and Line.

59 As a new type of network, GreenConnex operated by Maejo University with the support of the Thai Health Promotion Foundation, is a network in Chiang Mai which promotes the consumption of organic food in the society and develops community potential. Their main operating bases are termed green farmer, green consumer, green entrepreneur, green fair market, and green policy maker. It has both online and offline platforms, providing an opportunity for interaction among those who are involved in the organic food chain (www.greenconnex.com).

Significantly, in Chiang Mai, the PGS has contributed to the formation of social networks of farmers in different districts, thereby facilitating the sharing of knowledge among participating farmers.⁶⁰ The PGS not only performs the verification of organic agricultural products produced and harvested in an agroecological manner, but also provides important opportunities for mutual learning among farmers. Nan, a Chiang Mai farmer from San Kamphaeng who has joined the PGS group mentions that they could “exchange knowledge” as well as “exchange seeds and plants” through participation⁶¹. Although the system is not intended to facilitate learning in the same way as farmer field schools with facilitators and curriculums (Braun & Duveskog, 2008), participants may actually acquire practical knowledge applicable to the field in the manner of informal learning. Nan mentions that the PGS is not merely an inspection but an opportunity to share opinions between producers and inspectors and construct knowledge.

Nan: The organic agriculture certification process is a participatory certification which every member can be an inspector trained by the Thai Organic Agriculture Foundation for three days to learn about the plot inspection. There is a form or a checklist giving instructions for the member to inspect parts and locations. Also, they must inspect the things that the farm owner has not done or cannot do as well. The interview will be similar to a talk between friends giving suggestions. For example, once I went to visit one farm growing beautiful and fruitful longan trees. The owner recommended a fermented bio extract and how to use a composed fertilizer. We both shared which extract can be used for our areas including the results and the

60 For the detailed characteristics and operational principles of PGS, Chapter 4.2.3. could be referred.

61 This description is based on my field note which was written on July 1, 2018.

application. It can be said that it was just like sharing opinions not a mere inspection. I also advised the owner to use Trichoderma for a banana tree. We talked and shared opinions like this.

(23/7/18, In an individual interview)

In this non-hierarchical certification system, the boundary between producers and inspectors is blurred, unlike in existing organic certification programs. Inspectors are mainly composed of organic farmers in neighboring districts, so both inspectors and producers share opinions based on mutual trust and learn from each other's experience. Producers learn from the advice of inspectors, and inspectors accumulate knowledge from the experience of organic farmers and their observations of the farm.

Through collective action to promote sustainable agriculture based on agroecosystems, some farmers have built an identity of 'we' as well as established an agroecological model which is suitable to their situation and environment. In the case of the Maetha community in Mae On, there was an effort by the government to nationalize the community forest and convert it into a national park in the early 1990s. Counter to this effort, the community members who have produced food including bamboo and mushroom in this area utilized a concept of sustainable agriculture to protect the community land, show opposition, and suggest an alternative plan for future land management. Finally, the local government accepted the idea of the Maetha community and allowed the community people to use the land for 30 years. The community members believe that the case now has become a model of community forest which is applicable to

other provinces and gives a lesson on how to manage the land for sustainability. In a process of collective action, the Maetha community members have experienced collective learning and produced their own knowledge on ways to protect the communal land with respect of agroecosystems.

CHAPTER VI. DISCUSSION

6.1. Knowledge Production and Diffusion of Social Movements

6.1.1. Dimensions of Cognitive Praxis in the Case

In this study, the cosmological, technological, and organizational dimensions of cognitive praxis are used as analytical categories to empirically interpret the agroecological movement in Chiang Mai. These dimensions which constitute a movement identity (Eyerman & Jamison, 1991) contribute to draw out seemingly invisible ‘knowledge interests’ of social movements. Moreover, this study indicates that particularly the organizational dimension of cognitive praxis provides an analytical framework to explaining how the social movement as a knowledge producer has been diffused.

But it is important to note that social movements cannot be broken into constituent parts, as they are processes and complex sets of social activities (Hassanein & Kloppenburg, 1995). In social movements, therefore, the dimensions of cognitive praxis feed on each other. For example, the cosmological assumptions of an agroecological movement influence the contents of a certification standard, which is categorized as the technological dimension. The organizational spaces also affect how the exchange of technical information takes place or how the worldview assumptions of movement participants are exchanged and supported. Thus, in the agroecological movement in Chiang Mai, the dimensions are integrated into a living social activity. Considering the

connectedness of the cosmological, technological, and organizational dimensions, this section focuses on analyzing the three dimensions of the agroecological movement's cognitive praxis which have been found since the beginning of the movement.

The Cosmological Dimension

The cosmological dimension is the worldview assumptions of a social movement “that restrict cognition, that re-cognize reality itself” (Eyerman & Jamison, 1991: 165). In the agroecological movement in Chiang Mai, the common worldview assumption which participating farmers, civil society groups, and universities share is caring for ecology and nature. The participants in the movement assume that sustainable agriculture based on ecological diversity repairs degraded ecosystems, enhance natural resilience to external challenges, and restore human relations with nature.

For example, Chiang Mai farmers recognize that organic farming, one of the most frequently adopted agroecological models in Chiang Mai, is based on and “associated with the ecological system and nature”, which “helps to conserve the environment” (May, interview, 2018) and “saves earth” (Joe, observation, 2018). And farmers who are involved in the movement well understand how the agroecological systems work and emphasize the systems' ability to control themselves. So they point out that “in nature and environment everything looks after by themselves” (Pond, interview, 2018).

Participants from civil society groups also emphasize that the basic assumption of agroecology is the protection of ecology, which is one of the major aims their activism intends to achieve for promoting social, economic, and

environmental sustainability. Adopting agroecological principles means “to keep ecology”, which is also “to protect local species and local plants” (Sudarat, interview, 2018). University professors who have participated in this study similarly emphasize that alternative agriculture or sustainable agriculture is based on agroecosystems that consist of the “interactions of different components.” This recognition means that they “value the contribution of agro-biodiversity” (Anurat, interview, '2018), which enhances ecosystem functions even when some environmental change occurs (Rosset & Altieri, 2017: 14).

However, the agroecological movement in Chiang Mai does not have a single cosmological view. As a social movement is “a new conceptual space” which consists of multiple interactions between different groups and organizations (Eyerman & Jamison, 1991: 55), its worldview perspectives can be multifaceted. To be specific, my study finds that farmers and civil society groups give different meanings to participating in the agroecological movement. While farmers who have conducted organic farming based on agroecosystems believe they make merit for the society through their agricultural practices, civil society groups particularly at the beginning of their activism expect sustainable agricultural systems to contribute to solving rural problems.

Chiang Mai farmers who joined the study noticeably express that by growing and selling organic produce they make merit. Involving in agroecological practices is recognized as an activity of “giving good things for people.” By doing so, farmers feel that they “get merit” (Earth, interview, 2018). Similarly, participating in sustainable agricultural practices means “helping people” (Toey, interviews, 2018) and “sharing with love” (Pond, interview, 2018). As discussed in Chapter 4, making merit, which is originated from Buddhism, implies doing something good

for others including animals and plants. Such worldview assumption is understandable when considering that Buddhist thought had a deep and prolonged influence on the Thai people and culture. Among organic farmers in Chiang Mai, the paradigm of merit-making has existed as an ethical motivation rather than as a program or a systemic theory.

Meanwhile, civil society groups which initiated the agroecological movement in Chiang Mai in the late 1980s have understood the promotion of sustainable agriculture based on agroecosystems as a way to solve prevailing rural problems. Before this period, the dominant worldview assumption in rural development was that the increase of production and export of agricultural products is desirable, influenced by commercialization and commodification of agri-food resources in Thailand (Chiengkul, 2017). However, local civil society groups in Chiang Mai increasingly began to recognize that rural problems such as health problems, environmental degradations, and rising debts of farmers are closely linked to industrial agricultural systems based on monoculture. Based on this observation, they suggested sustainable agriculture as alternative “forms of activity” to deal with the increasing problems (Eyerman & Jamison, 1991: 2). The civil society groups found several agroecological models by learning from scientific discourse in “seminars” and “big conferences”, but they also enhanced their understanding on sustainable agricultural systems through “working with people and farmers” (Sarawut, interview, 2018). Knowledge transfer as well as production occurred in a process of setting up agroecological models initiated by Chiang Mai NGOs.

As knowledge is socially shaped, placing the dimensions of social movements in political historical context is also important. The civil society organizations’ vision to tackle rural problems through alternative agricultural

systems seem to be closely linked to expanded political opportunities to the civil society in the 1980s, which was encouraged by the military government to overcome the worsening political situation. In addition, the agroecological movement's efforts to reconnect nature and society seems to be closely related to distinct environmental activism (e.g. community forestry campaigns) in Northern Thailand.

The Technological Dimension

The technological dimension of cognitive praxis provides critiques to the established scientific and intellectual order. Even more importantly, it articulates alternative technologies which the movement supports (Eyerman & Jamison, 1991). In Chiang Mai's agroecological movement, the negative impacts of conventional agricultural technology have been criticized. To be precise, the "danger of hazardous chemicals" (Joe, Interview, 2018) was pointed out, and adopting monoculture techniques favored in industrial agriculture was criticized, seeing that the farmers planting only one crop tend to be more "poor, become the landless and get debt and problems on health" (Sarawut, interview, 2018). Anti-GMO activism has also been led by the Chiang Mai Organic Agriculture Cooperative (CMOAC). Genetically modified (GM) seeds are being promoted all around the world including Thailand as a "'magic bullet' to drive change and innovation in agriculture by the corporate sector and the World Bank" (Chiengkul, 2017: 11). Recognizing the potential threats to agricultural and environmental sustainability posed by GM seeds, the CMOAC has promoted to the public and member farmers the importance of preserving local seeds.

The cognitive identity of the agroecological movement in Chiang Mai has

become more specified and substantive through the technology the movement had designed or newly found. The technological knowledge which constitutes the agroecological movement's cognitive praxis has "created new types of knowledge", and it has also been transferred from other provinces (or abroad) or "recombined or connected previous separate types of knowledge with each other" (Eyerman & Jamison, 1991: 59). The representative examples include farmers' markets, local organic standards, local seeds saving and exchange, and farmer-to-farmer field school, and a model of community forest. These devices developed in the process of social movement have not only provided the agroecological discourse its substance but also encouraged the movement to propose alternatives to knowledge it criticized.

The first organic farmers' market in Chiang Mai was installed in 1993 with the support of a local NGO, ISAC. While the model of organic farmers' market had already existed mainly in the United States and Europe, the idea to establish a direct farmer-to-consumer market was realized by the Chiang Mai NGO for the first time in Thailand. Agroecology proponents in Chiang Mai put much emphasis on the political and social functions of the organic market. This market was intended to provide a place for small farmers to sell the produce grown in agroecological ways as well as build up collaborative networks between the villagers and the urban middle-class. The organic farmers' market that allow producers to come and go, contrasts with the "standardized, industrialized commodity markets of an increasingly globalized food and agricultural system" (Hinrichs et al., 2004: 31-32) supported by large agribusiness and other hegemonic forces. Therefore, farmers' markets in Chiang Mai can be referred to as an alternative device promoted by the agroecological movement to achieve its social

and ecological objectives.

Farmers' markets in Chiang Mai have grown in terms of the number of participants, the locations, and the volume of traded products. They are also the places where active social interactions among farmers as well as between customers and farmers occur. Because farmers' markets are regularly held, participating farmers can easily observe each other's products and get ideas on ways to improve or diversify their products. Learning among farmers also takes place beyond the marketplace. For example, the member farmers of the Organic Hall, where an organic farmers' market is held twice a week, make regular visits to other members' farms and observe organically grown produce and farm systems. Through such interactions, farmers formulate and exchange knowledge used in developing new products and innovative ways of marketing them (Hinrichs et al., 2004). Sometimes, by participating in activities in markets, farmers also learn the demands of customers and explain how their produce is grown and ways to cook them. Through brochure prepared by the Chiang Mai Organic Agriculture Cooperative, customers learn about the impact of GM seeds and crops and the importance of keeping local seeds. Therefore, farmers' markets in Chiang Mai function as a place of social interactions and knowledge production as well as exchange.

When farmers' markets were first introduced in Chiang Mai, civil society groups expected these spaces to build up networks between farmers and consumers, or the rural and the urban, so that they can discuss rural problems together and change some policies of the government. Thus, at the beginning stage of adoption, farmers' markets were imagined as "the public sphere" (Habermas, 1996) to form networks for communicative interaction, which constitutes public

opinions. According to Habermas (1996: 360), the public sphere is “a network of communicating information and points of view”, and “the streams of communication are, in the process, filtered and synthesized in such a way they coalesce into bundles of topically specified public opinions.” Nancy Fraser pays attention to production and circulation of discourses arising in the public sphere as a term that:

designates a theater in modern societies in which political participation is enacted through the medium of talk. It is the space in which citizens deliberate about their common affairs, hence, an institutionalized arena of discursive interaction. This arena is conceptually distinct from the state; it is a site for the production and circulation of discourses that can in principle be critical of the state. The public sphere in Habermas’s sense is also conceptually distinct from the official economy; it is not an arena of market relations but rather one of discursive relations, a theater for debating and deliberating rather than for buying and selling (Fraser, 1994: 75).

If this concept is applied to the agroecological movement in Chiang Mai, the Organic Hall members’ collective actions with a Thai NGO, FTA Watch, were based on the discursive interactions which arose at the organic market. However, concerns are also expressed from civil society participants in the movement on the current ways farmers’ markets in Chiang Mai are functioning. From critical points of view, these markets seem to mainly be spaces for buying and selling, “not for justice society and eco-society” (Sarawut, interview, 2018).

Local organic standards, local seeds saving and exchange, the farmer-to-farmer field school, and the community forest model also constitute the

technological dimensions of the agroecological movement's cognitive praxis. While local organic standards and the community forest model are new types of technological knowledge that had been produced by the proponents of the Chiang Mai agroecological movement, local seeds saving and exchange as well as farmer-to-farmer field school seems to be applications of knowledge transferred from global level alternative agriculture movements.

Through discourse coalitions of farmers, researchers, consumers, and civil society groups, the Northern Organic Standards Organization (NOSO), a certifying body located in Chiang Mai, and organic standards which are applicable to Northern Thailand's conditions were established. Considering that organic standards tend to be developed through scientific knowledge and by non-local actors (Fonte, 2008), the introduction of local organic standards which are suitable to local ecology and environment reveals the technological efforts of the agroecological movement. A community forest model developed by the Maetha community through the villagers' collective action has produced an alternative form of sustainable land management from which other activists can learn. Moreover, instead of relying on commercially produced seeds, local seed saving and dissemination has been investigated and encouraged in the movement (e.g. Green Net Organic Center, Pun Pun Community) for ensuring ecological sustainability as well as keeping varieties of local crops.⁶² While sustainable farming techniques have been selectively transferred from professors and researchers at universities in Chiang Mai to farmers through irregular seminars and training, field-based research such as the farmer-to-farmer field school has

⁶² The inseparable relationship between agroecology and local (peasant) seeds are emphasized in a number of literature of LVC including the Bali Seed Declaration which was published in 2011.

been supported by the agroecological movement. It shows that the movement values farmers' knowledge and encourages horizontal learning among researchers and experienced farmers.

The Organizational Dimension

Finally, with an assumption that social movements are cognitive territories, the organizational dimension of cognitive praxis implies that social movements have “both ideals and modes of organizing the production and the dissemination of knowledge” (Eyerman & Jamison, 1991: 69). When it comes to the production of knowledge in the agroecological movement, the local knowledge of farmers has been valued, and the co-production of knowledge has arisen among agroecological farmers and supporters including university researchers and civil society groups. In terms of the dissemination of agroecological knowledge, knowledge exchange has horizontally occurred among farmers and supporters as well as farmers themselves.

The local knowledge of farmers has been respected in the agroecological movement in Chiang Mai. An emphasis on local knowledge is one of the things which separate sustainable from conventional agriculture (Carolan, 2006). Discourses of sustainable agriculture value farmers' understanding and nuanced insights of ecosystems accumulated through experience (Gliessman, 2015; Van der Ploeg, 2018).⁶³ In the agroecological movement, participating farmers themselves

63 As local lay knowledge places importance on experience and context, the hierarchy of knowledge recognized in conventional models of agricultural development has become blurred in the new rural social movement relying on agroecosystems. In Chiang Mai, sustainable farmers trust their knowledge which is based on their own experience and their understanding of the context. In collaboration with universities and local NGOs, they have also learned scientific knowledge. But this knowledge is 'integrated, adapted and mediated' by those who know the place, resulting in scientific research being balanced by the local knowledge (Carolan, 2006a).

believe that they “already have their knowledge” on sustainable agricultural systems (May, interview, 2018). But, more importantly, other participants in the movement have regarded the knowledge produced by farmers as significant. For university researchers involved in the agroecological movement, “to understand the local situation in terms of farmers’ competence, practice, and perception” (Anurat, interview, 2018) is crucial in conducting research on sustainable agricultural systems.

Based on the acknowledgement of farmers’ local knowledge, co-production of knowledge has occurred between farmers and movement participants from universities and the civil society in the process of Chiang Mai agroecological movement. The underlying assumption in the process of knowledge co-production was that scientific or expert knowledge is not superior to farmers’ knowledge (Schneider et al., 2009). The participatory process of knowledge production arose through farmer-university research coalitions as well as a farmer-civil society-university network. For example, methodologically, participatory research approaches including rapid rural appraisal (RRA) and the farmer first and last model (FFLM) have been widely utilized in farming system research conducted by a group of Chiang Mai University researchers in collaboration with farmers. In establishing local organic standards, such as Northern Organic Standard, collaborative knowledge production (among farmers, consumers, NGOs, and researchers) through “discourse coalitions” was essential (Wyatt, 2010).

The participatory mode of knowledge production began with the respect for local or indigenous knowledge, but such knowledge has been deepened through a dialectic process of interaction (Gaventa & Cornwall, 2008). Unlike a linear model of knowledge transfer assumed in the classic “extension model” (Carolan, 2012:

169), participatory research approaches assume all parties are engaged in knowledge formation and social learning.⁶⁴ Finally, this participatory process in knowledge production has been conceived as empowering participating farmers. Similar to the local civil society group, ISAC, which has tried to strengthen the power of rural villagers through a rural-urban network, university staffs from CARSR, Chiang Mai University, recognize that a process of participatory knowledge formation could “empower farmers” (Anurat, interview, 2018).

While it is sometimes difficult to distinguish between knowledge production and dissemination in reality, knowledge dissemination is worth investigating separately as it can clearly show how the knowledge interests of social movements are organized and flow in a movement process. In the agroecological movement in Chiang Mai, the horizontal exchange of knowledge has widely occurred not only between farmers and supporters including university researchers and civil society activists but also among farmers. Horizontal knowledge exchange in this study implies that “expertise is not concentrated in the hands of any one group” unlike the classic extension model, and all parties are engaged in knowledge transfer (Carolan, 2012: 171). Therefore, all parties are engaged in the process of social learning. Although inequality of power among participants might still exist, the concept of horizontal knowledge exchange emphasizes horizontal communication based on mutual respect, unlike the linear knowledge transfer in the extension model.

In this research case’s relationships between farmers and supporters,

⁶⁴ The social learning approach focuses on participatory processes of social change. This connotes “integrating the knowledge of different people, whether they are farmers, scientists or experts” and includes raising questions on the assumptions which underlie human actions and concepts through critical thinking and interactions with others. This approach has received increasing attentions in studies on sustainable agriculture and natural resource management (Schneider et al., 2009: 476).

professional knowledge on sustainable agriculture are transferred to farmers. But it has been selectively accepted and adopted by farmers and balanced by local knowledge. In reverse, farmers' knowledge has helped Chiang Mai-based civil society groups to find specific models of sustainable agriculture in the earlier stage of the agroecological movement. And university researchers, through on-farm research with farmers, have learned local knowledge on "biodiversity and utilization of different plant species" (Anurat, interview, 2018). In participatory action research, researchers as facilitators work together with farmers, while in conventional agriculture, experts are assumed to know better and have more information than farmers.

Indeed, horizontal exchange of knowledge and information among agroecological farmers has taken place through social interactions based on farmers' markets and participatory quality assurance systems for organic produce. Through regular interactions with other participants coming to farmers' markets, farmers learn how to diversify his or her farm, improve products, and find innovative ways of marketing. They also communicate information on current agricultural issues such as trade and GMOs and sometimes organize joint activities with civil society groups. This contrasts with the increasing silence of farmers in conventional agriculture systems whose knowledge is underprivileged. Apparently, knowledge dissemination and exchange has occurred among farmers who join participatory certification processes. In Chiang Mai, locally participatory quality assurance systems for organic produce have received growing attention. As discussed in the previous chapters, the Participatory Guarantee System (PGS) has earned the trust of the agroecological movement participants. In the PGS, the boundary between inspecting farmers and the farmers who get inspected are

blurred. The participating farmers from different districts in Chiang Mai have chances to learn from each other’s experience, share knowledge, and build up a district-to-district agroecological network.

[Table 6.1.] Dimensions of Cognitive Praxis in the Agroecological Movement in Chiang Mai

Cosmological Dimension	Technological Dimension	Organizational Dimension
<ul style="list-style-type: none"> • Caring for ecology and nature • Making merit for society (<i>farmers</i>) • Solving rural problems (<i>civil society groups</i>) 	<ul style="list-style-type: none"> • Critiques of the negative impacts of conventional agricultural technology • Alternative technological inventions (farmers’ markets, local organic standards, local seeds saving and exchange, farmer-to-farmer field school, agroecological models) 	<ul style="list-style-type: none"> • Producing knowledge: valuing local knowledge, co-production of knowledge among participants • Disseminating knowledge: Horizontal knowledge exchange among farmers and supporters as well as farmers themselves

Source: Composed by the Author

To sum up, cognitive praxis of social movements and its dimensions are useful concepts in interpreting the complex set of social activities constituting a certain social movement. In particular, Table 6.1. shows the cosmological, technological, and organizational dimensions of the agroecological movement’s cognitive praxis which have constituted the movement since its beginning. In this case, an ecological paradigm provided a common worldview assumption to the agroecological movement in Chiang Mai. However, multifaceted worldviews also constitute the movement. While participating farmers expect to make merit for the society as well as the environment through agroecological practices, civil society groups have expected to solve rural problems through alternative agricultural systems.

The technological activities of the agroecological movement performs two functions. They criticize the negative impacts of conventional agricultural technology and suggest "the kinds of technologies the movement advocates" (Hassanein & Kloppenburg, 1995: 724). Alternative technological inventions include farmers' markets, local organic standards, local seeds saving and exchange, the farmer-to-farmer field school and agroecological models including the community forest model.

Most importantly, the organizational dimension of cognitive praxis is about how knowledge, ideas, and practices are produced and disseminated in social movements. In the agroecological movement in Chiang Mai, the process production and dissemination of knowledge are organized in cooperative ways. Appreciating the farmers' local knowledge, co-production of knowledge by farmers and their supporters – university researchers and civil society activists – took place. And in terms of knowledge dissemination, horizontal knowledge exchange based on social interactions has been organized among farmers and supporters as well as farmers themselves. These modes of organization imply that the agroecological movement studied is neither a static phenomenon nor a linear process. The participatory mode of knowledge production and the horizontal knowledge exchange suggest increasing opportunities for broader participation through which new knowledge and ideas emerge.

6.1.2. Modes of Organization and Diffusion of Social Movements

The organizational dimension of the social movement's cognitive praxis reflects "the modes of communication which a movement has both internally and with the wider world," which constitutes the movement's identity (Holford, 1995:

103). Participatory modes of knowledge production and horizontal knowledge dissemination which are found in the Chiang Mai agroecological movement have led the orientation of the movement toward encouraging further production and exchange of knowledge and to become open and participatory cognitive territories. As seen in the small circle in Figure 6.1., this organizational paradigm has expanded the communicative space of the movement where new knowledge and ideas are (re)formulated by and exchanged among various actors, which as a result created new constituents of the cognitive praxis' dimensions. New participants include young farmers and diverse consumers including foreigners and university students who have increasingly recognized the importance of sustainable ways of farming and living. 'New' knowledge does not mean that the knowledge generated did not exist before. As with the case of local lay knowledge being revalued in the agroecological movement, social movements reinterpret the existing knowledge or "recombine previously separate types of knowledge with each other" (Eyerman & Jamison, 1991: 59).

As this study sees social movements as knowledge producers, increasing opportunities for knowledge production activities and the extension process of cognitive praxis are interpreted as a diffusion of the social movement. The organizational paradigms, which are the prevailing forms of social interaction (Holford, 1995: 103), have an influence on how knowledge interests in a social movement is communicated among actors and how the identity of the movement is formulated and changed.

the younger generations of farmers but also participants who returned to their hometown after working in the big city express such worldviews. These worldview assumptions contrast with the concepts of material growth and hard work which have been encouraged in modern development discourses.

As a form of technological dimension, in Chiang Mai, organic cafés have been invented as a public sphere where villagers discuss their issues, organize learning and knowledge exchange opportunities, and sell organic products. Since knowledge tends to be horizontally exchanged among all parties in terms of modes of organization in the agroecological movement, public venues such as cafés in a village are used or intentionally made into a communication space. While farmers' markets are usually located in the district capital of Chiang Mai province, these new places, usually set up by younger residents in the village, are located at the village level (e.g. Maetha Organic Café, Hug Green Café). It means that these places of communication are more accessible to villagers, and even for the people outside the village it is easy come and learn sustainable agricultural practices. In that sense, cafés operated by movement participants function as a focal point for horizontal information exchange among villagers as well as between villagers and visitors. Other forms of new technological inventions include the utilization of social media in marketing agricultural products and promoting farm tourism programs which provide opportunities of education as well as leisure. Moreover, groups of younger farmers in Chiang Mai have been increasingly exchanging information and ideas through social media such as Facebook and Line to communicate with consumers.

In addition to participatory and horizontal modes of organization, two contrasting social interactions are recently observable in the agroecological

movement in Chiang Mai in terms of the organizational dimension. One is that an increase in the formation of farmers' groups which promotes a sustainable way of agriculture based on agroecosystems. For example, the younger generation of farmers in Maetha, Mae On district have loosely organized around Maetha organic café to create a sphere of meeting and as well as learning sustainable food systems. Also, in organic markets in Chiang Mai, it is not difficult to see farmers who wear a shirt printed 'Association of Safety Food and Plants'. The Association was created in 2017 with over 100 members to produce "environment-friendly products" (Joe, interview, 2018). A contrasting scene is an increase in entrepreneurial organic farmers who prefer to engage in individual rather than collective activities. This finding is in line with the opinion that in the agroecological movement marketing activities have been getting more attention than discussions on ecological or social justice (Sarawut, interview, 2018). As the agroecological movement in Chiang Mai is a process in formation, the orientation of the movement cannot be fixed; it must rely on how different groups and actors interact with each other and construct the movements' knowledge interests under certain historical and political context.

The analytical framework for this study is based on a conceptual discussion of Eyerman and Jamison (1991) on the cosmological, technological, and organizational dimensions of social movements' cognitive praxis, but distinctively my attention is put into the organizational dimension which signifies the modes of social interactions and communications in the movement. While all new ideas generated or reconnected from social movements are not progressive, I argue that the ideals and modes of organizing give a direction to how the movement as a knowledge producer will encourage or discourage knowledge-generation

activities. The participatory mode of knowledge production and the horizontal knowledge exchange in the agroecological movement have made the movement into an ongoing cognitive process inside which new actors' participation and new experimentation of knowledge interests are encouraged. But this openness of the organizational dimension has also been shifting the initial direction of the movement - solving rural problems for social and ecological justice - as intended by civil society groups in particular.

6.2. Social Movements, Cognitive Process, and Social Change

6.2.1. Cognitive Praxis as a Potential for Social Change

Reading social movements with the concept of cognitive praxis means understanding a social movement as a dynamic process by which actors formulate or reformulate meanings and knowledge through cognitive activities. Rather than focusing on how a social movement is mobilized and what ignites the initiation of the movement, this perspective stresses what its participants think and do and how they socially interact with each other. As the cognitive approach focuses on the inner dynamics of a social movement, it gives implication to explaining how social change occurs, particularly in knowledge production and dissemination.

In the agroecological movement in Chiang Mai, the cognitive activities of the movement participants seem to have gradually constituted social change. In contrast with the widespread "capitalization of nature" (Escobar, 1995: 200) under modern agricultural systems, ecological worldview assumptions seem to have a growing influence on the people in Chiang Mai around where the environmental movements have been active and even generate continuous changes in farming

practices and consumption behaviors.⁶⁵ Technologically, farmers' markets in Chiang Mai in particular, which was first intended as a place for enhancing rural-urban solidarity to solve rural problems, have served as a place where knowledge production and exchange occur among various actors (e.g. among farmers, consumers-farmers, and NGOs-farmers). While the stories of farmers as well as their products tend to be hidden in the mainstream capitalist agricultural system, farmers' voices were vividly raised through various technological devices which constitute the cognitive praxis of the agroecological movement. Those cognitive activities have a slow but significant impact on the potential for social change. In this line, the agroecological movement might be referred to as a "not too big" "but powerful" movement (Sudarat, interview, 2018).

The organizational dimension which connects the theory and the practice of social movements according to Eyerman and Jamison, affects how participating actors interact with each other and communicate with the wider world. More importantly, this organizational paradigm has influence on the orientation of social change. In the agroecological movement in Chiang Mai, the participatory modes of knowledge production and horizontal modes of knowledge exchange constitute the organizational dimension. This organizational assumption might have provided increasing opportunities for knowledge production and exchange with broader participants, which has indeed expanded the cognitive activities of the movement.

It is important to note that the agroecological movement not only constructs

⁶⁵ However, considering that some interview participants note that changing farmers' practices from a conventional to an organic was difficult, the social and economic conditions which have caused discrepancy between cosmological assumptions and technological and organizational dimensions are worth further investigation.

“everyday forms of resistance” (Scott, 1989) highlighted by many contemporary social movements but also works as a socially constructive force which creates alternatives for social change. In the movement, resistance against negative impacts of industrial agriculture is observed as in the case of non-GMO activism and irregular collaboration between NGOs and farmers on agricultural trade and commercialization issues. But more importantly, the creation of new ideas and knowledge as well as re-adoption of pre-existing knowledge make us recognize that the agroecological movement in Chiang Mai has been a socially constitutive process. As pointed out by Eyerman and Jamison (1991), all new ideas developed from social movements are not progressive, but it might have “emancipatory potentials” (Habermas, 1987: 393)⁶⁶ for critiquing on the existing social order and constructing new modes of social interactions.

6.2.2. Organizational Knowledge and Implications for Educational Studies

The organizational dimension of social movements’ cognitive praxis has meaningful implications for educational studies. On one hand, social movements are important “learning sites” (Welton, 1993) where dynamic interactions and social learning takes place. In Chiang Mai, various forms of learning have occurred between civil society groups and farmers, between university researchers and farmers, and among farmers on topics related to sustainable agricultural systems based on agroecosystems. By learning from farmers who had practiced alternative methods of farming, Chiang Mai civil society groups, mainly NGOs

⁶⁶ Habermas distinguishes emancipatory potentials from potentials for resistance and withdrawal. The movements which have characteristics of resistance and withdrawal “aim at stemming formally organized domains of action for the sake of communicatively structured domains” (Habermas, 1987: 395) rather than conquer new territory as the movements with emancipatory potentials do.

which had worked for rural development, developed several models of sustainable agricultural systems in the earlier stage of the agroecological movement. And through seminars and regular meetings, sustainable farmers in Chiang Mai learned scientific and professional knowledge and adjusted them into their farming situation. Through a series of on-farm research, researchers of Chiang Mai University and partnering farmers have learned from each other's accumulated knowledge and experience. Mediated by activities in farmers' markets, the chances of horizontal learning among farmers have increased. In these ways, the agroecological movement in Chiang Mai opened wide learning opportunities among diverse actors including participating groups and individuals, which is worth investigation in adult education studies.

More importantly, paying attention to the organizational knowledge of social movements means focusing on the socially interactive processes by which knowledge is shaped in a social movement. A careful consideration of the modes of communication in social movements is in line with the assumption of many sociologists in adult education who recognize knowledge as social product (Jarvis, 1987; Holford, 1995). It is crucial to note that knowledge in social movements tends to be generated from a series of exuberant discourses and argumentation, as noted by Ewert (1991), which constitute social learning processes. In other words, knowledge is not given, but socially constructed through communications. Unlike Foucault's perspective which views knowledge as a social product formed by a number of connected mechanisms creating dominant discourses (Brookfield, 2005), this study concentrates on the potential of social transformation through cognitive activities of movement participants. In detail, local civil society groups in Chiang Mai initiated the alternative agriculture movement based on

agroecology through problematizing rural problems and proposing several sustainable models of farming. But the production and exchange of knowledge have been increasingly activated through participatory and horizontal modes of communication among movement participants including farmers' groups and individual farmers, civil society groups, and universities.

The organizational dimension is developed from Habermas' concept of communicative interests. As an extended discussion of communicative interests, communicative actions and discourse implies "actions that are oriented to reaching agreement through the process of reaching understanding" (Habermas, 1984: 286). Learning takes place in a process of communicative discourse and, as discussed by Ewert (1991: 362), "the learning aspect of communication action through argumentation is essential to the continuous development of all forms of knowledge." These socially cognitive activities constituting social movements can be interpreted as educational activities.

Along this line, Holford (1995: 105) states that the organizational knowledge of social movements suggests a key site of interaction between learning, knowledge, and society. In the case of Chiang Mai, a process of social learning among movement participants has led to generation and dissemination of new forms of knowledge, and the cosmological, technological, and organizational dimensions of the agroecological movement's cognitive praxis have affected the wider society. For example, through farmers' markets, organic farmers in Chiang Mai share stories of their products via direct conversation with consumers and another social learning takes place in this process. This implies that a social movement is not an isolated social phenomenon, but a process in formation in which interactions with other social movements and broader society occur.

The other contribution of organizational knowledge to educational studies is that it can provide theoretical explanation to how social movements constituting educational activities lead to social change. Although adult education has long been discussed in close connection with social movements, social movement theories have hardly been utilized in educational studies to analyze or theorize the dynamic process of movements. For advocates of critical pedagogy, social movements “tend to be taken for granted as allies, rather than theorized or analyzed” (Holford, 105: 102). Similarly, while the linkage between education and social change is a key concern to the critical learning paradigm (e.g. Michael Apple, Paulo Freire), the approach is suggestive rather than substantively and empirically investigated.

However, it can be inferred that the organizational dimension of the social movement’s cognitive praxis theoretically mediates the educational activities inside movements and social change. As the organizational dimension indicates the modes of communication constituting social movements, moreover, its aspect might affect the direction of social change. In the agroecological movement in Chiang Mai, the horizontal learning process and participatory knowledge production have shaped the orientation of the movement to further stimulate generation and exchange of knowledge and to expand cognitive territories even further. While it might be too early to conclude that political development has occurred during the process of the agroecological movement, it seems that the movement has generated a public sphere as a site for the production and circulation of discourses by forming deliberating processes (Fraser, 1994).

CHAPTER VII. CONCLUSION

Summary of the Study

An increasing number of global scale new social movements promote agroecology as their central agenda to transform the industrialized agri-food system (Kremen et al., 2012). The alternative movements advocating the integration of ecological principles into agricultural systems (Gliessman, 2015) have been active in Thailand, while its agricultural sector has remained remarkably industry-based and export-driven. In particular, this study is focused on the agroecological movement in the province of Chiang Mai, Thailand, which is considered one of the most active alternative agriculture movements in the country.

The primary purpose of this study is to investigate how a social movement is diffused, with a particular focus on the agroecological movement in Chiang Mai, Thailand. In detail, my dissertation asks, “why did the agroecological movement emerge, and how has it been diffused in the province of Chiang Mai, Thailand?” Secondly, it asks “what has contributed to the diffusion of the agroecological movement in Chiang Mai?” By viewing social movements as socially constituted and cognitive activities, my study assumes that alternative agriculture movements based on agroecological principles do not just react to the problems arising in the modern agricultural system but create their own cognitive space by producing new knowledge. To answer the research questions, the data was mainly collected through field observations and interviews. Field research for data collection was mainly conducted between October 2017 and August 2018.

Chapters 4 and 5 were constructed in the process of answering the research

questions. Chapter 4 describes the process of agroecological movement in Chiang Mai by focusing on why it emerged and how it has been diffused. In the initial stage of the movement, non-governmental organizations (NGOs) based in Northern Thailand played leading roles in promoting sustainable agriculture based on agroecosystems with their growing recognition of the industrialized agriculture's negative impact on rural society. Importantly, civil society organizations including NGOs as well as universities, most of which are based in Chiang Mai, have been major participants in, as well as supporters of, the movement. In the mid-1990s, the first farmers' market was set up by an umbrella organization of local NGOs called the Institute for Sustainable Agricultural Community (ISAC) as the space where organically grown products are directly traded. Since then, the farmers' market has expanded inside and outside the Chiang Mai province. The following development of local organic certifications which was established in a participatory manner has invited more trust in local and sustainably grown produce. Moreover, universities in Chiang Mai have continuously supported the diffusion of agroecological ideas, knowledge, and practices through collaborative research with farmers, promotion of farmers' markets on campus, and education programs for farmers.

Chapter 5 discusses what has motivated the agroecological movement to be diffused in Chiang Mai, Thailand. The study finds that collaboration between farmers and supporters (*trust and partnership*), farmers' markets (*place*), and the horizontal flow of knowledge (*knowledge*) have gradually contributed to the agroecological transition in Chiang Mai. All of these contributors are related to knowledge production and dissemination in the movement. First, civil society groups and universities in Chiang Mai have supported farmers to put their

agroecological ideas and knowledge into practice. Farmers, civil society groups, and universities have established an agroecological network in the process of establishing farmers' markets and local organic certification standards. Recognizing traditional knowledge systems, the supporters have worked together with farmers or farmers' groups to generate knowledge in ways that give the farmers more power in decision making. Secondly, organic farmers' markets in Chiang Mai have served as a place of conference as well as learning, which encourages agrarian sustainability. In the beginning stage, farmers' markets were intended as a place where farmers and consumers can discuss together rural issues, and as a result, enhance rural-urban solidarity. While concerns about individualized entrepreneurship exist, farmers' markets in Chiang Mai have provided a platform where small farmers communicate with other farmers as well as urban consumers. Thirdly, knowledge networks in which farmers horizontally exchange their knowledge and ideas have increasingly appeared in Chiang Mai. As the case of open learning in Maetha and the example of the Participatory Guarantee System (PGS) reveal, these networks have expanded opportunities for 'fugitive' knowledge of farmers to be regenerated and exchanged.

Chapter 6 analyzes the diffusion of the agroecological movement in Chiang Mai with a theoretical framework developed based on Eyerman and Jamison (1991)'s discussion on cognitive praxis. To begin with, the dimensions of cognitive praxis - cosmological, technological, and organizational - are applied to the case to explain knowledge produced in the movement process, including the production of new organizational forms and principles. Then the study discusses that the organizational dimension, which is the social movement's mode of communication, gives direction to the orientation of the movement. It was found

that in the agroecological movement in Chiang Mai the participatory mode of knowledge production and the horizontal process of knowledge exchange have characterized the movement as an ongoing cognitive process which encourages new actors' participation and provides broader opportunities of knowledge production. In other words, this organizational dimension of the agroecological movement's cognitive praxis has contributed to the diffusion of the movement by invigorating opportunities for knowledge to be produced, reinvented, and disseminated. As emphasized by Holford (1995), this organizational knowledge functions as a key site of interaction between learning, knowledge, and society. Essentially, it mediates the educational activities which continuously develop knowledge and produce social change, which is a key concern in the critical pedagogical approach.

Implications and Limitations

The implications of this study can be divided into three categories. First, this study will provide a deep understanding of the alternative agricultural movements in Southeast Asia by exploring the diffusion process of the agroecological movement in Chiang Mai, Thailand by using the qualitative case study methodology. In the context of social and environmental justice and food sovereignty, alternative agricultural movements such as agroecology have become a global phenomenon, but academic interest has mainly been centered on Latin America. In the unbalance of research, the exploratory and analytical study of the alternative agricultural movement in Thailand, which has its own political, cultural, and historical context, is expected to provide a concrete investigation of the case.

Moreover, this study shows that a social movement is not a discrete social

phenomenon that automatically responds to specific conditions, but instead a cognitive space in which learning takes place and new knowledge is produced through communicative interactions of participants. In particular, the agroecological movement investigated in this research was initially intended by civil society groups and universities, but now is realized in the form of everyday life for farmers and consumers. Therefore, the social interactions of the participants in the agroecological movement have naturally arisen in many places including farms, farmers' markets, and universities. And all of these are the places where learning, knowledge production, and the diffusion of the movement have taken place. Importantly, the dimensions of the social movement's cognitive praxis, in particular, the organizational modes of knowledge, provide an explanation of how the movement can lead to social change. This is because the organizational dimension affects how a social movement interacts with the broader society. Through careful investigation on key interactions between learning, knowledge, and society, this study can be a multidisciplinary study linking educational and sociological research.

Finally, this research is expected to raise some questions about the mainstream 'development' discourse and uncover alternative voices to the conventional rural development paradigm. The agroecological movement contains critical viewpoints on agricultural modernization strategies and related technical innovations such as the 'green revolution.' It also provides new knowledge including alternative technological inventions and a new way of organization based on its own cosmological paradigm. It is important to note that alternative forms of ideas on development are slowly but gradually being formulated not only in the North but also in the South. This study points out that new orientations to

development are not passively learned from international agencies or groups of experts but actively formulated, reflected on and expanded from the voices at the bottom.

In spite of the significant implications of this study, there are also the following limitations. Although it was found that horizontal collaboration based on trust and partnership has occurred between farmers and university researchers as well as between farmers and civil society workers, some distrustful relations were also noticed. But this aspect was not fully reflected in the study. For example, an organic farmer expressed that the theory developed by university researchers is different from practice and not suitable to the local context. Another participant reported that some NGOs do not respect local needs. Despite some expressions of distrust, this study tends to highlight supportive relations among the movement participants found in observations and interviews as the more prevailing form of social interaction.

Moreover, the agroecological movement's relations with other social movements were rarely investigated in this study. While it was emphasized that a social movement as cognitive praxis interacts with other social movements, these relations were not specifically analyzed in the study except in describing new rural social movements which has arisen at the national level in Thailand. Because a social movement is understood as a socially constituted activity, its relations with other social movements and the broader society might affect the cosmological, technological, and organizational knowledge of the movement. While this study is focused on the social movement's organizational knowledge which has affected the diffusion of the movement, further research is needed to investigate the agroecological movement's interactions with other social movements as external

influencers to the movement's cognitive praxis.

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APPENDIX

1. IRB Approval Letter

심의결과 통보서

수신

책임연구자	이름: 정다정	소속: 서울대학교 협동과정 글로벌교육협력 전공	직위: 박사과정
지원기관	해당없음		

과제정보

승인번호	IRB No. 1710/002-005		
연구과제명	태국 농생태학 운동의 발생, 지속, 확산		
연구종류	학위 논문 연구, 면담(FGI 포함), 참여관찰		
심의종류	신속심의		
심의일자	2017-10-16		
심의대상	연구계획서(신규), 연구참여자유 동의서 또는 동의서 면제 사유서, 연구책임자 경력 사항, 연구결과정리양식, 연구참여자 모집 광고, 연구참여자에게 제공되는 서류, 지도교수 서약서 또는 소속기관장확인서, 생명윤리준수서약서, 번역확인서약서		
심의결과	승인		
승인일자	2017-10-16	승인유효기간	2018-10-15
정기보고주기	12개월		
심의의견	<ol style="list-style-type: none"> 1. 심의결과 제출하신 연구계획에 대해 승인합니다. 2. 연구자께서는 승인된 문서를 사용하여 연구를 진행하시기 바라며, 만일 연구진행 과정에서 계획상에 변경사항(연구자 변경, 연구내용 변경 등)이 발생할 경우 본 위원회에 변경 신청을 하여 승인 받은 후 연구를 진행하여 주십시오. 3. 유효기간 내 연구가 끝났을 경우 종료 보고서를 제출하여야 하며, 승인유효기간 이후에도 연구를 계속하고자 할 경우, 2018-09-15까지 지속심의를 받도록 하여 주십시오. 		
검토의견	<p>계획서 검토 의견</p> <ul style="list-style-type: none"> - 연구 수행 시 변동위반이 발생하지 않도록 주의해 주시기 바랍니다. - 반드시 SNU IRB 타공처리된 승인문서 사용하여 연구 수행해 주십시오. <p>동의서 검토 의견</p> <p>기타 검토 의견</p>		

2017년 10월 16일

서울대학교 생명윤리위원회 위원



2. Field Observation Photos



Photo 1.
Farmers' market on the CMU campus



Photo 2.
Jing Jai Farmers' Market



Photo 3.
A shop selling products with unique decoration at the Jing Jai Farmers' Market



Photo 4.
Natural compost found in a farmer's home garden at the San Kamphaeng district

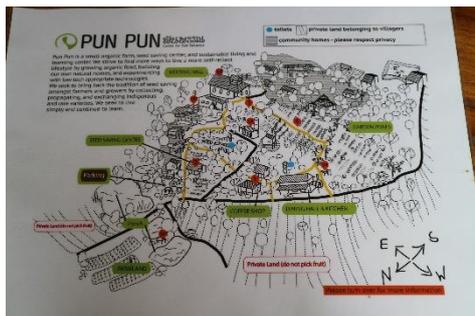


Photo 5.
Map of the Pun Pun Community



Photo 6.
Maetha Organic Café, Mae On district

국문초록

농촌사회운동의 지식형성과 운동의 확산에 대한 연구: 태국 치앙마이주 농생태학 운동 사례를 중심으로

서울대학교

대학원 글로벌교육협력전공

정다정

전 지구적 차원에서 새로운 농촌사회운동으로서 농생태학 (agroecology) 운동이 산업화된 식량 체계에 대한 변혁을 강조하며 확산되어 왔다. 이 대안적 형태의 운동은 기존의 농촌개발 패러다임과 정책에 대해 의문을 제기하고 생태적, 사회적, 경제적 지속가능성의 필요성을 강조한다. 농업 분야가 산업화되고 수출 주도적인 성격을 가지는 태국에서도 생태적 원리의 농업체계로의 통합을 강조하는 대안적 농업운동이 광범위하게 전개되어 왔다. 특히, 이 연구는 태국에서 가장 농생태학 운동이 활발하게 진행되어 온 지역 중 하나인 치앙마이주에 주목한다.

이 연구는 사회운동이 어떻게 확산되는지 밝히는 것을 주요 목적으로 한다. 태국 치앙마이의 농생태학 운동 사례에 주목함으로써, 치앙마이 농생태학 운동의 발생과 확산의 과정을 탐색하고, 어떤 요소들이 이 운동을 촉진하였는지를 고찰한다. 이 연구는 사회운동을 사회적으로

로 형성되는 구성적인 활동으로 가정하면서, 대안적인 농업운동을 단순히 현대 농업체계에 대한 저항을 넘어 새로운 지식을 형성해가는 인지적 공간으로 이해한다. 이에 Eyerman과 Jamison(1991)의 인지적 실천(cognitive praxis) 접근을 확장하여 이론적 틀을 구성하여, 조직(organizational dimension) 측면에 있어 참여적 지식형성과 수평적인 지식 교환 방식이 농생태학운동을 열린 인지적 공간으로 만들었고, 새로운 참여자와 지식의 형성을 독려하여 확장된 인지적 실천과 운동의 확산으로 나아가게 하였다는 점을 논증하였다. 연구방법으로는 질적 사례연구 방법을 적용하였고, 관찰과 면담을 중심으로 연구에 사용된 주요 자료를 수집하였다.

이 연구의 주요 발견은 다음과 같다. 먼저 태국 치앙마이의 농생태학 운동의 초기 단계에서는 NGO를 비롯한 시민사회조직들이 운동을 공고화하는 데 중요한 역할을 하였다. 태국 최초의 유기농 농민시장이 지역 NGO에 의해 치앙마이에 설립되었고, 농민, 소비자, NGO, 대학 연구자의 협업을 통해 북부 지역의 유기농 인증체계가 마련되었다. 또한, 치앙마이의 대학들은 농민과의 협력적 연구, 캠퍼스 내 시장 부지 제공, 훈련 프로그램 운영 등을 통해 농생태학적 아이디어와 지식의 확산을 지원하였다.

다음으로 치앙마이의 농생태학적 전환을 촉진한 요소로 신뢰와 파트너십에 기반한 농민과 지지자의 협업, 장소로서 농민시장, 지식의 수평적 교환을 논의하였다. 이 모든 요소는 농생태학 운동의 지식형성 및 확산과 관련된다. 먼저, 치앙마이의 시민사회 단체와 대학은 지식을 농민들과 함께 생산하고 이를 통해 농생태학적 실천에 참여하는 농민들이 더 많은 힘을 가질 수 있도록 의도하였다. 이어 치앙마이에서 시작되어 전파된 유기농 직거래시장은 소농을 중심으로 농민 간, 농민과

소비자 간 학습이 이루어지고 농업 관련 현안이 논의되는 장소로 기능해왔다. 마지막으로, 농민들이 수평적으로 지식과 아이디어를 교환할 수 있는 무형식의 지식 네트워크가 치앙마이주에서 점진적으로 발전하였다.

결과적으로 연구의 논의에서는 Eyerman과 Jamison의 인지적 실천 접근을 확장한 이론적 틀을 활용하여 치앙마이 농생태학 운동의 확산을 분석하였다. 사회운동의 인지적 실천을 구성하는 세 차원인 우주론적(cosmological), 기술적(technological), 조직적(organizational) 차원 중 조직적 차원은 운동의 의사소통 방식을 의미하며 운동의 방향을 예측하게 하는 것으로 보인다. 치앙마이의 농생태학 운동에서는 참여적 방식의 지식형성과 수평적인 지식 교환이 이 운동을 지속적이며 열린 인지적 과정이 되는데 기여함으로써, 새로운 행위자의 참여와 지식 생산의 기회 확대를 독려했다. 운동의 조직 방식이 지식형성과 사회변화에 지속해서 기여한다는 점에서 연구의 대상이 된 농생태학 운동은 교육 활동이라 할 수 있다.

주제어: 농생태학 운동, 사회운동, 인지적 실천, 지식 생산과 확산, 학습, 지속가능성, 치앙마이, 태국

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