# CHAPTER 5

# Conserving the Organic Nature: the Assemblage of Agrobiodiversity Conservation and Farmer's Varieties in the Socio-Environmental Movements

## 5.1 Introduction

In chapter 4, the impact of small-scale farmers in Nan Province might have appeared to be limited to the local area, but indeed their livelihood landscape had been globally connected to the hybrid seed production for the global seed companies since 2000. By this, TK Village has become a crossroads where globalization of the seed industry articulates with local socio-economic and ecological conditions. Under the integration of the global seed market, the contracting farmers had encountered the neoliberal governmentality as a new technology of corporate power, which led to the global seed companies' effective control on the production and labour processes. Nevertheless, those seed companies were challenged by the farmers through several coping strategies, contributing to the limits of neoliberal governmentality and the multi-faceted globalization in the livelihood landscape.



However, to understand the relationship between farmers and seed, transformed by the global seed companies in the neoliberal era, alone is not enough and becomes itself a hegemony – a hegemony that elites can possibly use to keep stabilizing their ideology and imagery of peasantry and nature (Sakkarin Na Nan 2014). Thus, this chapter aims to investigate how the socio-environmental movements challenged the neoliberal agenda on the commodification and privatization of plant genetic resources while NGOs launched their development schemes in the specific

areas. Karl Polanyi's idea of "double movement" is taken into account in my analysis of the movements in this chapter.

Control of resources and privatization of plant varieties do not take place without any critiques and resistance. This can be conceptualized under what Polanyi called double- movement, when social groups rise up against the market logics. Significantly, seed diversity becomes a political assemblage recently found in many socio-environmental movements against the agro-industrial model (Via 2012; Zimmerer 2009). However, the socio-environmental movements are found, in part, to share some direction of neoliberalism – the efforts to reduce state intervention under socially embedded regulations (McCarthy and Prudham 2004). One contradicted aspect, according to Zimmerer (2009), is found in community-based resource management and participation programmes applying the neoliberal tools like financial mechanisms increasing the incentive of farmers to behave as a commodity producer and, at the same time, an environmental conserver. Zimmerer sees this aspect found in the socio-environmental movements as soft neoliberalism.

Thus, I further explore social tensions that have emerged in NGOs' development schemes. For this, I investigate how the socio-environmental movements have constructed the "Nature", re-configuring the relationship of small-scale farmers and seeds, especially in a scheme of Farmer Field School (FFS). The cultural practice of small-scale farmers involving the seed-related agrobiodiversity conservation, thus, became a prime site of cultural politics in which farmers' knowledge and practices were hybridized as part of an ongoing process in relation to the political rationalities, programmes and identities among heterogeneous actors. In this sense, we can learn that neoliberalism is far from the monolithic, full control of the "New Right" (Larner 2000). Just as Heller and Escobar (2003) addresses construction of nature emerged in the social movements, like biodiversity and transgenic food networks in the era of genetics, socio-environmental movements had constructed different notions and socio-spatial practices towards the conservation of agrobiodiversity. Here, while the socio-environmental movements had constructed 'peasantry' and 'nature' in their advocacy politics against neoliberal globalization, the so-called "peasant seeds", or

"farmer seeds" could be pointed out as the assemblage of agrobiodiversity conservation.

Methodologically, this chapter employs the multi-sited approach as I had followed actors involved in the scheme of Farmer Field School (FFS). By this, I traced the farmers-seed relations in the broad network of FFS. Not just TK farmers but also farmers from other villages participating in FFS were taken into account. The data of this chapter, then, shows how actors in different nodes and places played a key role in reshaping the relationships of farmers and seed-related agrobiodiversity. By this, the socio-environmental movements can be understood in their role in the invention of "Nature" and new peasantries.

There are four main parts in this chapter. The first part explores the assemblage of natures through agrobiodiversity conservation embedded in the socio-environmental movements in Thailand. The second part specifically investigates a scheme of Farmer Field School (FFS) run by Joko Learning Center, HMNF in Nan Province, in order to better understand the construction of new peasantries as the socio-environmental subject. The emergence of farmers' varieties (FVs) is additionally shown to materialize the discursive effects of FFS scheme. The third part shows the limits of environmentality in order to understand the agency of farmers and nonhumans. The last part is the chapter's conclusion.

## 5.2 Assemblage of the organic natures and peasantry in the socio-environmental movements in Thailand



"Natures" in this part can be seen as a part of discursive materials emerging in the socio-environmental movements. The reconstruction of agrobiodiversity and peasantry is analyzed by employing the Foucauldian perspective on the formation of subject and the government of things. By this, agrobiodiversity conservation as the global assemblage emerging in the advocacy politics had re-shaped the environmental governance and the relationship of farmers and seeds in the specific places. The following aspects describe NGOs' advocacy in Thailand for seed-related

agrobiodiversity conservation and farmers' rights as part of NGOs' advocacy politics against corporate accumulation.

### 5.2.1 NGOs' advocacy politics against corporate accumulation

Recently, seed saving and farmer seeds has become a political assemblage found in many socio-environmental movements against the agro-industrial model in both the developed and developing countries (see Bocci and Chable 2009; Demeulenaere 2014; Navdanya 2012; Via 2012; Zimmerer 2009). More than seeing seed conservation as a technical practice per se, activists and farmer leaders took up this cultural practice as the way to empower the local communities against the transnational seed companies under neoliberal globalization. Thus, it is interesting to understand how many organizations came to care about 'Nature' and link the small scale farmers to the socio-environmental movements. This can help to see the co-production of agrobiodiversity in the advocacy of NGOs together with the small-scale farmers in Thailand in other chapters. But it does not mean that the farmers who did not engage with these socio-environmental movements were passive as they might have had their own practice of politics.

Strategically, the in situ conservation becomes one of the main approaches that the socio-environmental movements take to criticize the ex situ conservation, like the national and global gene banks. Indeed, the in situ and on-farm conservation are counted as part of the sustainable agriculture movement (see Sukran Rojanapraiwong 2004: 8). In his book, *Local Heredity and Sustainable Agriculture*, Sukran Rojanapraiwong (2004), with the support of the Sustainable Agricultural Foundation Thailand in 2004 explains that the in situ conservation is seen as the traditional practices of farmers that can allow plant varieties to live in nature or in an open environment that allows them to adapt and are selected by their life processes as well as by farmers. Sukran Rojanapraiwong notes that "local communities have their own capacity to manage the genetic resources".

Historically, the rise of Thai NGOs was noticed in the 1970s (Delcore 2000) when the Thai middle class proposed their ideas as alternatives to the mainstream

development led by the government for poverty alleviation. However, this movement was later violently suppressed by the government, particularly after the student-uprising in Bangkok against the military government in 1973 when many activists and students were arrested and accused of "communism". Thus, many of them fled to the jungle and joined the Communist Party of Thailand. It was found that the uprising of the middle class and students partly involved their dissatisfaction towards environmental problems, in particular the waste water in the Mae Klong River in 1972 and a news report of Thai elite officials using an army helicopter to hunt wild game in the wildlife sanctuary in 1973 (Attajak Sattayanurak 2002: 31). NGOs had flourished again in the 1980s. This can be seen by their advocacy for the community culture and community-based forest management when the resource access conflicts had been shifted from the farmland in the 1970s to the forestland in the 1980s (Atchara Rakyutidharm 2009).

For agrobiodiversity conservation that relates to germplasm collection, several Thai NGOs had started their collection of the local plant varieties especially rice in different periods of time, such as, the late 1980s for Kao Kwan Foundation, the early 1990s for Hag Muang Nan Foundation (HMNF) and the late 1990s for Alternative Agriculture Network (AAN) (see Banjit Sairoakhum and Tanad Baiya 2004: 85; Sukran Rojanapraiwong 2004: 71-72). These can indicate that the rise of socio-environmental movements in Thailand in relation to the agrobiodiversity, especially the seed conservation, started in the late 1980s.



According to Sukran Rojanapraiwong (2004), the main supportive factor that helped expand the campaign to conserve local plant varieties after many NGOs started their seed collection programmes was when the government of Thailand provided a budget (633 million baht) for the project "Pilot Project to Develop the Sustainable Agriculture of Small-Scale Farmers" during 2001-2003. The local plant variety was then added as one of the research projects.

During 2005-2013, I had several occasions to participate with and observe NGOs in their socio-environmental movements towards seed and agrobiodiversity conservation. Some NGOs had launched programmes to support local farmers for

seed conservation. I thus found that seeds were attached to places and events involving NGOs' campaigns. For this, seeds can be seen not only as the biological entity but also made into the cultural objects attached to meanings and norms, such as the commons, the heritage of ancestors, self-reliance, food sovereignty, GMOs, Thai nationalism and so on.

For example, in the cover page of the book, *Local Heredity and Sustainable Agriculture*, written by Sukran Rojanapraiwong, we can see that, apart from the several images of plant seeds, there are two farmers represented by a couple of young cartoon characters wearing hats and holding a sickle and Thai national flag in their hands, standing barefoot (a boy is wearing just a loincloth) and holding hands under the slogan of the movement, "Revitalizing the freedom livelihood for the national sovereignty" (see Figure 5.1).

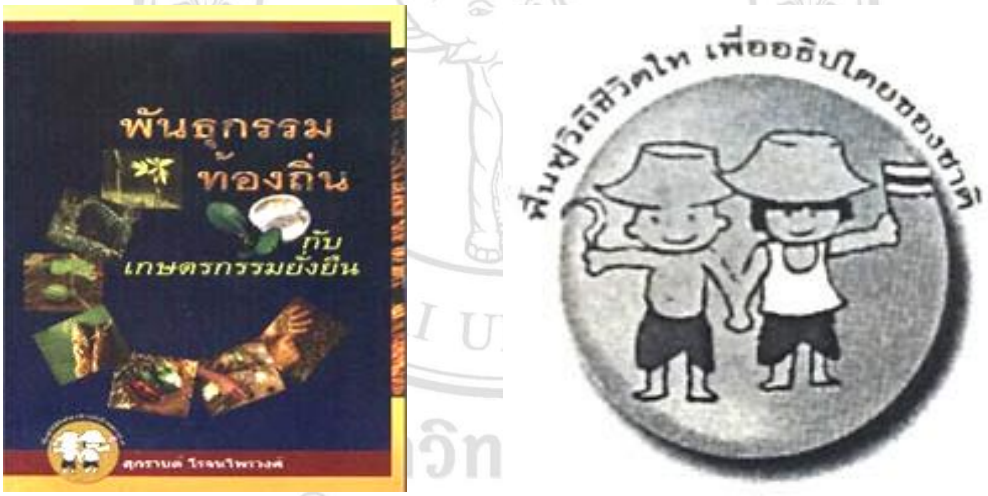
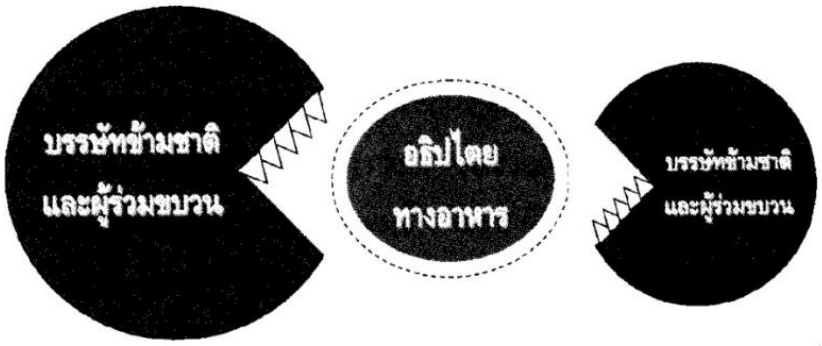



Figure 5.1 The book cover published by Sustainable Agricultural Foundation Thailand in 2004 (left) and a slogan, "Revitalizing the freedom livelihood for the national sovereignty" (right)

Another example of how neoliberalism and the corporate accumulation of capital are represented among Thai NGOs can be seen from a fear that transnational companies are grabbing not just land but also food, which is re-presented as a part of national sovereignty. A book, *Food: Life or Commodity? Commoditizing Culture under the Corporate Power*, published by the Sustainable Agricultural Foundation of

Thailand in 2008 shows critiques of the agricultural development of Thailand under neoliberalism. A fearful figure in this book (see Figure 5.2) clearly illustrates NGOs' discourse that there are two corporate companies with their alliances gobbling the egg-shaped food sovereignty which has no self-defensive shell (see Nartpong Pattapunchai 2008: 28). The author, Nartpon Patpanchai, insists that this is "an event when the transnational corporations rule the world".




**รูปที่ 2 ปรากฏการณ์เมื่อบรรษัทผงาดขึ้นครองโลก**

Figure 5.2 A discourse of NGOs using a doom scenario of "when the transnational corporations rule the world"
Source: Nartpong Pattapunchai (2008: 28)

Undoubtedly, Nartpong Pattanachai's figure represents Thai small-scale farmers and consumers as a victim nearly being swallowed by the transnational corporations. In turn, I question whether this contingently put a blanket for the national elites, although he showed us many cases of how small-scale farmers around Thailand attempted to manage their farm resources while incurring farming problems.

Whether or not the so-called "local community" is romanticized by activists contributing to the "local trap" (Brown and Purcell 2005), it is still debatable that farmers in many places, including Thailand, are seen as not passive in managing plant genetic resources, even amidst difficulties in the agro-industrialized landscape (Brush, et al. 2003; Sakkarin Na Nan 2014). Thus, to explain how conservation of 'Nature' produces a formation of farmer representations and the making of local plant

varieties, of which several NGOs take into the passage of seed saving and exchange, I briefly describe some organizations here in order to show seeds as part of the assemblage of the socio-environmental movements against the neoliberalized nature.

### 5.2.2 NGOs and formation of the Seed Freedom Network

There are 6 organizations which were taken into account here, as I found that they paid attention to seed-related agrobiodiversity in their projects. They had formed a social network called the Seed Freedom Network (SFN) (see the APPENDIX H) in order to promote the farmers' rights and food security. These organizations included Biothai Foundation, Khao Kwan Foundation, Pun Pun Center, Alternative Agricultural Network (AAN) and Green Net Cooperative. The case of Joko Learning Center, which is also part of SFN is, however, shown in 5.3 so as to better understand FFS network and the support of farmers' varieties in Nan Province.

- **Biothai Foundation**

An NGO, Biothai Foundation in Prathumtani Province, near Bangkok, is an interesting example. Prior to the formation of Biothai, the civil movement in Thailand was concerned about the local knowledge and community's rights, especially the issue of community forests since the 1990s. The government signing the Convention on Biological Diversity (CBD) in 1992 widely led to public debate. Biodiversity Action Thailand, once the Thai Network on Community Rights and Biodiversity, was later transformed to Biothai in 1995 and had a key role in raising many campaigns for opposing life patenting, GMOs and reshaping Thai PVP B.E. 2542 (Krissada Boonchai 2008: 51).

At present, the director of this organization is Mr. Witoon Lianchamroon who is well-known for his active role in policy advocacy issues involving with (agro)biodiversity, biotechnology, biopiracy and farmers' rights (see Supat Attathom and Navaro 2011; Witoon Lienjamroon 2010; Witoon Lienjamroon, et al. 2008). Especially for farmers' rights, according to Witoon et al.(2009), it is different from Human Rights. Indeed, he criticizes Human Rights as the Western notion that focuses

on liberal individualism, and he sees that Human Rights on the basic socio-economic aspect is historically influenced by the Soviet's ideology of social welfare, unable to be counted for freemen. Instead, Witoon et al see farmers' rights as a sub-set of the community's rights is the real right of freemen far from the socio-economic right of people in the industrial society. "The formation of farmers' rights in Thai society cannot be separated from the preservation of the local community's rights. Thai farmers' rights are also universal rights like the community's rights and human rights", said Witoon (see Witoon Lienjamroon 2009: 17)

PVP B.E. 2542 was a milestone which Witoon called a success of the Thai civil society to protect the "community" under neoliberal globalization (see Witoon Lienjamroon 2010: 25). But the contestation in the legal space to control the access to plant genetic resources via PVP B.E. 2542 in Thai society is not over yet. Recently, with the promotion by the government in 2009 to make Thailand the Asian Seed Hub, seed companies put pressure on the state to upgrade seed regulation, especially the Plant Variety Protection Act 2542 (Bangkok Post 2009). The political reaction of activists is interesting as well. On 25 November, 2013, I attended the seminar on "Policies vis-à-vis GM plants and entry of membership of UPOV 1991: Impacts on small-scale farmers, biodiversity and food security" held in Bangkok. I met Witoon and other researchers who also conducted their policy research on PGR governance. His research is not based only on the effort of the EU, but it also refers to the effort of BIOTEC to patent the aromatic gene which is not accepted in Thailand because the Intellectual Property Right Act B.E. 2552 does not allow patents on genes of living organisms (Article 9 (1)) but still protects the process to modify the aromatic gene.



Notably, Biothai Foundation did not conduct its own field trials together with small-scale farmers. But, it recently expanded a new sector, *BioThai Seed Exchange*, in order to provide trainings and link with four working groups to supply the organic seeds to interested people, such as Puu-Ya Seed group, Can-Talk Seed group, Khon Kieng Din group, Thai Baan Seed group (see Preeyachaya Klaituan 2012).

- **Khao Kwan Foundation**

In June, 2006, as a field staff in Joko Learning Center under the Hag Muang Nan Foundation, I visited a NGO, the Khao Kwan Foundation led by Mr. Decha Siripat in Suphan Buri Province in the Central Plain region of Thailand. Khao Kwan Foundation, once the Center of Technology for Society (ศูนย์เทคโนโลยีเพื่อสังคม) set up in 1989, was well-known for their activities implemented under the scheme of Farmer Field School (FFS) in order to revitalize farmers' knowledge. The matter of seeds and rice breeding were combined with training for organic farming. One lesson was rice selection from brown seeds.

Likely found among NGOs' narratives (see Jittama Polsawake and Areewan Kusantia 2003; Sukran Rojanapraiwong 2004), the invasion of the Green Revolution since the First National Development Plan was explained on Khao Kwan's website as the beginning of agrarian problems of Thai farmers and the loss of rice diversity. Notably, the problem is explained as farmers under the modern agriculture "do not know" how to cope with the Green Revolution and have lost their respect of "Nature", causing them suffering from illnesses caused by chemical application. On the website of the Khoa Kwan Foundation (Khao Kwan Foundation 2014), it points out that "After implementing the First National Development Plan, Thai farmers' livelihood had been transformed into the Green Revolution agriculture, Mono-cropping was widely promoted, and it changed from subsistent agriculture to chemical. This relied on input, such as plant varieties, animal species, fertilizer and other concerned chemical substances, and farming machines, from the outside for farming. 40 years ago, Thai farmers' livelihood and farmers themselves had to encounter the 'unknown' that is the result of a lack of respect for Nature, leading them to suffering from illness, even in their old age."

Furthermore, on the website, the rationality of why it is important to set up FFS was explained that "Based on that problem, the Khao Kwan Foundation focuses on the development of sustainable agriculture and rice variety conservation and breeding. For a long time it has provided training about paddy rice farming in the

sustainable agriculture system. This is to persuade the farmers to participate in searching for a solution, for cost cutting and self-reliance, and for farmers' health. Thus, 'Farmer Field School' is established for managing the knowledge of farmers. The Khao Kwan Foundation is the facilitator, and farmers are the ones who implement it by themselves because they are the center of this learning. The Khao Kwan Foundation brings extra knowledge based on the wisdom to support farmers through co-working and co-thinking so the new knowledge emerges from practice" (Khao Kwan Foundation 2014). Under such a problem, the sustainable agriculture had become a solution promoted through the scheme of Farmer Field School under the Khao Kwan Foundation.

Farmers were expected to learn about rice breeding, according to Khao Kwan Foundation (Khao Kwan Foundation 2006: 1), because "the private seed companies increased their role in the rice seed market and aim to monopolize the seed technology and accumulate profit from selling the seeds and other inputs for appropriating the chain of production. This makes farmers have less choice in their production; thus less self-reliance".

Indeed, this scheme not only aimed to change the agricultural technology of farmers but even transform their mentality in order to make them adopt the "sustainable agriculture" as it is stated that "If the farmers' paradigm has been changed, the adoption of sustainable agriculture will be possible and can contribute to changes at the group level" (The Knowledge Management Institute 2005). This foundation had joined a Royal initiative project under HRH Princess Sirindhorn to train farmers, as the ecological subjects, living in the upland areas in Nan Province in 2008 to improve their rice cultivation. This was for encouraging them to reduce the chemical inputs, leading to the declined disturbance of the surrounding forests (The Projects under Her Royal Highness Princess Maha Chakri Sirindhorn 2014).

- **Pun Pun Center**

In 2011, I had joined a group of PhD Students led by Prof. Phillip Hirsch from Sydney University to visit an NGO in Chiang Mai, Pun Pun Center, led by Mr. Jon Jandai, who was also well-known for his reputation of clay house construction. He used to visit Joko Learning Center in Nan Province to help build a clay house that would become a seed storage place. On the day we visited Pun Pun Center, one of our purposes was to learn about the idea of seed saving at the center. We did not have a chance to meet Jon, but luckily there were still other staff who explained the activities and took us to see the seed storage place at the center (see Figure 5.3). At the center, there was also a coffee shop where brown bag seeds were sold to visitors.

Figure 5.3 Seeds stored in the refrigerator (left) and in the plastic containers put on shelves in the clay house in 2011 (right)



Recently, in the website of Pup Pun Center (2014), it proposed the practice of seed saving for sustainable happiness while the indigenous seeds are collected, selected and shared. In the website, it said that "We came to the land to grow seeds, save them, and share them with others. We feel like bringing seed saving back into the hands of farmers and growers can empower people as well as increase the quality of seed and varieties we have to consume. As a seed center, we collect rare and indigenous seeds from Thailand and all around the world, propagate them at the farm, and, when we have enough, distribute them through our loose network of other organic farmers and communities. We are a living seed bank, meaning we do not only

collect seeds to keep but grow and exchange the seeds continually to propagate the species coming back to use. We are a small seed center with not much land or hands, growing and propagating what we can while mostly encouraging other farmers and growers to do the same. We don't strive to have all varieties at our center, but to slowly grow a network of people continually growing and saving seed themselves as well. While we do work to grow for seed, we also work to propagate the idea of bringing the practice of seed saving back to the lives of farmers and growers all over. We feel this is the true way to bring back our edible diversity. At the farm, we first grow for seed, second for our own consumption and for those who come to visit or do programs at the farm, and third give away any extra, make them into products, or sell them."

In an ad of Bangchak Petroleum Public Company Limited (see Siamrat Weekly Magazine 2014: 15), Jon Jandai's image made by different seeds was attached to a message about sustainable happiness, reflecting how the petroleum company also cares about farmers and nature. This can represent that the matter of seeds is well-known, not only in socio-environmental movements but also the private petroleum companies, like Bangchak who turns the natural resources into commodities together with corporate social responsibility (CSR) in a campaign, Bang Chak Green Society. In this ad, it said that "the sustainable happiness is sharing and living with nature, Mr. Jon Jandai, the founder of Pun Pun Center, a learning center for self-reliance and seed center, believes that the real traditional seeds will be the root of self-reliance and contribute to sustainable happiness. Thus, he collects and shares the 'freedom' of living with the people around him so happiness can take root deeply in Thai society" (see Figure 5.4).

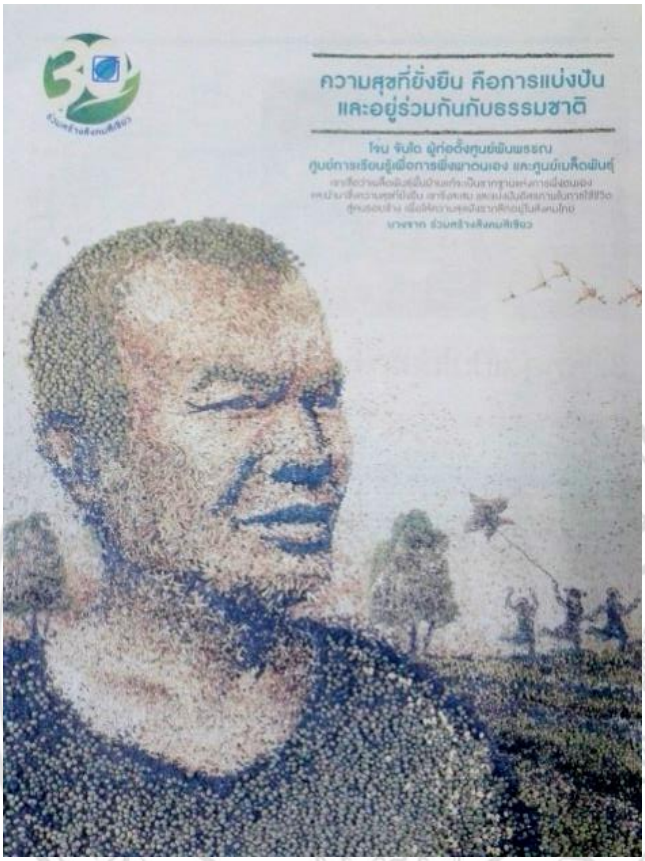



Figure 5.4 An image of Jon Jandai made by several kinds of plant seed and a message saying, "sustainable happiness is sharing and living with nature"
Source: Siamrat Weekly Magazine (2014: 15)



On 18 September, 2013, there was a gathering of activists and farmers from several organizations, in particular Biothai and AAN, at downtown Chiang Mai against the meeting of Thai-EU FTA initiative. Among other activists who also shared the stage to give their speech that day, Jon had mingled the nationalist populism with seed saving against neoliberal globalization. This counter-discourse can actually be found in socio-environmental movements. At this event, among activists on the stage, Jon Jandai gave his speech to criticize the monopoly of the food system by transnational companies through TRIPS and GM seed patents as he mentioned the

dispute between Percy Schmeiser, who was a Canadian farmer, and *Monsanto* in Canadian court.

Based on his speech on that day, Jon stated that "The effort to (re)possess seed and food is a big deal because food is essential for our life. Food in our daily life is a product of our labour. It is our life. It is also the product from our ancestors who developed and chose the best variety and sent them to later generations. For example, if they got a good mango variety, they would say they would keep it for their children. If they got a good rice variety, they would say that they would plant it for their children. That is the transfer of the greatest heritage of life of mankind. However, nowadays no one does that. Consumers are no longer connected to the producers. Farmers' life has been changed. Instead of living peacefully and having enough food for consumption, some of us (farmers) have to work as a labourer in the city. We serve and make money for companies all the time but never do for ourselves. We work so hard for nothing. We make money for others. We ask ourselves while working so hard for others how much money do we spend for organic food. After buying junk food, we send all the money to a few companies. Therefore, no matter how much we work, we are just the company's servant/employee in this whole wide world. Although they say we can be a big seed hub, still we are just a cheap labour".

The effort to patent the gene was also criticized by Jon: "What do we expect from the FTA meeting today? We can see examples from other countries like Canada, America and South America where the same contracts have been signed. What happened is villagers do not have the right to store their own seeds. It's tragic that farmers who produce food for people around the world have no right over their own seeds. Patent law is the most ridiculous thing. It's unbelievable that it can happen in the world where there are a lot of universities. To illustrate, if my buffalo eats someone's rice, the rice owner has to pay compensation to me (buffalo's owner). This is what the patent law is like. It is coming to us. Tomorrow, it will come closer to us because of the meeting. This is what is happening. Now our seeds are dramatically decreasing. When we look at goods in the market, we can find chicken in every market; however, all of them are the same. The same thing has happened to vegetables. There are vegetables in every market but not more than 20 vegetables are

sold there. A few giant companies freely control us even without the FTA; not many varieties are left for us. If we let others from all around the world get what they want, what will be left for us? This is the most concerning issue".

- **Alternative Agricultural Network (AAN) - Esan**

In 2012, I attended the Conference on "Seed Freedom, Sovereignty and Food Security" held May 16 -17, 2012, in Bangkok and attended a panel discussion in which Ubon Uwa, the director of Alternative Agricultural Network (AAN) in Northeastern Thailand, gave his talk. In this conference, Ubon proposed his idea that if small scale farmers could not have rights over their own seeds/varieties as the important factor in producing their own crops, they would be dependent on international seed companies. The seed conservation done by the government is also considered as ex situ instead of in situ conservation. Notably, AAN - Esan started the survey and collection of local plant varieties, in particular rice, in Surin Province during 1997 - 1998 through the financial support of DANCED (Sukran Rojanapraiwong 2004: 72).

In 2013, I also accompanied staff of Joko Learning Center to visit the farmers in AAN - Esan in Yasotorn Province, Northeastern Thailand, where I had met Ubon and his colleagues conducting the rice field trials and TRVs conservation under the scheme of Farmer Field School (see Figure 5.5). Based on an unpublished project report of Joko Learning Center in 2013, 29 rice varieties were maintained in the field trials of small-scale farmer participants in AAN in the Northeastern region, including Surin, Amnat Charoen, Roi Et, Ubon Ratchtani, Yasotorn and Kalasin Province. In addition, 72 rice varieties were found to be maintained by farmer participants in AAN in three provinces, such as Maha Sarakham, Karasin and Nong Bua Lam Phu.

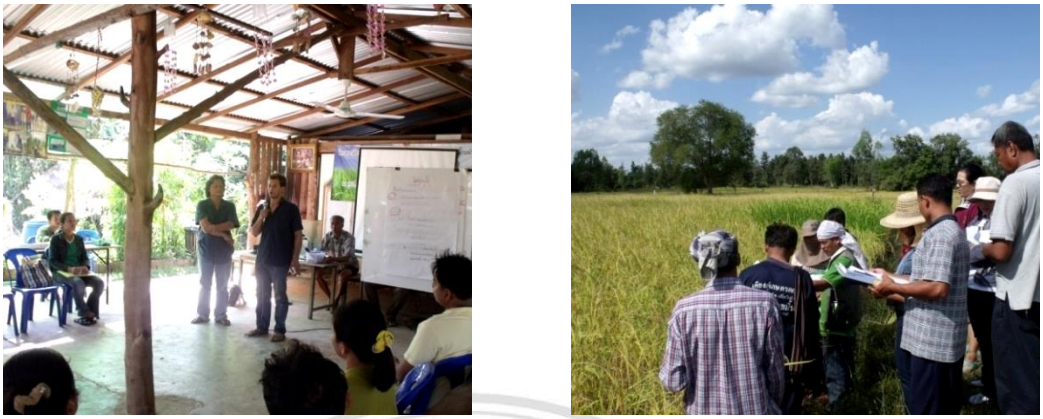


Figure 5.5 A meeting held in AAN - Esan, Yasotorn Province in 2013 (left) and TRVs maintained in farmer field trials (right)

Then, I went to Bangkok in order to attend a meeting held by a NGO, the Assembly of the Poor, as a member of the world's largest farmer network, *La Via Compesina (see Figure 5.6)*. In this meeting, I saw that the activists from Latin America proposed the notion of agroecology, while AAN activists and farmer leaders were seemingly satisfied with the notion of sustainable agriculture. Peter Rosset, who once conducted the research about the small-scale farmers and the hybrid tomato seed production in Northeastern Thailand (see Rosset, et al. 1999), also joined the meeting and proposed agroecology as a strategy to consolidate global farmer movements (see also Rosset and Martinez-Torres 2012). At last, to compromise the differences of agricultural campaigns among activists, they agreed that whatever terms found among the different groups would refer to the "Agricultural system which can contribute the real sustainability to farmers, obtained through the local knowledge revitalization and integration with ecological innovation, protection of resources/territory/seed, and gender equality" (Kingkorn Narintornkul Na Ayuttaya 2013).


Figure 5.6 Activists and farmer leaders in a meeting held by the Assembly of the Poor and La Via Compesina in Bangkok

At the Conference on "Seed Freedom, Sovereignty and Food Security" in 2012, Ubon's proposal was about farmers' and communities' rights protection over local varieties, support and empowerment for farmers on seeds, research development on local varieties cooperated with community, support, conservation and use of local varieties, and improvement on law, as well as policy, which hinders the farmer organization's self-management (see Figure 5.7). The local variety conservation for practical use in the community had to be established and rearranged with a scientific system responding to the consumers in the information society. The farmer's right to own seed as a symbol of security and independency would create a peaceful society (Ubon Yuwa 2014).

The demand for farmer's rights was rationalized to counter the patent law opposed by socio-environmental movements for a long time. Ubon described the patent as a completely controlling tool of seed companies. "Despite the production procedure, the gene is still the important factor determining the efficiency. Every year, seeds are the highly profitable goods that make transnational companies put a lot of effort in gene improvement and controlling, using higher technology than their competitors. They also try to have a monopoly on seed through patent law enforcement," said Ubon Yuwa (2014).

I had talked with Ubon when he came to Nan Province and Phrae Province in 2013 for monitoring a scheme of FFS. I later knew that he used to be part of the

national committee who was responsible for drafting PVP B.E 2542 (the same one as Decha from Khao Kwan Foundation). He mentioned that, agreeing with Decha, he was disappointed with the committee and the role of officials who seemed to take side with business sectors instead of farmers. That might be the important reason that triggered him to establish the social network with organizations and farmer leaders in many areas under the name "Seed Freedom Network" (SFN) for advocacy of farmers' rights to plant genetic resources (see Seed Freedom Network 2012). The list of organizations that participated in the SFN is shown in APPENDIX H of this dissertation. For Ubon, the campaign of NGOs for the local seed had become the alternative when they were criticized for rejecting hybrids and GMOs (Sukran Rojanapraiwong 2004: 70).


Figure 5.7 Ubon Yuwa giving his talk on the Seed Freedom Network in the conference held in Bangkok in 2012

- **Green Net Cooperative**

This organization, closely co-operating with the Earth Net Foundation, can be seen as a pioneer for the entry of the organic vegetable seed market. Green Net, once focused on organic food, recently established two organic seed production centers in

two regions of Thailand, such as the organic seed production centers in Yasotorn Province and Chiang Mai Province. Interestingly, an article written by activist, Michael Commons from Green Net Foundation (Commons 2013) seems to be the outstanding text that can reflect on the latest assemblage of the socio-environmental movements on seed saving and the Seed Freedom Network under the neoliberal era. He points out that "About 7 years ago, Earth Net Foundation organized a first meeting on organic seed with the support of Joko Learning Center, Nan, and participation from a number of leading organizations in this area, including Pun Pun Organic Farm, Khao Kwan Foundation, the Alternative Agriculture Network and some of the leading seed saving farmers in the country. This meeting set a basis of where we wanted to go, which was to develop an organic seed network that would both build the capacity of farmers to grow, select, improve, and process seed, and which would also link farmers with farmers and farmers/farming organizations with seed production capacity with buyers seeking organic seed. With core goals to increase in situ agrobiodiversity and restore seed resources to communities, but also working to develop an alternative organic seed market, this proposed network looked similar to models observed in other countries, such as the Southern Exposure Seed Exchange in the USA." Based on Commons' text, this not only helps to see the link of many organizations but also the merging of seed conservation and commodification in the effort to counter the corporate seed regime.

As Green Net Foundation also promoted a farmer group in Mae Tha District, Chiang Mai Province, to produce organic vegetable seeds, Commons' article tells something about this producer group: "We were moving in the direction of being a small seed company but were still mastering the arts of seed production, processing and packing". In 2014, I visited this group and found that they distributed fresh vegetables in the organic markets in Chiang Mai and organic seeds. These seeds were contained in paper bags under their own brand and employed a quality standard called, "Participatory Guarantee System" (PGS) (see Figure 5.8). On the product packets, not just a motto of fair trade but an idea of the seed saving was also emphasized. It said, "These seeds are produced by the organic producers under the support of Earth Net Foundation and are certified by Participatory Guarantee System

(PGS). These are the traditional open-pollinated seeds which can be saved for next cropping season".


Figure 5.8 An example of the organic seed produced by a farmer group in Mae Tha, Chiang Mai Province in cooperation with Green Net Foundation

To sum up, we can see that these socio-environmental movements in Thailand constructed the "local varieties," "traditional varieties" or "farmer varieties," as part of the organic nature under the counter-discourse against neoliberal globalization. The production of these seeds becomes undoubtedly the discursive practice that activists and farmer leaders co-produce in their movements. The movements attempting to form an organic seed network and contest the seed governance in both policy and farm levels for farmers' rights advocacy can show that the possibilities of PGR governance in Thailand are not limited by only the public and private regimes. In turn, it means that the contestation of the seed regime in Thailand among the heterogeneous actors is not complete yet, but complicated in the socio-environmental movements. Whether the cultural construction of "local community" and "local varieties" found in the socio-environmental movements against the neoliberal globalization become the possibility for all farmers or just only for those invited, this aspect has to be investigated further in details in the next part that I take the role of Joko Learning

Center as a NGO in Nan Province implementing the Farmer Field School (FFS) scheme for seed-related agrobiodiversity conservation into account.

## 5.3 Farmer Field School (FFS) and the support of farmers' varieties (FVs) under a network of Joko Learning Center in Nan Province

### 5.3.1 FFS for agrobiodiversity conservation and the socio-environmental subject

TK Village has been linked to many development agencies. Like in other villages since the beginning of the Eighth National Development Plan in 1997 – the year of economic crisis of Thailand, the state-led development schemes were mainly implemented under the self-sufficiency economy ideology ofHis Majesty King Bhumibol Adulyadej. In TK Village, there were buildings and signs, representing the villagers who were already directed to such state-led ideology (see Figure 5.9). The Provincial Office of Land Department funded TK villagers to establish a community building to support farmers to produce and use compost in their farmlands in 2007. The Provincial Office of Agriculture and Cooperatives in Nan Province also provided financial support to TK FFS under the project to establish the community learning centers for food security and self-reliance in 2011. These mean that self-reliance and participation have become buzzwords in the development schemes of the state and NGOs.


Figure 5.9 A building for compost production (left) and A sign stating the financial support of the Provincial Office of Agriculture and Cooperatives to TK FFS (right)

However in this part, I mainly focus on a project called “Farmer Field School” (FFS), launched around 2004 by Joko Learning Center under the Hag Muang Nan Foundation (HMNF) in TK village. Actually, the initiative of Joko Learning Center was part of a regional collaborative programme called Community Biodiversity Development and Conservation - CBDC (CBDC 2003). This programme has been an international collaboration amongst GOs and NGOs in the global South since 1994, while there were four donor organizations from the global North, including IDRC (Canada), Hivos (the Netherlands), SIDA (Sweden) and the Development Fund (Norway) (see CBDC 2003). The CBDC programme, as the global cooperation among NGOs, formal research institutions, scientists, researchers and development workers, mainly aimed to “support and strengthen community-based conservation, utilization and management of PGR” (Community Biodiversity Development and Conservation (CBDC) Programme - Thailand Project 2001: iii). In the first phase (1994-1999), Mr. Sathien Soonthornmuang, who was a college lecturer in the Rajamangkala Institute of Technology, became a coordinator of the project. Later, Mr. Samruay Phadphon, who was the director of Joko Learning Center, had been in charge of this position. I was a staff of Joko Learning Center from 2005 to 2006. This position provided me chances to visit TK village together with the staff from Joko Learning Center and other partner organizations.

In the CBDC partner network, there were NGOs and GOs from countries like Thailand, Lao PDR, Vietnam, Bhutan and Philippines. A Philippines-based NGO, SEARICE, was the regional coordinator of the CBDC programme in Southeast Asia. In the network, a representative of SEARICE (see Hivos-OxfamNovib 2013: 18)explained about the agenda of CBDC on an approach called the Participatory Plant Breeding (PPB):

> "Through participatory plant breeding, SEARICE and the CBDC-BUCAP network in Southeast Asia have been able to promote farmers' knowledge and innovations and raise farmers' concern in national and global policy processes. At the local level, field evidence provides proof to researchers and local government that farmers have the capacity to breed plants. Moreover, SEARICE provides farmers with simplified information on policies that affects them and report on farmers' feedback on these laws at policy level. From SEARICE's experience, the key to success for bridging knowledge gaps is a multi-stakeholder approach".

In Thailand, CBDC Nan project (see Hivos-OxfamNovib 2013: 16)was hosted by Joko Learning Center. It is clear that TK FFS in Nan Province was not established just to technically support farmers to conserve seeds but also to produce the environmental subject that farmers were aimed to "learn and teach" each other. Under the agenda of Joko Learning Center, the farmers in the project were expected, after trainings, to be able to rely on themselves in terms of seed/food security while the agrobiodiversity was conserved via practices of organic farming. CBDC Nan explained its focal agenda,

> "Joko Learning Centre in Thailand encourages farmers (and their families) to share their tacit knowledge – the unspoken knowledge that everyone has within, which becomes a source for learning only when shared with others, for example when transformed to written, documented knowledge. Farmers teach

> and learn from each other through Farmer Field Schools (FFS) on participatory plant breeding, participatory variety selection and organic farming".

Indeed, FFS was an apparatus that hybridizes several knowledge and ideologies in the fields where farmers and seeds have been strategically re-positioned in the development schemes by GOs and NGOs, or in fact GONGOs. While encouraging farmers to join FFS through the formation of the self, leading to farmers' will to self improve (Li 2007), NGOs could re-position themselves and became a trusteeship for small-scale farmers who were encountering the difficulties caused by the biodiversity loss. This could be seen from the booklets distributed under CBDC project. For example, SEARICE (CBDC Nan 2003: forward section) as a provider of trainings for small-scale farmers like other NGOs, stated about its position,

> "SEARICE facilitates training and other support to farmers, such as Farmers' Field School (FFS), where farmers themselves learn methodologies in developing their own varieties to meet their needs and local farming conditions".

Undoubtedly, FFS was linked to the advocacy politics of NGOs' network against the corporate accumulation in the seed and food industry. This arrival of seed companies was seen as a cause of de-skilling for the small-scale farmer, leading to a call for protection of farmers' rights to control, develop and use the plant genetic resources. A message by SEARICE (CBDC Nan 2003: forward section) was that:

> "Especially with seed utilization by farmers, most seed companies control the seed market and try to promote their seeds to farmers. Farmers automatically have reduced abilities to conserve, develop and use their own varieties. The decrease of traditional and *farmer varieties* (emphasis by the researcher) becomes more risky. Therefore, farmers should be the people who legally control, develop, and use the rice seeds naturally produced with their own method"

The trusteeship embedded in FFS run by CBDC Nan Project can be seen from what Mr. Samruay, as the director of HMNF and Joko Learning center, explained his advocacy for farmers' access to plant breeding technologies and rice varieties. Samruay claimed himself as a social entrepreneur (Thana Poopat 2010). His positioning as trusteeship is that:

> "Part of our effort recently is geared to help farmers gain access to new technology, including marker-assisted breeding of new rice varieties with resistance to diseases, insect pests, and drought…and letting them decide for themselves whether they would like to adopt them," (Quoted in Thana Poopat 2010: 29).

Recently, in the Second National Conference of Rice held in 2012 in Bangkok, Samruay had explained four steps to develop the farmers through schemes of FFS (see Figure 5.10). His idea focused on the self-progress of the farmers. In other words, farmers are the subject and object of development. His diagnosis is quite similar to the way that Dr. Boonrat, once the rice researcher working at Ubon Ratchatani Province, shared the vision with Samruay as Boonrat (personal communication in 2013) told me about the problem solving for farmers that:

> "It depends on farmers themselves-how they can adapt themselves; how to walk; how to know what the problem is and what it is not. The problem becomes more place-specific. We have to see how they solve it and contribute to the development in other groups."

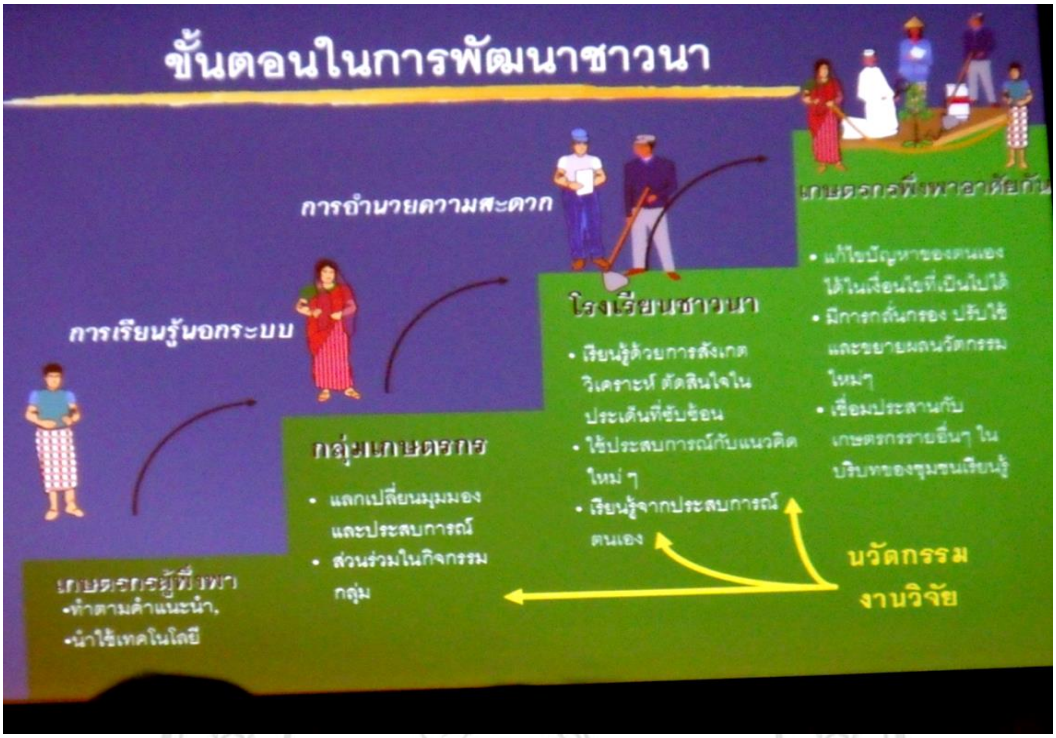



Figure 5.10 Samruay's explanation of how science and technology research would help to transform farmers in different self progress, the presentation in the 2nd National Rice Conference in 2012

Apart from rice breeding and training, TK Village had also been promoted by Joko Learning Center as a community seed bank (The Development Fund 2011: 11). In 2008, some TK farmers and Joko staff joined the seed movement called "Seed Freedom Network" (SFN), mainly established by farmers and activists mostly from the Sustainable Agriculture Foundation and the Alternative Agricultural Network (AAN) in Northeastern Thailand. Then, SFN asked the National Gene Bank, located in the central region, for access to some "traditional" rice varieties. In 2009, five "traditional" varieties were brought by staff of Joko Learning Center to be grown in a field trial of TK FFS. Those rice varieties included Jao Dor (เจ้าดอ), Ma Nam Pua (มะน้ำป๋ว), Fha Kong Noi (ฝาโก่งน้อย), Nang Kao (นางเก๋า) and Kii Tom Kao (ขี้ตมขาว).Therefore, there were over 100 rice varieties altogether in the TK FFS seed bank, which were not only conserved and developed by TK farmers but also provided by the seed sharing networks of farmers, GOs and NGOs. This seems that the NGO initiative

for rice genetic development and conservation in the community-level was successful while the FFS farmers were respected as GOs, specifically by the Rice Department who saw the farmers in FFS as a successful example of the active farmer group, who defended Thai rice from the genetic erosion, as well as the farmer-breeder, who could develop a new rice variety with 'modern' breeding techniques. This seems to go hand in hand with the reward that the Thai Senate gave to Joko Learning Center (see Figure 5.11).


Figure 5.11 Joko Learning Center was granted a certificate from the Thai Senate in 2012 for the project to collect TRVs and manage PGRs through applying the scientific knowledge in the social development



Thus, at present, TK Village has not only been integrated into contract farming for the hybrid vegetable seed production under global seed companies, but NGOs have also linked TK farmers to socio-environmental movements for farmers' rights advocacy to plant genetic resource management. In particular, the advocacy for seeds as the commons is seen as a shared discourse among NGOs in Thailand and other countries. In other words, the initiative of NGOs in Nan was actually a part of international socio-environmental movements for seed conservation and re-claiming seeds as commons (see Navdanya 2012: 116). For this, many NGOs emphasized seed sharing as I observed during my fieldworks (see Figure 5.12).

Figure 5.12 Ex-director of HMNF, Pra Ku Pitak picking up a lobe on the branches of tress, decorated with a number of tied-up plastic bags containing seeds of rice and vegetables, as part of the Buddhist ritual, Paa-Pha, emphasizing the sharing of things, including seeds, at HMNF in 2012

Moreover, in comparing Joko Center and other NGOs in relation to the eco- and etho-politics, agrobiodiversity conservation became part of their spectacles, held in many events and at places such as schools, temples, universities and conferences. Thus, the way they performed the agrobiodiversity conservation project could be read through their socio-spatial practice. In the case of Joko Learning Center, their demonstration rice paddy fields were reshaped as part of their ecologically Buddhist advocacy (see Figure 5. 13).

Figure 5.13 The symbol of HMNF (Left) and 5 rice paddy fields where several rice varieties being grown around a pentagon pond in Joko Learning Center

The worldwide socio-environmental movements that had constructed imagery of desirable peasantry and the organic nature were linked to the sustainable development and biodiversity discourses of the 1980s (Escobar 1998). However, it is noticeable that the socio-environmental movements in Thailand, in particular Joko Learning Center and HMNF, usually attached their projects to the community and agricultural development with the conservative power. I recently noticed this when I was attempting to compare CBDC Nan or Joko Learning Center to other CBDC partner organizations in other countries. While the Philippines-based NGO, SEARICE also established several trainings of trainers (TOT), which became the field of power relations between the farmers and activists, Joko Learning Center and HMNF seemingly designed their TOT in relation to the conservative power. Thus, if the past two decades of HMNF appears in the local resistance to the elite's power over nature or the socialnatures (eg. forest, river, seed), I wonder whether FFS in the new context of HMNF and Joko Learning Center can really be an emancipatory apparatus to empower the small-scale famers in the special polity of Thailand (see Figure 5.14).


Figure 5.14 A rice storage place of Joko Learning Center (left) and a sign (right) found at Joko Learning Center, showing Joko Learning Center in relation to Thai government and army under the HM the King's ideology on self-sufficiency

Consequently, FFS might have possibly contributed to both possibilities and constraints for the small-scale farmers while plant genetic materials, funds, knowledge, and ideologies were transferred across the seed network. The next part will explain this point in terms of the emergence of farmers' seeds and varieties.

### 5.3.2 The emergence of farmers' varieties as the new peasantries

This part sheds light on three stories of rice varieties, including Wan1, TK1 and TS, in order to explain the emergence of FVs in the complicated network of FFS. This network was influenced by not only NGOs opposing the corporate accumulation, but also the scientists in different nodes and places. I may say that FFS is, in this circumstance, not totally opposite to the complex capital accumulation, especially when looking back to the so-called Seed Cluster (see Chapter 2 and 3 for the black-box of BIOTEC and NSTDA in the seed sector). This contributes to the better understanding on how seeds have been part of livelihood struggles of farmers and of politico-economic struggles of actors who formed the hybrid governance of plant genetic resources in Thailand in the neoliberal era.

The emergence of farmer's varieties (FVs) under FFS, actually, can be seen as part of discursive practices of FFS because they have been linked to the flow of knowledge, rice varieties, budgets, desires, and identities among actors, such as

NGOs, scientists and farmers. Particularly, approaches called Participatory Plant Breeding (PPB) and Participatory Variety Selection (PVS) were employed in FFS a scheme run by Joko Learning Center.

According to Cleveland and Soleri (2002), PPB is expected to solve the gap between MVs and FVs and reunite farmers and scientists. PPB, when implemented, brings farmers and scientists together in the process to develop new crop varieties or improve the ones on hand. Generally, MVs are seen as materials developed by plant breeders. In contrast to crop varieties developed by farmers, MVs come up ideally as more uniform, adaptable to (low stress) geographically wider ranges, and high yielding (in such environment). FVs are seen as materials with adaptations to narrow geographical ranges to the marginal growing environments with high stress and yield stability in such environments. Notably, the term FVs itself becomes problematic in an effort to clearly separate it from MVs, as the term FVs, for Cleveland and Soleri (2000:5), can include the following materials: landraces, traditional varieties selected by farmers, MVs adapted to farmers' environments by farmers and natural selection, and offspring after landraces and MVs crossed (thus, becoming the creolized varieties or the degenerated MVs). As such, while NGOs had conducted FFS field trials, PPB partly contributed to the making of FVs, which became the discursive materials attached to the construct of new peasantry as the socio-ecological subject.

The following sheds light on the different rice varieties and the farmers' identities so as to illustrate the assemblage of agrobiodiversity. Importantly, the role of scientists in different nodes and places will be shown in order to see science in action among actors with specific values and knowledge in the invention of FVs. Thus, this part contributes to the investigation of science in actions outside the laboratory space.

- **The birth of Wan1 rice**

Wan rice is the result emerged from the experimentation of Mr. Wan, who was a farmer in Had Ket Village, located near Joko Learning Center. In a magazine published by Joko Learning Center(Joko Learning Center 2004c: 4 - 5), Wan was represented as a "farmer breeder", thus re-constructing the identity through combining the farmer and breeder roles. His success was described not only from his rice breeding but also from his changing farming patterns from rice mono-cropping to the "new agricultural theory", or the integrating agriculture based on HM the King's initiative.

Mr. Wan made a cross by using a TRV called Hom Thong variety as mother and HYV called RD6 as father (see CBDC Nan 2003: 3-5). In 2003, he got the fifth generation (F5) of the offspring that he kept selecting in each growing season. The successful line was named as Wan by him.

I had met Wan when I was a staff of Joko Learning Center since 2005. At that time, he seemed to be already accepted among Thai activists who paid more attention to farmers' knowledge in rice breeding (see Figure 5.15). His case was well-known among not only the activists but also the rice agronomists who had worked in rice research. As I attended the national conference, "Father's Rice" (ข้าวของพ่อ), held at a shopping Mall in Bangkok on 22 February 2012, Mr. Worawit Phanichapat, the breeder of RD varieties, talked about the success of Wan and his Wan1 variety on stage, although Mr. Wan was not there. However, at present, this rice variety has not yet been certified by the government according to the Seed Act or PVP B.E. 2542 Act. However, Wan1 has already been distributed throughout Thailand, especially in the North and Northeast where farmers prefer glutinous rice.

Dr. Boonrat, a rice researcher who used to work in the Rice Research Center in Ubon Ratchtani Province, was also impressed with Wan's case. At present, Dr. Boonrat has retired and became a consultant for both GOs and NGOs. In Nan Province, Dr. Boonrat became the project coordinator for Joko Learning Center in the latest phase of CBDC, known as DARE (Democratizing the Agricultural Research

and Extension). Under DARE, Boonrat encouraged farmers to conduct rice field trials in order to make farmers the researchers.

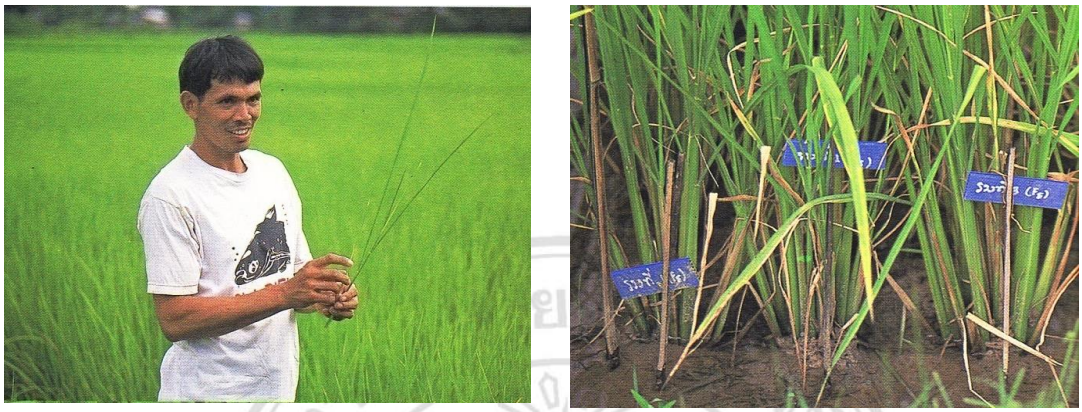


Figure 5.15 Wan (left) and his experimentation on rice breeding (right) in Geenpeace Southeast Asia's publication
Source:Wiwat Pantawuttiyanon (2005: 30)

- **The birth of TK1 rice**

Around 2005, through the FFS network, Dr. Boonrat sent the segregated materials to TK farmers. Based on the personal ties between Dr. Boonrat and Joko Learning Center, he met Mr. Kiet from TK FFS. Mr. Kiet asked, as Dr. Boonrat told me, for the rice variety with long stems and drought tolerance. Dr. Boonrat(personal communication September 18, 2013)said he sent the Hom Sakon variety to TK Village because Mr. Kiet requested from him a rice variety with early maturity, "Kao Bao", a glutinous type.

A nearly stable line, named later after selection as Hom Sakon by TK FFS farmers, was sent to Mr. Kiet. This variety was not only grown in a field trial of TK FFS but also given to the other farmers in TK Village and other farmers in the network of Joko Learning Center. However, according to Dr. Boonrat, Hom Sakon was a variety that could be grown in the rain-fed area, but when it was grown in TK where the farmers applied synthetic fertilizers in the hybrid vegetable seed production for the global seed companies, their paddy fields absorbed Nitrogen. As such, when

the farmers grew the Hom Sakon variety, what they got was different from the variety performance from the TK FFS field trial that was used only for FFS rice cultivation without any synthetic fertilizer applied (see figure 5.16). The unsuccessful performance of Hom Sakon was used by many farmers in TK to criticize the TK FFS farmers.

Figure 5.16 Hom Sakon rice grown in the field trial of TK FFS in 2011

Under FFS field trials, some successful farmers or farmer-breeders in TK FFS had a chance to participate in the meetings held in Thailand and abroad. Some farmers from TK Village were selected based on their breeding success to participate in the regional and global meetings, such as experience sharing. In a magazine published by Joko Learning Center (Joko Learning Center 2004b: 7 - 8),a female farmer in TK Village, Mae Kwaun, explained about her rice breeding objectives as she made

crosses from three rice varieties, including RD10, San Pha Thong, and Daw Isaan. Not only Mae Kwaun, there were several farmers who also made their crossbreeds (see Table 5.1).

Interestingly, if looking at the breeding objectives of farmers in Table 5.1, there were different variety preferences among farmers, although they were from the same household type. This means that even farmers in the same household type could choose different varieties. Based on Table 5.1, it was found that farmers (with gender and class difference) crossbreed by utilizing different parental materials, while they set their own breeding objectives and chose different varieties, including TRVs and MVs. Thus, I insist here that PPB can be seen as a discursive practice that leads to the emergence of FVs. These farmers crossed different rice varieties, while they aimed to develop some desirable characteristics in the new bred materials.

Table 5.1 Farmers and their breeding objectives

| **Farmers** | **Parental Varieties with desirable traits** | **Objectives** |
|---|---|---|
| Mae Yeng (female, 48 yrs old in a lower-middle income household) | • Hom Sakon x Mon | • She wanted to deliver the following traits: long stem, long panicles, delicious<br>• The new material should meet the following traits: the shape and color of the husk was market-favored, high yield, delicious |

Table 5.1 (Continued)

| Farmers | Parental Varieties with desirable traits | Objectives |
|---|---|---|
| Mae Phin (female, 56 yrs old in a lower-middle income household) | • Lao Taek x RD10 (delicious)<br>• Hom Sa Ngeam x Thang On (strong Stem) | • She wanted to deliver the following traits: grain shape that was market-favored, high yield<br>• The new material should meet the following traits: high yield, blast tolerant, market-favored husk shape |
| Mae Mauy (female, 48 yrs old in a upper-middle income household) | • RD10 x Daw Mae Lea | • She wanted to deliver the following traits: strong stem, blast tolerant, long grain,<br>• The new material should meet the following traits: high yield, market-favored husk color, early maturity |

Table 5.1 (Continued)

| Farmers | Parental Varieties with desirable traits | Objectives |
|---|---|---|
| Paw Keit (male, 53 yrs old in a rich household) | • Rd10 x Daw Mae Lea (drought tolerance)<br>• Hom Sakon x Daw Chiang Rai (blast tolerance)<br>• Sun Phathong x Daw Sa tern (flag left covering over panicles) | • The new material should meet the following traits: market-favored husk color, high yield, early maturity |
| Mae Kwaun (female, 55 years old in an upper-middle income household) | • RD10 x Daw Isan (the disease tolerance)<br>• RD10 x San Phathong (strong stem) | • The new rice variety should have good quality grain, aromatic, delicious, strong stem, adaptive to her own paddy |
| **Source**: Data modified from the work of Sawit Meejui, et al(2010), Joko Learning Center (2004a)and the researcher | | |



TK1 rice variety is a nearly stable line, emerging from a cross [Rd10 x Daw Mae Lea]. The term TK1 stands for TK Village, as it was expected to serve for TK farmers. Whether the finished products could meet their breeding objectives or not, as of present, these crossing materials are no longer maintained in the TK paddy fields (see also Chapter 6 in Section 6.2).

This can point to the individuality of the farmers that influences their preferences. Thus, employing only the concept of class, or even gender, to understand farmers might miss such a point. In other words, farmers are still varied in their preferences, so they cannot be understood by employing only the collective idea of

class or gender. Moreover, the concept of community, which is famously employed by activists, might misrepresent the farmers in a village as a collective social unit in an attempt to raise the community-based PGRs. For this, it would be better to see farmers through the actor-oriented perspective so we can learn how the relations between NGOs, scientists and farmers have been formed in the cultural politics of peasantry. This aspect can be seen in the next story of TS rice.

- **The birth of TS rice**

TS rice variety emerged in Nan Province in 2010. However, it is like the other two rice varieties that are not yet certified by the government according to PVP Act B.E. 2542. There were some scientists who played a key role in making TS. In the national research group in Bangkok, Dr. Threerayuth, a scientist in BIOTEC, supported the flow of materials from his laboratory to Nan through Dr. Patama. In Nan Province, Dr. Patama, a university lecturer in Lampang Province, distributed some promising lines to the extension officials and farmers who were involved in the scheme of FFS with Joko Learning Center. I met Dr. Theerayuth on 21 December, 2012, at the Second National Conference of Rice in Bangkok. He told me that he developed the new rice varieties by employing molecular assisted selection (MAS). Then, a lot of materials were sent to farmers in different places for the farmers to select themselves. By this, according to Theerayuth, farmers could be proud of themselves and feel that they owned the MAS rice.



Dr. Patama (personal communication on February 17, 2014) told me about the beginning of how she was involved in the breeding of the Tanya Sirin rice variety many years ago. There was a prior project studying the fungus disease causing the blast found in staple crops like rice and wheat. The disease was first detected in wheat grown in Japan. Then, Dr. Patama implemented a project to collect the fungus found in every region of Thailand, and, in Nan Province, she found that there was only one fungus specie that caused the blast. After her study of fungus, she continued to find how to make a variety of rice that could resist the blast. One of her junior researchers, Ms. Joy, used an off-type variety that Dr. Patama hesitated to reveal exactly who gave it to her. This variety became known as the Hom Nil variety. Ms. Joy tried to identify

the DNA position in the Hom Nil variety that could contribute to blast tolerance. By back-crossing, Ms. Joy created a cross between Hom Nil and RD6. There were many lines sent to Nan through two channels after this experiment, including Dr. Patama, who was working under BIOTEC, the Ministry of Science and Technology, and Dr. Boonrat, who used to work in a rice research center under the Department of Agriculture. Amongst many series, some promising lines were sent to farmers in Nan Province for on-farm selection. In 2010, when HRH Princess Sirindhorn visited Nan, BIOTEC presented their work and asked HRH Princess to name the variety. The name, Tanya Sirin (Tanya = rice, Sirin = HRH Princess Sirindhorn, thus it refers to the princess variety), emerged after this event in Nan Province.

However, the TS rice variety has not yet been certified as of present. This means that although this rice variety has been sent from the laboratory, it has not been accepted by the government. This is in contrast to the farmers from other provinces who travelled to Nan Province to buy TS from farmers. Importantly, while TK farmers put TS rice in their field trial, they did not consider to TS rice for their own use because of its long maturity (see Figure 5.17).

Figure 5.17 A female farmer teaching primary school students (left) and TS rice grown in TK FFS field trial in 2011 (right)

In contrast, there are many groups of farmers in other villages organizing their groups as community-based rice seed production to sell TS rice seeds in Nan Province (see Figure 5.18). Thus, those farmers got financial support from BIOTEC.



Figure 5.18 Thanya Sirin rice exhibited in the national conference of Rice, Dr. Patama sitting beside NGOs and extension official (left) and a farmer group who obtained TS and RD6 with blast tolerance from Dr. Pattama to produce rice seed for sale (right)

However, in TK Village, only Mae Phin sold TS rice seeds, as she was the owner of the paddy field which was utilized fpr TK FFS field trials. In 2013, she sold 168 kilograms of TS3 and TS4 to three farmers from other villages. This happened without any support from BIOTEC like in the prior-mentioned case. In the next part, the limits of environmentality will be illustrated.



## 5.4 The limits of environmentality

### 5.4.1 The dreamed rice TK1 failed

The advocacy of Joko Learning Center in community-based agrobiodiversity management is, indeed, dynamic if looking back to the origin of Joko Learning Center from the beginning, as the traditional plant variety conservation club, to the present. In the early 1990s, the TRVs in both rice and vegetable seed sectors were promoted. However, at the present, not just TRVs but also MVs are mainly promoted to farmers.

On the facebook page of Joko Learning Center (see Joko Learning Center 2014), it was announced that there were nine rice varieties shown in a list of rice seed for farmers under the rice seed network of Joko Learning Center. Interestingly, once farmers were encouraged to conserve TRVs, those promoted rice varieties could be divided into three seed groups, such as (1) Farmer's bred varieties (Wan1 and Wan2), (2) TRVs (Luang-On) and (3) Breeder's bred varieties (Thanya Sirin, RD6, RD6 no.2, RD6 no.3, RD18 and Mali105) (see Figure 5.19).


Figure 5.19 A list of nine rice varieties for sale by Joko Learning Center in 2014
Source: Joko Learning Center (2014)

The promotion of the specific rice varieties together, in the cases of Wan and Thanya Sirin, can show the merging of some ideologies in the FFS network, such as royalist populism, productivism, and localism. I found that a song, *Wan 1, Wan 2*,was sung in a training of farmers in 2012 at Joko Learning Center. In this song, Wan rice was presented after Thanya Sirin rice was mentioned in the content of the song, even though both rice varieties were seen as the desirable rice varieties for farmers (see APPENDIX M).

However, for TK farmer, their rice variety, TK1 was not famous even within their group. In 2010, I asked Mae Kwaun whether she grew TK1 in her paddy field. She told me that she did not because TK1 was not stable yet, so it was grown only in

the FFS field trial, which was only in Mae Phin's rice paddy field. In 2012, TK1 rice was disappeared from TK FFS. Mea Phin (personal communication on July 2011) told me that Paw Kiet forgot to cover TK1 rice panicles with nets in order to protect it, so those rice panicles were eaten by hens living at a house in front of FFS field trial.

### 5.4.2 Stop participation and leave FFS

TK FFS was integrated into secondary school in 2004, the first year when a teacher and some students joined the TK FFS activity called Farmer Field Day (FFD) held in the village temple. Actually, as a Buddhist village, TK also has the annual rice celebration festival called *Boon Kao Mai* (Merits of New Rice), held in the rice harvest season. In the context of CBDC, the farmers in TK FFS and NGO staff used this event to present their works, including materials such as traditional rice varieties, stable lines and segregating materials, to the public. FFD, in this way, was a mainstreaming activity of TK FFS in order to distribute their varieties and publicize their project outcome. On such an occasion, a school teacher joined the event and was attracted by the FFS activities. She then discussed her idea with the principal. Both of them agreed to send students to participate in TK FFS throughout the year.

Based on Thailand's decentralization in the educational system, opening the school to add its curriculum with the so-called local knowledge for student learning about their locality, it allowed the formal school teacher to partner with the TK FFS farmers. This led to the student participation in the TK FFS field trial. For the teacher, it was a chance to integrate her course of biology into the field trials of TK FFS farmers. The student activities took 18 weeks to observe the growth of rice in the paddy, from planting to harvesting, together with farmers. Each week, students had their own tasks to learn about rice physiology and agro-ecosystem such as the growth of the rice seedlings, features of rice flowers, gene & heredity, the attack of pests and diseases, and organic fertilizers as well as participate the agricultural ceremonies like *Suu Kwan Kwai* (a ceremony to show gratitude to the buffaloes) and *Sueb Cha Tha Kao* (a ceremony to lasting life of rice). As it was set up under the plant biology

subject, the teacher would teach her students along with the farmer teachers by adding her biology knowledge to explain the rice characteristics based on the idea of the genotype or the gene and the selection by the farmers.

Moreover, in 2011, a new FFS scheme was established in a village near TK village to the East. This FFS was handled by a healthcare official who lived in this village. Mae Phin was asked by a teacher to join this new FFS in its early stage of establishment. The healthcare official also modified FFS to serve the tourism industry as a form of homestay because it was located near tourist attractions, such as waterfall and a national park (see Figure 5.20). There were activities promoted for tourists in this FFS home stay, such as rice cultivation, the organic rice and vegetable production, and compost production.


Figure 5.20 The new branch merged with the agro-tourism asa homestay

However, the number of farmers in FFS gradually decreased. In contrast to the beginning of the programme with nearly 30 farmers, at present only 3 farmers are still engaged with FFS in TK village. TK1 was not accepted, even by TK farmers, because its long maturity did not serve the land use pattern well in contract farming, many farmers who I interviewed said that they could not earn enough income from selling the rice seeds. Some even complained that NGOs emphasized seed saving and sharing, so it in turn caused farmers to have fewer chances to sell the seeds. Ironically,

according to a staff of Joko Learning Center who I interviewed, TK FFS had the highest rice diversity in comparison to other FFS villages where Joko Learning Center established rice conservation. The main contributing factor was the integration of FFS into a formal school. In this sense, rice diversity utilization became part of teaching aids for a formal school but could not be increasingly utilized in farmers' paddy fields.

In 2010, CBDC-BUCAP continued into a new phase and changed its title to the Democratizing Agricultural Research and Extension (DARE). The new state agency, Agricultural Land Reform Office (ALRO), and a NGO, Alternative Agricultural Network (AAN), were included. The main agenda of ALRO emphasized organic rice farming in order to produce organic rice under the standard of the International Federation of Organic Agriculture Movements (IFOAM). TK Village was then excluded because farmers could not leave contract farming which relied on chemical inputs.

On the way back to TK Village by motorcycle after spending three days for a training at the Rice Research Center in Phrae Province, I asked Por Kiet (personal communication on January 13, 2013) about his idea on the use of IFOAM introduced by the senior consultant of ALRO. Paw Kiet told me that this was difficult for TK farmers although they had joined the scheme of FFS with support of Joko Learning Center in 2000 (see Figure 5.21).

Figure 5.21 A farmer from TK Village explaining FFS' activities in a training held at the Rice Research Center in Phrae Province in 2013

In response to DARE, two TK FFS farmers ended their participation in FFS activities in the village. However, only Mae Phin still implements the activities together with school students today. The future of rice seed diversity in TK FFS now depends on this farmer who has provided her paddy field for the FFS field trial for years. Since that event in 2013, TK farmers have participated less in the activities of Joko Learning Center.

### 5.4.3 Nonhumans that reshape conservation of TRVs

Some farmers also engaged with the NGO networks of the local brown rice markets not just the middlemen-factory-official networks. Although most TK farmers cultivated their rice for only one cropping per year for their annual consumption, a network of local rice markets provided an economic opportunity for some farmers to sell their produce to urban consumers who were concerned with healthy food and community-based products. Two female farmers in TK Village, Mae Phin and Mae Kwan, they grew the certain traditional rice varieties in response to such demand. For example, a local rice variety named "Kum" was good for making a local dessert for the religious festivals, but in the new context, farmers sold Kum rice grains in the brown rice market to the middle-class consumers who consumed Kum rice as a source

of beta-carotene, indicating the idea of seeing Kum rice not just as food but also as a healthy food choice.

However, the productivity of this aromatic Kum rice was lower than other rice varieties. More than that, not only interesting to human consumers, Kum rice was also attractive to birds, especially the spotted munia (*Lonchurapunctulata*). Mae Phin had a problem withthis kind of bird in contrast to the other TK farmers who grew the other early-maturing rice varieties. Because of its slower maturity, when the other rice varieties of most farmers had already passed the milky stage, flocks of the spotted munia gathered and enjoyed the milky Kum rice grains in the paddy field of Mae Phin (see Figure 5.22).


Figure 5.22 The spotted munia in Mae Pin's 0.5 rai paddy field (left) and a little amount of Kum rice grains left, less than half of one sack after harvesting in 2011 (right)



In order to cope with this situation, she decided to grow the faster maturing varieties and started to raise four cows instead. Thus, the disappearance of the Kum rice variety of Mae Phin was not the direct impact by the replacement of MVs only. This also involved the role of nonhumans reshaping conservation of rice diversity in specific areas, like the case of TK Village.

## 5.4 Chapter Conclusion

In this chapter, in the assemblage of the organic nature and new peasantry, there were crops, especially rice varieties, which were taken into the discourse of FFS and NGOs' advocacy of farmers' rights and agrobiodiversity conservation. Among many organizations, this chapter focused mainly on the role of Joko Learning Center and TK FFS in order to show the complicated and conflicted issues emerging in the cooptation between GOs, NGOs and small-scale farmers in Nan Province. While works of CBDC-BUCAP Network (see Doctor 2013) and the making of FVs as a new approach to protect farmers' rights (Salazar, et al. 2006) could remind us of the importance of farmers in agrobiodiversity conservation, FFS needed to be reflexive among actors with different knowledge, values and power.

Moreover, while the socio-environmental movements turned to employ the so-called "traditional varieties" in their movements, this partly contributed to a problem of defining seed types by employing the dichotomous understanding in the case of MVs and FVs. By employing the dichotomous terminology, it would limit the understanding of how the cultural politics could be crucial for supporting farmers' agency in the construct of knowledge necessary for coping with difficulties in their everyday life. This is a point that I revisit in Chapter 6.

So far, as the critiques of the Green Revolution, as well as corporate accumulation, had been re-produced in the socio-environmental movements, I wondered about it, especially when seeing the changing circumstances of TK Village. To see the seed management of farmers in the destructive scenario of the Green Revolution is problematic, although it might help in criticizing the triumph of neoliberalism (see Shiva 1993; Yapa 1996). In fact, the myths of the Green Revolution needed to be investigated, especially in the setting of industrialized agricultural areas (Brush, et al. 2003). It was unable to simplify in terms of the fight of sustainable agriculture and high technology. Especially, there were already the lessons learnt by several projects that aimed to conserve agrobiodiversity by employing strategies like "in situ conservation" and "on-farm conservation", but these

strategies were seen as unable to capture the farmer management in its dynamism (Boef 2000: 181).

The scheme of democratizing the conventional breeding science and technology in Chapter 5 could help, I agree, to be a challenge for knowledge constructed by elites, but I argue that it was still necessary to be reflexive for all actors. This was because it was not all farmers who could join the socio-environmental movements due to several conditions. But, theses farmers were not passive, as Chapter 6 illustrates further the everyday practices of small scale farmers who attempted to handle their on-farm resources individually and collectively under different circumstances. By this, they produced the practical knowledge of agrobiodiversity in their everyday life through employing the livelihood strategies to cope with their changing livelihood landscape.