

CHAPTER 7

Conclusion

Based on this study, small-scale farmers in the twenty-first century faced with complex situations while they were integrated into the global seed market. This chapter responds to the key question of this study: the simultaneous emergence of global seed production and local seed conservation in Nan Province and their impact on small-scale farmers. The study of Thailand's shifting seed regime and the competition among seed companies in the neoliberal era can help us understand that neoliberalism cannot be viewed through either the macro or micro perspectives. Rather, according to Ong (2007), neoliberalism as a logic of governing is the mobile technology which can co-exist with other political rationalities that govern "free subjects". The space of global assemblage that links the global technology of governance and the situated practices becomes the site of neoliberal intervention. The effort to explain "Neoliberalism" as an "economic tsunami" is problematic. This study investigated how the neoliberalization of agrobiodiversity, or clearly seen as the seed commercialization in post-Fordist production, had influenced the governance of plant genetic resources and the small-scale farmers' livelihood struggles in Thailand under the context of the global seed market integration. There were two important phenomena in relation to socio-natural changes in the neoliberal era simultaneously shaping the seed production of local farmers: integration of farmers into contractual labor under the globalization of the seed market and the rise of socio-environmental movements.

The field site of this study was conducted mainly in Nan Province. This study applied the multi-sited and actor-oriented approaches with the political ecology framework. It relied on several sources of both quantitative and qualitative

information, such as field observation, questionnaires, interviews, texts, and online databases. The intensive fieldwork was conducted during 2011-2013. For collecting baseline data, a village survey was conducted, and 56 out of 129 households were randomly selected. Then, Microsoft Excel was used to compile the data sets for the descriptive statistics and simple cross-tabs. Some farmers were also interviewed for better understanding about their response to market integration and socio-environmental movements. These data are useful as empirical evidence in understanding the limits of neoliberal development and the politico-ecological possibilities, as well as constraints for small-scale farmers to engage with heterogeneous actors.

There are four main parts in the last chapter. The first part is the research results which show the main findings and three arguments in response to the research questions embedded in Chapters 4, 5 and 6. The second part is the theoretical contribution. The third part is the policy implication. The last part is the research implication.

7.1 Research results

During the global seed market integration, there were articulations of inter-and intra-state policies, as well as ideologies, that contributed to the complexity of seed production and conservation of agrobiodiversity in Nan Province among heterogeneous actors. By this, it is irreducible to see neoliberalization of agrobiodiversity as a monolithic, complete programme being formed only from above. It can be further concluded that neoliberalism was not acting alone but was hybridized with other ideologies and thus not necessary to oppose but mutually co-produce the politico-ecological subjects together with the other ideologies, such as royalist nationalism, developmentalism and environmentalism. Under a complicated network of seed production and conservation, I found that there were actors connecting to different nodes and places. These reshaped and reconfigured the specific relations involving the commercial seed production and conservation of

agrobiodiversity in Thailand (see Figure 7.1). Figure 7.1 is my experiment in order to reconstruct the shape of such a network as found in this study.

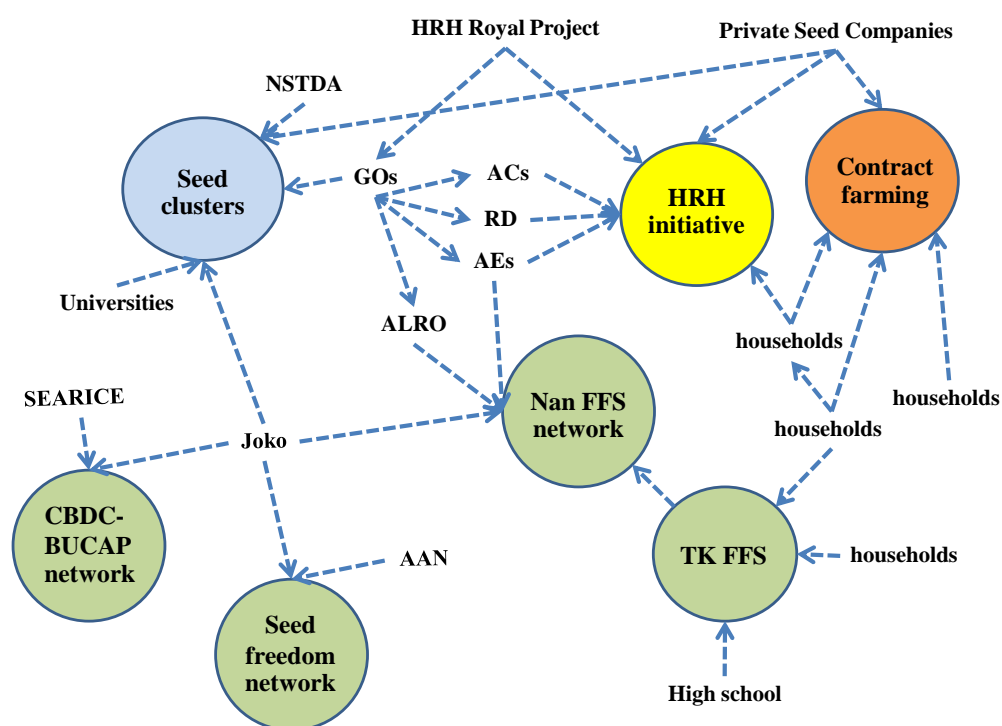


Figure 7.1 Anatomy of a seed production network as a complicated network of power relations among heterogeneous actors

Based on the research findings, there are three main thematic conclusions in this study. These are mainly taken from Chapters 4, 5 and 6, respectively.

7.1.1 Hybrid seed production in the changing livelihood conditions

In Chapter 4, it was found that while the role of the private sector was promoted in the development model since the government promoted contract farming in the Sixth National Development Plan in the 1980s, the contract farming for hybrid seed production could partly have been the complement of the changing livelihood conditions of the small-scale farmers in the contemporary Northern Thailand. The

result was not a priori as some may rush to say – good or bad – for the small-scale farmers engaging with the global seed industry. This can be seen from the small-scale farmers in TK village and, especially, some landless families who decided to join this global industry sector. Thus, it transformed them into the contracted producers and opened chances for these farmers to accumulate income for upgrading their family consumption and mobilize resources to support their children for a higher level of education.

However, the unpredictable consequences of the articulation of the global seed industry with the local livelihood struggles of the small-scale farmers can further imply that there were some limits of governmentality, meanwhile the global seed companies had employed technologies of neoliberal control over the small producers through the production and labor processes. These caused tension among farmers and the staff of seed companies. Rather than being a passive link in the production chain, small-scale farmers engaged with, or played with the global seed companies. As we can see, many farmers and the seed brokers, who were also a local producers, attempted to use things at hand to gradually delay and even shift the labour and production processes, consequently reducing the intensity of control. By this, contract farming for hybrid seed production become part of the livelihood landscape of these farmers.

Notably, while natural resources in the rural areas were extracted for the production of hybrid seeds for the global seed market, the complementary model, I proposed in Chapter 4, cannot explain the difficulties of the poor households to join the contract farming in contrast to the better-off and middle-income households. This means that contract farming as a political-economic form of neoliberal governing, still, cannot always keep its promises for all farmers.

7.1.2 Socio-Environmental Movements of the Peasantry

In Chapter 5, while the socio-environmental movements attempted to mobilize resources and farmers in their advocacy politics against the corporate accumulation, it was found that their advocacy for agrobiodiversity and farmers' rights linked with

other ideologies, such as royalist nationalism, localism and naturalism. The construction of organic nature, especially in the case of Joko Learning Center, can further point out that the socio-environmental movement had merged its project with the conservative power. In other words, it was seen that these movements had partially produced a government subject in (re)peasantry and environmental governance. To clarify this point, we can see that FFS scheme encouraged farmers to adopt the practices of PPB in order to develop FVs. As such, FVs, like Wan1 rice, TK1 rice, and TS rice, emerged as discursive materials. Under the discursive practices of PPB in the FFS network, NGOs and experts could re-position themselves as the trusteeship in the narrative of the (agro)biodiversity loss and problem solving. Meanwhile, this discourse had linked the different materials and social actors who aimed to improve the small-scale farmers' farming practices, hybridized the farmers' knowledge with scientific apparatus, and reconstructed the new identities of farmers to the 'farmer breeder' under the conservative power. These occurred while some farmers were integrated into the network of Seed Cluster – a network used by Thai GOs to encourage farmers to form a community production group for rice seed commercialization.

Thus, it can help us better understand that the effort of NGOs to empower the small-scale farmers to conserve agrobiodiversity through FFS simultaneously linked farmers with the effort of government agents to improve the farming practices of farmers in the neoliberal era. In this sense, the environmental fixes and agrarian change did not involve the corporate power over the seed regime only, but the socio-environmental movements against the neoliberal globalization had also played a key role in this circumstance. However, while the scheme of FFS constructed the socio-environmental subject, farmers had engaged with NGOs through their own practices in different degrees. It was found that there was only one farmer in TK Village still running FFS, while others ceased their participation in such scheme. This leads to the next argument that small-scale farmers still have their own practices of politics even though they are not “invited” to speak with the same tone in advocacy politics of which activists, officials and scientists had played a key role in the network of FFS and the agrobiodiversity conservation discourse.

7.1.3 Farmers' Everyday Life Practices as Politico-Ecological Struggles

In Chapter 6, this study found that farmers' everyday life practices can be seen as politico-ecological struggles. As we can see, the poor households had fewer chances to join the contract farming, and the farmers in the agro-industrial model encountered difficulties in managing their farming resources to serve the eco-friendly farming approaches promoted by the socio-environmental movements. Under such difficulties, small-scale farmers had relied on many livelihood strategies in order to cope with their changing livelihood landscape. By this, things at hand were modified by various degrees among different farmers in their everyday practices, and simultaneously this, in turn, re-shaped the landscape of possibilities for these farmers. These can be seen from what has been shown in Chapter 6, such as the memory of rice diversity, the household and individual preferences for both MVs and TRVs, the utilization of wild biodiversity in the home garden, and involvement in both organic rice and the local vegetable seed production under the development projects.

Thus, peasants can be seen as actors who co-produced the space of agrobiodiversity assemblage under the global seed market integration as we can see from their strategies to mobilize materials and employ their own language of their agency to engage the state, NGOs, and market forces. By this, they re-shaped, in part, the agrobiodiversity, or “natures”, among heterogeneous actors.

7.2 Theoretical contribution

In this part, there are three main points of theoretical contribution about neoliberalization of agrobiodiversity and the livelihood struggles of the small-scale farmers under the integration of global seed market: neoliberalization of agrobiodiversity, the political ecology, and the power of peasant.

7.2.1 Neoliberalization of agrobiodiversity

In order to assess the concept of neoliberalized nature and its limit, Bakker (2010) raises the point that we need to see the different characters of resources or

nonhumans. In this case study, agrobiodiversity in the form of plant varieties and seeds is one manifested example able to reflect Bakker's point that calls for bringing the materiality of nature, or nonhumans, back into analysis of neoliberalism and its socio-environmental processes. This project can be better understood when looking at the neo-Marxist political economist works which criticize the rise of neoliberal influence in the seed industry. For example, Kloppenburg (1988b: 188), in his classical work, addresses the seed industry and biotechnology subsumption. As he points out that:

“Germplasm differs from resources such as coal and copper, and even from such renewable resources as timber or fish, in a very fundamental way. With most natural resources, the utility acquired through their extraction is directly proportional to the physical quantity of resources extracted. But with germplasm the resource of interest is physical matter only in so far as it is the carrier of genetic information. The utility is contained not in the seed per se but in the DNA sequences encoded in the cells that compose the seed. Collection of a small sample of seed is sufficient to transfer the genetic utility contained in very large populations of plants. With plant germplasm, the entire utility of the whole is in the part, and this masks the magnitude of the transfer of use-value that is nevertheless occurring”.

However, it seems that, in this work, Kloppenburg (1998) does not give room for the actor-oriented approach. This can reflect a limit of the political economy perspective. By this, he does not see how farmers can negotiate with the control of contracting companies while the companies employed technologies of neoliberal control in the production and labour processes, such as the formation of incentive, the invention through contract relations, and claiming private property rights over the parental materials and hybrid seeds in order to stop the farmers' practice of seed saving. These point out the gap of Kloppenburg's work on seed regime influenced by the biotechnology subsumption.

Moreover, Kloppenburg sees the hybridization found in the making of hybrid seed production as part of the ongoing primitive accumulation. This idea is also found among NGOs who encouraged farmers and consumers to support the practice of seed saving against the hybrids and the loss of crop diversity in the Third World. However, such an idea may already be in question when applying it to some farmers, at least in my case study, who turned to earn their living through contract farming for hybrid seed production. On one hand, it is because of using the dichotomous metaphor of the Global North versus the Global South. On the other hand, it produces another dichotomous metaphor: traditional varieties and poor farmers versus hybrids and the seed industry. These can limit our understanding about the commodified agrobiodiversity as my research shows limits and gaps within the structure. This is not evident if we do not investigate at the micro-level and take the agency of nonhumans back into the analysis of how plants became co-operative with farmers to disrupt the power of companies. This leads to the next point on the more opening ground for political ecology approach.

7.2.2 The political ecology

The emergence of the approach and the term, “political ecology”, was seemingly used in the 1970s, the period that the political ecologists focused on the ecological change and political economy on marginalization of the peasant societies in the Third World. In this period, the political ecology criticized the ecological anthropology and the cultural ecology upon the perspective of the environmental stability which emphasized the adaptive capacities (Peet and Watts 1996: 4-5). Importantly in terms of transition, *Liberation Ecology* by Peet and Watt can show a transitional stage of the political ecology in the language of Escobar (2010), the second generation of political ecology (PE2). Escobar differentiates the political ecology (PE) by three generations, such as PE1, PE2, and PE3. For PE1, he refers to the early stage of PE (emerging in the 1970s) when political economy was mingled with several ecologically oriented frameworks. This generation was criticized for its attention to power and nature under the influence of structuralist and dualist ways of thinking. For PE2, this generation combined theoretical trends since the 1980s –

simply put, “post-”, such as poststructuralism, postmarxism, and postcolonialism. This generation is also found in several disciplines and bodies of works. The main different aspects between PE1 and PE2 are the engagement of epistemological debates in relation to the theoretical positions constructivism and anti-essentialism. For PE3, this latest generation can be found in the recent debates over the post-representational epistemologies. PE3 is, indeed, a response to criticize PE1 for its essentialism and a response to criticize PE2 for its ontology – the real as the social construct. In short, PE3 tackles PE1 in its notion on “real” and PE2 in its notion on “construct”. By this, while the knowledge of “Nature” is found around debates of essentialism and constructivism, PE3 has its certain direction and contribution to the debates over “Nature”.

However, it should be noted that there are a variety of nature epistemologies. It can be misleading to understand that all (PE1, PE2, PE3) are still able to be seen as a different spectrum of “constructivism”. Indeed, PE3 can be understood for its ontological struggle. As a result, it is not easy to clearly divide PE2 and PE3. For example, while Foucault and Deleuze are seen as the key thinkers for poststructuralists, their ideas do not totally fit the representation. This is important in order to understand political ecology has shed light on the neoliberalized nature as neoliberalism since 2004 according to McCarthy (2012).

By employing the post-structuralist political ecology approach to investigate the neoliberalism and following the way that Escobar explains the new generation of PE towards epistemologies of nature, this helps me against Ong (2007) on two points. Firstly, regarding with political ecology tackles political economy, it seems there is no room in Ong’s analysis of the socionatures. While the co-mutual existence of ideologies as a space of neoliberal intervention and mutation (such as nationalism, developmentalism, conservatism) become a significant perspective with which I agree of Ong’s (2006; 2007) and Harvey’s (2005) analyses of neoliberalism, I agree more with Ong, when she questions scholars’ understanding of “Neoliberalism” as the “economic tsunami”. As such, Ong can see a gap in Harvey’s (2005) work which can’t help us see the micro-politics and the problem of neoliberal governmentality. But I argue that Ong does not see the articulation of neoliberalism and nature.

Secondly, still related to the first point, Ong does not see Foucault's effort to draw the idea of "things", or nonhumans, although she problematizes scholars who employed the concept of governmentality in their analysis (see Ong 2007: 4). According to Lemke (2014), who re-interprets Foucault through the new materialist perspective, the idea of "government of things" is already drawn but not systematically by Foucault.

With the political ecology framework, I employ the idea of Foucault on governmentality and recently on the "government of things". This can help me not only in analysis of the government as arranging things (Lemke 2014: 9) but also the agency of farmers, once this capacity is seen to belong only within the human entities.

All these can point out the role of political ecology as crucial for understanding the livelihood struggles of farmers and the agrobiodiversity question in the neoliberal era. This leads further to the issue of the power of the peasant in the next point.

7.2.3 Power of the peasant

The effort of farmers to maintain their knowledge of plant genetic resources and the practice of seed conservation under globalization are seen by scholars as the struggles for farmers' autonomy. Not only famous among NGOs' advocacy for farmers' rights (see Doctor 2013; La Via Campesina 2011) but also among scholars who draw their conception of peasant in order to capture the struggles of farmers in relation to the disobedient knowledge on (agro)biodiversity, such as the new peasantries (Corrado 2010; Ploeg 2008) and the flexible peasant (Yos Santasombat 2008). I agree that this line of thought helps us open a new agrarian debate in order to better understand the struggles of farmers and agrobiodiversity conservation in the neoliberal era.

In my study, peasants cannot be seen only as labor in hybrid seed production but also as an agent of global seed market integration as well as a global agent in the social movements of agrobiodiversity.

However, understanding the power of peasant through the idea of Polanyi's double movement needs care. The capitalist market suppression and effort of commodifying everything as a contradictory market economy can contribute to the opposition to institutionally effort to force capitalism managed, but the point is that the space of double movement itself is not always emancipating for all farmers. The integration of small-farmers into contract farming and the socio-environmental movements in my study address the more understanding of livelihood struggles of farmers with different degrees of agency. While Ploeg (2008) insists re-peasantization is a double movement, I argue that the development scheme of FFS, as a space of re-peasantization, was linked with the elite's ideologies and had become part of the hybrid neoliberalism under the conservative power.

Thus, based on this research, I propose my conception of *the network peasant* as this concept can embrace the idea of anti-essentialism of peasantry in the late-capitalism world, that people and things in specific places are economically, politically, and environmentally connected. Peasantry becomes a mode of existence of people, rooting in the network. This concept can help in explaining the situations in this research as peasants were integrating themselves into the space of the peasant seed network in the social movement with monarchical hegemony and the space of hybrid seed production in the global seed market with neoliberalism. Farmers were simultaneously becoming desirable peasant and flexible workers in flexible production while they struggled for their livelihood among actors in many seed networks.

7.3 Policy implication

For policy makers and NGOs, the complementarity of market conditions should not be neglected. However, what is needed is the full understanding of how markets can empirically contribute to the opportunities for the small-scale farmers under various conditions. By this, we need further research.

Based on the analysis of this study, I would suggest that policy makers critically understand the relations of agrobiodiversity and farmers under the neoliberal

era. For this, there are some opportunities and constraints needed to take into account. The critical point here is that the way that small-scale farmers interact with different actors and sustain their livelihoods is also important for the existence of agrobiodiversity under the historically place-specific conditions.

PGR policies need to take complementarity into account. This is a sharp point when seeing the effort of the Rice Department to employ FFS scheme only as the formal seed system which emphasized the state-led variety production. It can be seen from my dissertation that farmers rely on both seed sectors.

There are some highlights of main policy implications here:

- Contract farming for hybrid seed production cannot serve every small farmer; there are still other conditions needed to support farmers in order for them to join this new economic opportunity. For example, distribution of land to the landless, only 1-4 rai per plot, can support them to earn their living under the intensive seed production.
- Pressure on farmers in the industrial environment, where chemicals are used, to turn to the eco-friendly production creates tension among farmers because they may or may not have the supportive condition in the same degree.
- The complementarity of the formal and informal seed sector found in the livelihood struggles of small-scale farmers needs to be maintained.
- De-centralize the seed industry for the small – scale producer in the local seed sector, or to rightly say; SME seed trade by the small-scale farmers, especially the OP vegetable seed also needs the supportive policies, as farmers cannot compete with global seed companies. For example, it might need restructuring of PVP B.E. 2542 Act.
- To strictly enforce the Seed Law and PVP, for example, payment for access to PGR so as to implement the ABS principle and Biodiversity fund raising, might be a constraint for the petty producers who just produce and collect a little amount of local seeds to earn just enough income for survival.

- Thus, it is important to enhance the supportive measures to practically conserve local plant varieties serving their local economy. This needs to return to what Ferguson called for the “surprise” at last for the neoliberalism agenda that can be shifted in multiple directions based on several conditions.

7.4 Research implication

While I was writing this dissertation, scholars had already discussed about post-neoliberalism. This might imply that the research agenda on neoliberalism might be less interesting. This can be re-interpreted also for the emergence of biodiversity as it emerged in the late 1980s. The end of history is coming, perhaps, for the study of neoliberalism and biodiversity. However, this can be debatable as there are still more ideas and trends to study the so-called neoliberalism and nature. My suggestion, here, to research implications is as follows:

- If the political ecology is still one of the interesting approaches to study environmental problems, then it must be a re-study of agrobiodiversity in political ecology. This can be seen already in the coming of PE3 with the new change to the idea of new materiality.
- As the future and possibilities of small-scale farmers and agrobiodiversity cannot be seen as given, to understand their co-constitution in the social-nature relations, further research needs to take seriously the historically place-based conditions into account.