CHAPTER 4
GOVERNING FARMERS' LIFE AND ORGANIC RICE PRODUCTION

4.1 Introduction

> *Could one imagine a society or even a group of people where nothing was trusted and where explicit checking and monitoring were more or less constant? (Michael Power 1997: 2)*

This chapter focuses on the governing farmers' life, the re-arranging nature, and the governing organic agricultural practices which aim to create standardized and industrialized organic rice production. It aims to examine the creation of governing subjects and objects, technologies of government, and impact of certification for sustainability on agricultural patterns. This study borrows from Foucault's concept of "governmentality" to explain how the rationale of government[25] is constructed and how the power of government acts in the transition from conventional towards organic agriculture.

4.2 Implementation of Standards-based Regulations to Encourage Market-oriented Organic Rice Production

The certification and labeling of fair trade and organic commodity is a symbolic form of external quality which guarantee for the consumers about certain conditions of production and commercialization of the product. The production standards act as a disciplinary force on local growers. The enforcement of international standards-based regulations in northeastern Thailand represents the

[25] The rationale of government is defined by Foucault in terms of ideals governing the overall purpose of the regulation of specific objects. The ideals usually do change over time, reflecting the degree to which the regulations have been elaborated, the extent to which they are perceived as successful, the extent to which it is considered that they should be adjusted in relation to the scope or scale of regulatory arena, as well as broader changes in the normative climate (Gibbon 2008: 559).

attempt to transform agricultural practices and farmers' life to fit with ecological ideals and utopian communities in which self-regulated modern farmers live harmoniously with disciplined nature.

Farmers generally are certified "organic" by the third-party inspectors who follow monitor organic production, processing, and handling according to IFOAM basic standards. The criteria for organic certification are the conditions of production, especially a number of conservation practices[26] and costs of production. There is a 12 months of conversion period, the initial inspection is followed by annual visits by independent monitors overseen by accredited certifying organizations. Certifying costs are paid by producers. Certifying organizations apply own labels that align with certification requirements in major EU and US markets. Both small-scale farmers and some larger operations are certified as organic producers. Certified organic production occurs at each point of production, processing and distribution. Regulating spaces are farmer's plot, farm warehouse, village warehouse, regional mills, port and wholesaler.

Fair trade aims to improve the livelihoods of small-scale producers. Fair Trade certified producers' organization must be primary small-scale farmers. According to the Fair Trade standards, importers and regional rice mills are also monitored and certified by national Fair Trade initiatives. Mechanisms of governance are the Generic Fair Trade Standards set by FLO, and FLO-Cert is an independent inspection and monitoring agency. Moreover, criteria for fair trade certification are the social conditions of production[27]. Bacon suggests that there is a conversion period which usually takes about 6 months, the initial site visit, annual visits by independent monitors overseen by FLO. In addition, yearly reports on social and environmental conditions and use of fair trade premium are required; certification costs are paid by buyers (Bacon 2008).

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[26] A number of conservation practices such as prohibition of use of GMOs, and synthetic chemical substances, use of organic fertilizers, preservation and recovery of soil fertility by managing ecological processes on their farms and prohibiting land clearing by burning.

[27] The certification criteria includes participation in a democratically controlled by small-scale farmers' organization. Smallholder organization is encouraged to export their products directly, and to promote sustainable agriculture, to uphold ILO conventions. Requirement that uphold ILO conventions are: rights to associations and collective bargaining, freedom from discrimination and unequal pay, no forced or child labor, minimum social and labor conditions and rights to safe and healthy working conditions. Additional requirement are agro-ecological conservation.

Certification in organic commodities constitutes new forms of surveillance. To ascertain whether organic qualities embedded into commodities and maintained during subsequent processing and transport, certification requires production monitoring performed by the internal inspectors and auditing work performed by an international certifier.

Figure 4.1 illustrates certification structural relations being implemented in fair trade and organic jasmine rice scheme in northeastern Thailand. Standards-based implementation has formulated relationships between different actors involved along entire commodity chain. The government in the organic and fair trade food commodity chain occurs in the attempt to control quality within the production system and certification procedure. Therefore, four types of contractual relations inherent in the organic and fair trade commodity chain are discussed. Within the standard-based structural relations, negotiation and contestation are manifested in three levels: the peasant community level, the network or regional level, and the transnational level. The study will explore places of negotiation found within network level and community level.

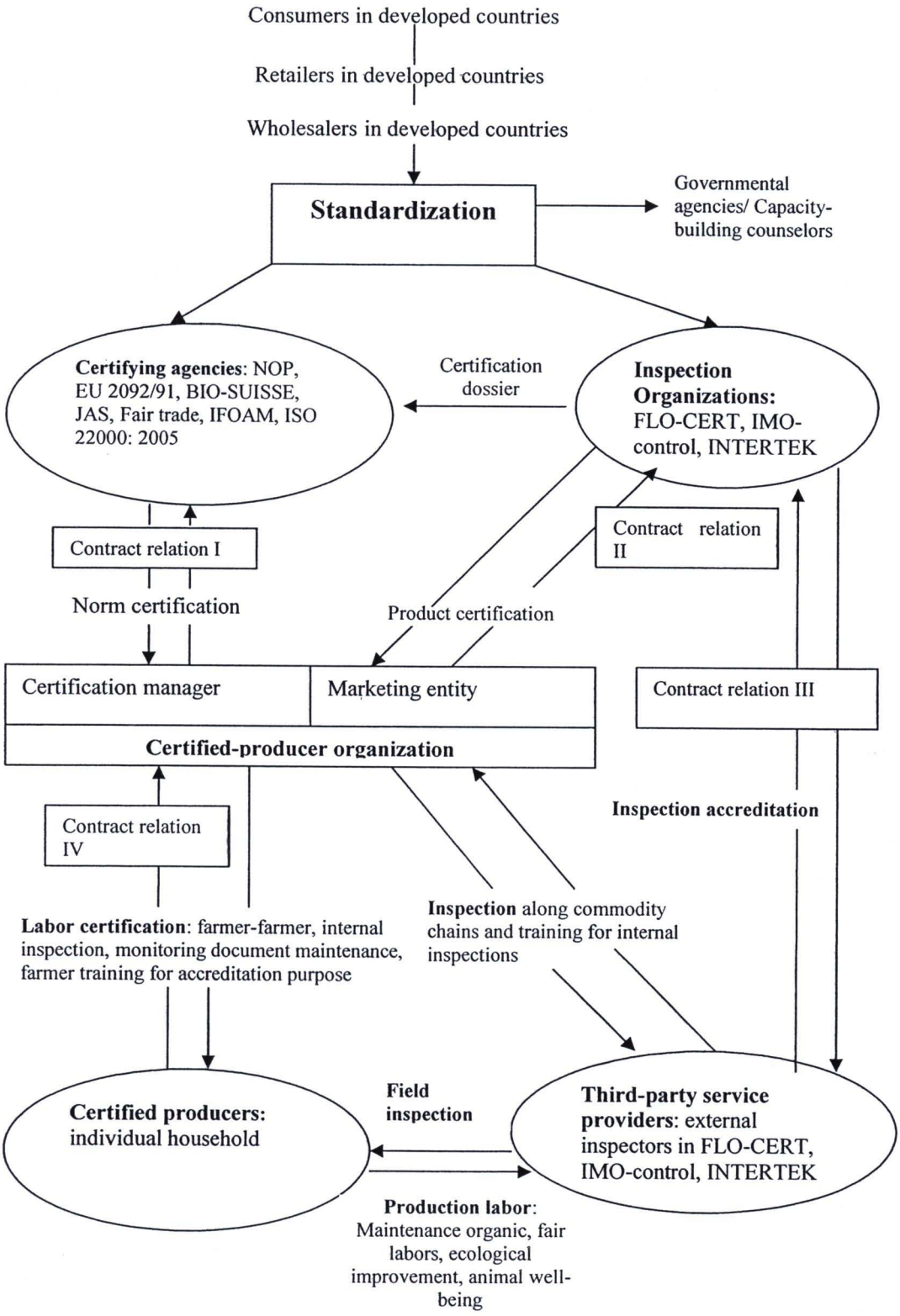

Figure 4.1 Certification Structural Relations in Fair Trade and Organic Jasmine Rice Scheme in Northeastern Thailand

The certification process begins when the certified-producer organization or the local NGO registers for certification from certifying agencies such as US NOP, EEC 2092/91, BIO-SUISSE, JAS, Fair Trade, IFOAM, and ISO 22000:2005. Certifying agencies provide norms and feedback, and the certified-producer organization makes available information, access to records, and compliance. The second contractual relation is that between inspection organizers such as FLO-CERT GmbH, Institute for Marketecology (IMO), INTERTEK, and certified-producer organizations or the local NGO. The third contractual relation is that between the inspection organizers such as FLO-CERT GmbH, Institute for Marketecology (IMO), INTERTEK, and contract third party inspectors. Finally, there is a contractual relation between certified-producer organization and individual producers.

According to the requirements of ISO/IEC 65 (E), section 4.2 on organization, certification has to concern issues of transparency and accountability. Consequently, the division within and bet between commercial and certifying activities is needed. At the same time, a separation of extension services, inspection providers, and evaluation staff are necessary to avoid conflicts of interest. Following the ISO/IEC 65 (E), the certified-producer organization (the NGO) in northeastern Thailand is divided into two entities. The first entity acts as a certification manager (the NGO which is project developer), while the second entity acts as a marketing manager (private enterprise which was set up to be responsible for the export of organic rice). Within the certification manager organization, a division between extension agents and field inspectors has been established. Despite claiming to avoid conflicts of interest, the possibility does exist, and overall entities can do wrong function. Although there is a formal separation between the certification entity and the marketing entity, the two are under the same authority. Following international regulations, external inspectors or those from IMO or FLO-CERT GmbH are permitted to explain how the inspection process functions, but they are not allowed to guide what producers or organizations may do to correct deficiencies. In practice, however, external inspectors explain how to correct deficiencies and how to overcome the complex requirements of transnational standards. This issue will be discussed in detail in the following section.

Key in certification is the contractual relation between inspection organizers and third-party service providers. Generally, inspection organizers endow norms onto

third-party service providers, third-party inspectors often sub-contract to inspection organizers who perform external inspections and present certification reports to inspection organizers. Certified producer organizations supply records to third party service providers and external inspectors usually sub-contract to third party service providers (IMO, FLO-CERT) and offer training to certified-internal inspectors and perform external inspection along the commodity chain. Certification practice generally is comprised of field inspections, product flow audits, warehouse audits, milling plant inspections, and document reviews. Consequently, certification products include peasant inspector documents, field inspection reports, project certification, and milling plant certification.

Certification practice performed by third-party inspectors are the key contractual relation in the diagram, because it shows the contradictions and tensions which emerge when standards-based regulations are implemented in local socio-economic contexts. After finishing external inspection services, external inspectors present their findings and evaluations before the certified-producer organization. Negotiation between external inspectors and certified-producer organizations may affect the reviewed reports which are finally submitted to inspection organizers.

Finally, there is a contractual relation the between certified-producer organization and certified-producers. Through contractual relations, certified-producers are able to access information, training, loans, and supervision. The certified-producer organization supervises and monitors whether producers adhere to transnational requirements, such as the maintenance of organic standards, fair labor, improvement of ecological conditions, and concerns about animal well-being. The implementation of standards-based regulation on the ground has constituted new types of natural space, new kinds of social organization, and new forms of peasant identity, and has created "unintended consequences" associated with land use, water management, and labor arrangements, both intra-and inter-peasant household.

4.3 The Rationale of Government

The development program regarding organic rice farming aims to improve livelihoods of disadvantaged farmers and environment in northeastern Thailand. The rationale of government or the legitimacy to govern here is a drive to create a change in agriculture in response to the new demands of consumers of niche markets and a drive to re-arrange production conditions to conform to international standards. Yet the rationale of government is constituted through the rural development and process of commoditization of organic rice.

The commodification of organic rice can be seen through the production of material things and discursive meaning attached to fair trade commodity. The production of material things creates used value, and the production of discursive meaning attached to fair trade commodities create exchanged value. The construction of discursive meaning attached to commodity relies on the creation of connections between food products, process, and place (locality). It is discursive meaning that creates economic rent; at the same time it acts as "translation devices" which help to remove the veil of commodity fetish for consumers (Getz 2006; Goodman 2004; Hudson 2003; Shreck 2006).

The production of discursive meaning in a movie advertisement of the organic jasmine rice scheme rests on the distinction between conventional food production and organic food production. The organic agriculture is portrayed as beneficial to environment, producers and consumers. Moreover, the movie advertisement represents organic agriculture as natural way of agriculture, as it relies on human and animal labor. An advertisement for the organic jasmine rice development project states:

> *As world agriculture entered into green revolution era, world of academics were divided into the two opposing lines of thought. One group contends that the normal food production could satisfy human needs. Productivity has to use extensive synthetic chemical fertilizers and pesticides, which harms the environment and causes very serious diseases to the consumers. Another group believes that organic agriculture would bring benefits both to producers and consumers, as well as conservation efforts. They use compost, made of manure, and vegetation to fertilize the soil, not only to store equilibrium into the ecosystem, but also sustain the*

fertility into the soil in the future. The group subscribes to the idea of the second group, and has developed its organic agriculture, taking place in reality, very confident that growing jasmine rice organically could provide sufficient foods for subsequent generations, while taking care of the environment into the future.

In other fair trade movie advertisements, the construction of exchanged value of fair trade rice is made by re-making of the production place. Here the place of production is linked with healthy and safety environment (green rice fields, big trees, cannels), traditional ways of life (farmers dressed up in traditional cloths, working in natural environment and having lunch together with their families), and traditional style of agriculture (the farmers use traditional devices, animal and human labors instead of machine). In addition, the exchanged value of fair trade rice is created through the creation of connection between fair trade rice and solidarity, equity, and fairness. Through the construction of discursive meaning, consumers are convinced that their purchases of fair trade rice product help to create "alternative" agriculture and "alternative" economy which directly help to improve livelihoods of small-scale farmers in northeastern Thailand.

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In another fair trade publication of article entitled "Fair Trade Rice Makes Its Debut" published in Co-op America[28], purchasing fair trade rice is described as a way in which US consumers can give new life to northeastern Thai farmers who struggle for survival within exploitative trade relations (see details of this publication in Appendix Q). However, Goodman (2004) argues that representations created in fair trade advertisements is a tactic of persuasion used to explain the benefits of fair trade, and this tactic is effectively convincing consumers that their purchases of fair trade products have positively affected to the welfare of the poor farmers, and the countryside of developing countries (Goodman 2004).

Through the commoditization of fair trade products, labels, and campaigns, the effects of the consumers' purchase are made to knowable by consumers in developed countries, as well as the material, social, and psychological conditions of production in developing countries. Therefore, I argue that the representations of place of production and of northeastern Thai farmers' livelihoods in advertisements of fair trade are hegemonic rationality.

These representations are tactics of persuasions used to guide consumers about the reality of farmers' life, organic agriculture, and rural communities of northeastern Thailand. These representations create what Goodman (2004) calls "double fetishism" or the situation that labels and campaigns do not reveal the real conditions of production but construct the myth about conditions of production. I argue that the representation of organic agriculture as traditional style of agriculture is myth, since organic agriculture is modernized agriculture, based on scientific knowledge and authority of the expertise. Moreover, commoditization of fair trade misleads the consumers in developed countries into believing that their consumption is the only

[28] http://www.coopamerica.org/pubs/realmoney/articles/fairtraderice.cfm

solution for complicated problems such as social inequity and unfair trade, and their purchasing power has directly and effectively created positive changes in the producers' livelihoods in developing countries. Consequently, the consumers are manipulated to remain unaware of the real impacts of commoditization and their purchasing power.

The creation of hegemonic rationality is important in organic jasmine rice scheme; since it makes the farmers conform to regulations and makes them considers it practical to trade-off the benefits and constraints of compliance with the regulations. As hegemony represents coercion and domination as natural and inevitable, then question is: In what ways is hegemony produced and reproduced? Michel Burawoy draws on Gramsci's notion of "hegemony" to explain the role of ideology in producing consent among wage laborers in the factory. He contends that wage laborers agree with the idea of hard working on the shop floor and accept the exploitative relations, not only because of their interests in acceptable wage levels alone, but because of their interests in playing the same game of capital Burawoy (1979: 84).

Drawing on Burawoy's argument, I argue that the hegemonic rationality plays a crucial role in producing consent among northeastern Thai farmers. The hegemonic rationality here is constituted through the processes of training, raising awareness, configuration of habits, creation of aspirations, and construction of social morality in accordance with ideals of organic agriculture and ethical trade, entrepreneurism, and agenda of neo-liberalism. Through the hegemonic rationality, the farmers agree with the idea of self-disciplining and self-improving, not only because of their interests in higher organic rice price alone, but because of their interests in playing the same game of capital.

Moreover, the advocacy song employed in the training of organic farmers can be a tool of construction of hegemonic rationality, it is common to hear a traditional song, namely "Conventional Rice Farming"[29] (*Na Wan San Ke Mee)*, is used for advocacy of organic rice farming. Under the joyful rhythm of the Lao reed mouth-organ

[29] This song was written and performed by Weerapong Wongsil, a famous local singer who does not directly engaged in organic agriculture. However, this song is always used for advocacy of organic rice farming and is broadcasted by many local radio programs in the Northeast.

the song appears natural and naïve, though its content contains crucial values and ideals (see content of the lyrics in appendix R). Within the content of this song, the virtue of organic agriculture is underscored by the construction of a binary opposition between conventional and organic agriculture. While conventional agriculture is portrayed as problematic, organic agriculture is portrayed as desirable. The meanings of organic and conventional agriculture were set up side by side in reference to the binary opposition of tradition and modernity, subsistence and commercial, socially embedded and dis-embedded[30], desirable and undesirable, and safe and dangerous. To create the uniqueness and virtue of organic agriculture, meanings of conventional agriculture are suppressed; it is portrayed as an unacceptable and undesirable thing.

The binary opposition of conventional and organic agriculture carries with it an idealized and romanticized conceptualization of organic agriculture. As a result, things that do not fit within the binary opposition are always neglected and sometimes oppressed. If people are made to believe that organic agriculture represents goodness and desirability, there is no need for them to question the claim of the virtue of organic agriculture. In the context that discourses of conventional and organic agriculture are sharply contested, the advocacy of this song in the local communities of northeastern Thailand is a "ready-to-use" hegemony; it has contributed to increasing confidence among the farmers who have already practiced organic agriculture.

A more concrete form of the hegemonic rationality is manifested in the mission of organic jasmine rice producers' group, whose motto is: "Determined to guarantee towards customer satisfaction, concentrating on quality, safety, and environment". The motto places emphasis on the marketing principle of putting customers first, as well as "quality". The meaning of the motto was explained by a trainer of a training program on 4th March, 2007 to the new applicant farmers:

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[30] Karl Polanyi describes "dis-embedded" as the removal of economic activities from the social and other relationships in which they occur, and carrying them out in a context in which the only important relationships are those defined by the economic activity itself. In essence, economic activity becomes abstracted from social relations. This abstraction occurs in practical activity, what Polanyi referred to as the realm of substantive economy, which is the ways that people, firms and other agents organize and carry out their activities of the production and circulation of objects and services. It occurs as well at a conceptual level, what Polanyi refers to as the realm of formal economy, which is the ways that people think about and understand their economic lives (Carrier 1998) if this is a direct quotation, you should use quotation marks

> *The farmers have strong intentions to improve the quality of organic rice in order to satisfy the consumers. The concern about quality means we care about the control of quality at every point of production. Safety means the consumers are assured about being free from the risk of waterborne and airborne contaminations when they consume our products. We have to prove that we care about the environment (Participation in the training program on 4th March, 2007).*

The hegemonic rationality is constituted in the training program in which codes of conduct practices are specified, and a division between "good" and "bad" farmers' behaviors is also constituted. Government here works on the attempt to convince the farmers into the believing that the self-regulating is not only a means to protect their own benefits, but also a means to create benefits to society. A project trainer said to the farmers during training on 26th March, 2008:

> *Organic agriculture is a farming practice which has a commitment to principles (Na-udom-karn). In central Thailand, the average age of farmers who do conventional rice farming is 41 years. The farmers there do not have long life, because they do conventional farming and utilize a large amount of synthetic chemical fertilizers and pesticides. In contrast, organic farming is safe and healthy for both producers and consumers. However, the success of organic agriculture depends on your commitment to the ideals of the organic. If you have a strong commitment to the ideals of organic agriculture, you would help your family to be safe from toxic contamination and pollution. If you expect your family to have a long life, you have to follow the established rules. If you grow and sell organic rice to the consumers, you would make merit and would have no sin in your mind. We cannot monitor you all the time. If we could not see you break the rules in front of our eyes, we could not recognize your wrong doing. Therefore, your concern about safety and healthy is the most important factor to assure the sustainability of organic rice production (Participation in the training on 26th March, 2008).*

The construction of hegemonic rationality here is political, as it tends to equate the profitability with environmental sustainability. The hegemonic rationality here restricts the focus on environmental sustainability as individual problems that can be solved through improvement of farm management, even if these must be undertaken solely by the farmers at their own expense.

The attempt to equate the profitability with environmental sustainability reflected in a statement by an external inspector from the independent inspection

body, the Institute for Market Ecology (IMO-Control), a famous international agency for inspection, certification, and quality assurance[31] of eco-friendly products, organic agriculture, and management:

> *Organic farming is mainly environmentally sustainable and is beneficial to health. At the same time, it also increased farmers' incomes, which is a very important aspect. For the farmers, if they look at it the income gained from complying with certain regulations, they see that it has another advantage. There is a trend that both consumer demand and producer supply are increasing because the consumers want healthy and environmentally sound food. At the same time, they are willing to pay a higher price. Moreover, the producers are willing to produce according to the requirements, and obtain a higher price.*

The creation of hegemonic rationality here rests on the attempt to constitute a belief that making of a profit is compatible with the creation of environmental sustainability. The underlying assumption is that northeastern Thai farmers need to undertake risks regarding agriculture and need to accept constraints regarding quality control. Once the farmers were assumed to benefit from the development program, there was no need to question about the discipline of labor. Subsequently, the question of farmers' rights is often subsumed by the promise of development.

Another example of the construction of hegemonic rationality can be seen in the meeting on March 13, 2008 between the organic farmers and the retailer from fair trade. The retailer from fair trade original, in the status of marketing expert, tries to cajole and persuade farmers to produce according to the demands of capital. He presented a print advertisement for fair trade to the farmers in attendance. He explained that on a box of fair trade rice, on which was affixed a sticker with the fair trade logo; there were the words, "By changing the world and consuming fair trade products, you can help producers". He explained, "We need farmers, and farmers need the market". He continued, "Among the things that sell well in the supermarket over the past four years, organic rice was the fourth best-selling product. I have participated in organic trade shows in Germany, and I found that the trend for the

[31] Quality assurance has more to do with a certain style of management process. Indeed, it is not an evaluation of the quality of the product or service, but an evaluation of the practices and procedures of manufacture and provision. Quality assurance initiatives show how the control system is becoming the principal focus of audit practice (Power 1997).

organic market is growing rapidly. So it's good if the number of farmers and production are increasing" (Participation in the meeting on March 13, 2008).

There were 28 farmers attending the training program that day, although it was expected that 50 farmers would apply for new membership in 2008/2009. In the harvest year 2007/2008, there were 568 farmer members who joined the group, but total production of jasmine rice was 2,700 tons, which did not reach the target. The following discussion between the representative from fair trade and the farmers in the meeting on March 13, 2008 shows that hegemonic rationality is employed as a persuasion tactic to convince the farmers to apply for new membership.

> *The representative from the fair trade told the farmers participating in the training: We may wonder why there are so many regulations. They are very complicated and burdensome. The consumer needs it this way. I would like to say that we should not yet be fed up with growing organic rice.*
> *The new farmers in the training asked: How healthy is eating organic rice?*
> *The fair trade representative: I just read the research report. It said that organic rice is very healthy. The market needs food that is safe and beneficial to health and can be quickly and easily prepared. Nowadays, customers in Europe and elsewhere want things that are good for their health. When we advertise goods, we have to point out that our food is beneficial to health and safe. I would like to ask you newcomers how confident you are of being able to produce organic rice?*
> *Many participants raised their hands but some did not. The fair trade representative therefore asked again, "Some of you raised your hands quickly but some of you hesitated. I ask you again, newcomers, whether you are ready to produce organic rice or not?"*
> *The fair trade representative, "We have sworn that we will grow organic rice that's good for the consumer. I expect all of us to fulfill our promise" (Participation in the meeting on March 13, 2008).*

The construction of hegemonic rationality can be seen in the meeting on March 13, 2008. There was a heat debate between the organic farmers and the project staffs about the dissatisfaction of farmers due to relatively low organic rice price than non-organic rice price in the cultivated year 2008/2009 and control of labors in organic agriculture. Then, the project staff explained to the farmers:

> *From now on, the price of organic rice will be good. Also, the price of chemical fertilizers will increase. I would like to say that we are on the*

right path. We use the manure of own cows and buffaloes. We're sure that he organic rice market is competitive, and the price is higher than the non-organic price. Our primary occupation is to work the fields. I would like our primary career to really be farmers. Don't do it half-heartedly, complaining. Do it as if you are happy. If not, the rice will be poisoned. The rice will be full of dangerous chemicals. Don't forget that our rice has the blessing of the goddess. You don't have to hire extra labor. Two people—husband and wife—help each other and make the work fun. So the only period when you need hired help is during the harvest. If we aren't happy farming, the rice will turn out bad. So if we complain [about the low organic rice price or the regulations], the rice knows everything and will reflect this tension with poisonous results. After we give this rice to people to eat, they will fall ill with disease (Participation in the farmers' meeting on March 13, 2008).

Examples of a dialogue between the farmer and the representative of fair trade, and a dialogue between the project staffs and the farmers mentioned above indicate the significant role plays by the hegemonic rationality. The construction of hegemonic rationality is a tool of non-political, as it justifies and maintains the dominance, and at the same time it produces consent among the farmers who expect to be "good" farmers.

4.4 Technologies of Government: The Conduct of Conducts

In organic and fair trade rice scheme, substantial efforts have been made to re-formulate perspectives and practices of northeastern Thai farmers to fit with the neoliberal agenda, entrepreneurism and standardization. In this respect, the use of disciplinary power, bio-politics, and the making of governing subjects are applied together to conduct the perspectives and practices of northeastern Thai farmers to act in response to new consumer demands associated with healthy, safety, and environment sustainability.

4.4.1 The Operation of Rendering Technical

There are two key practices required in government: problem identification; and rendering technical. Therefore, the operation of rendering technical aims to frame problems into technical domains by expertise[32] (Li 2007: 5). Drawing on Tania Li's argument, I contend that the training program[33] is a platform in which the practice of rendering technical occurs. In the training of organic farmers, problems of conventional agriculture are made to be visible, and at the same time the farmers are informed about technical knowledge of organic rice production. For instance, in the training program on February 15, 2008, the farmers were encouraged to express their perceptions concerning the problems of conventional agriculture. The peasant reflections on problems of conventional agriculture were written onto multi-colored post-it notes. These notes were then placed onto a white-board in the meeting room.

The farmers diagnosed problems associated with conventional rice farming as: (1) the serious long-term yield decline, (2) the high indebtedness among the farmers, (3) the low and fluctuating rice price, (4) the high dependence on expensive chemical fertilizers and other dangerous agro-chemical substances, (5) the heightened vulnerability to contamination, epidemics, disease, and pest outbreak, (6) the acute exploitation of lands which has led to a deterioration of soil fertility, (7) the inadequacy of water supply and irrigation systems for growing rice, (8) the tendency to sell land to cover increased production costs and livelihood crises, and (9) the acute contaminations which harm the environment and threat human health.

The problem identification makes legible problems concerning conventional agriculture. In the perspectives of the experts, however, only certain circumstances associated with organic rice farming are diagnosed as problems. The project experts have the authority to identify the problems to be resolved and the governing

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[32] Expertise has the capacity to generate the enclosure: relatively bounded locales or types of judgment within which their power and authority is concentrated, intensified, and defended. Enclosures may be generated in governmental networks through the use of esoteric knowledge, technical skill, or established positions as crucial resources which others cannot easily countermand or appropriate. The complexity of actors, powers, institutions and bodies of knowledge that comprise expertise have come to play a critical role in establishing the possibility and legitimacy of government (Rose and Mill 1992).

[33] The training program is mainly arranged by the staffs of development program in cooperation with the committees of organic jasmine rice producers' groups.

boundaries to be imposed. The project experts have a tendency to radically narrow the scope of focus in some areas and screen out the others. A project developer told farmers in a training program on February 15, 2008:

> *I will divide the problem into three categories. The first are the problems of organic rice farming. The second are the problems within farmers' households. The third is general problems which are not relevant to organic agriculture. Here, we will talk about problems concerning organic rice farming only. We will not talk about the problems within the farmers' households and the general problems (Participation in the farmers' training on February 15, 2008).*

The project expert identifies the governing boundary[34] whereby some aspects of organic agriculture are selected while other aspects are screened out. During my observation of the meeting of organic farmers on March 15, 2008, northeastern Thai farmers identify problems of organic rice farming are: (i) the farmers were provided poor quality rice seeds which caused low productivity, (ii) in the conversion period, the yields are significantly decreased, but the farmers receive no compensation for their loss, (iii) the shift from conventional to organic agriculture causes increasing production and transaction costs, since it requires intensive labor and more careful attention in the fields to ensure that all activities must be handled[35] in such a way that conforms to the regulations, (iv) the conversion to organic agriculture often creates conflicts within the farmer's households and within their communities, due to disagreements between family members, and between farmers who do organic agriculture and their neighboring farmers who do conventional agriculture, (v) the difficulties concerning the prevention of disease, weed control, and pest management, (vi) lack of water supply and irrigation systems which are necessary in organic agriculture causes low productivity and difficulties in weed control, (viii) inadequacy of green manure from buffalos and cows, (ix) tensions from strict rules and inspections, (x) low guaranteed rice price, and (xi) unavailability of organic rice

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[34] Gibbon suggests that governing boundaries refer to the areas of government which differ according to the geographical scope, the scale or the number of actors who are subject to their regulation, by whom or how the government is vested with authority (Gibbon 2008).

[35] Handling refers to wind-drying, sun-drying, cleaning, cutting, sorting, packing, storage, and transportation of product.

market which has reduced options for farmers to sell their rice. Figure 4.2 shows problems of organic rice farming identified by organic farmers.

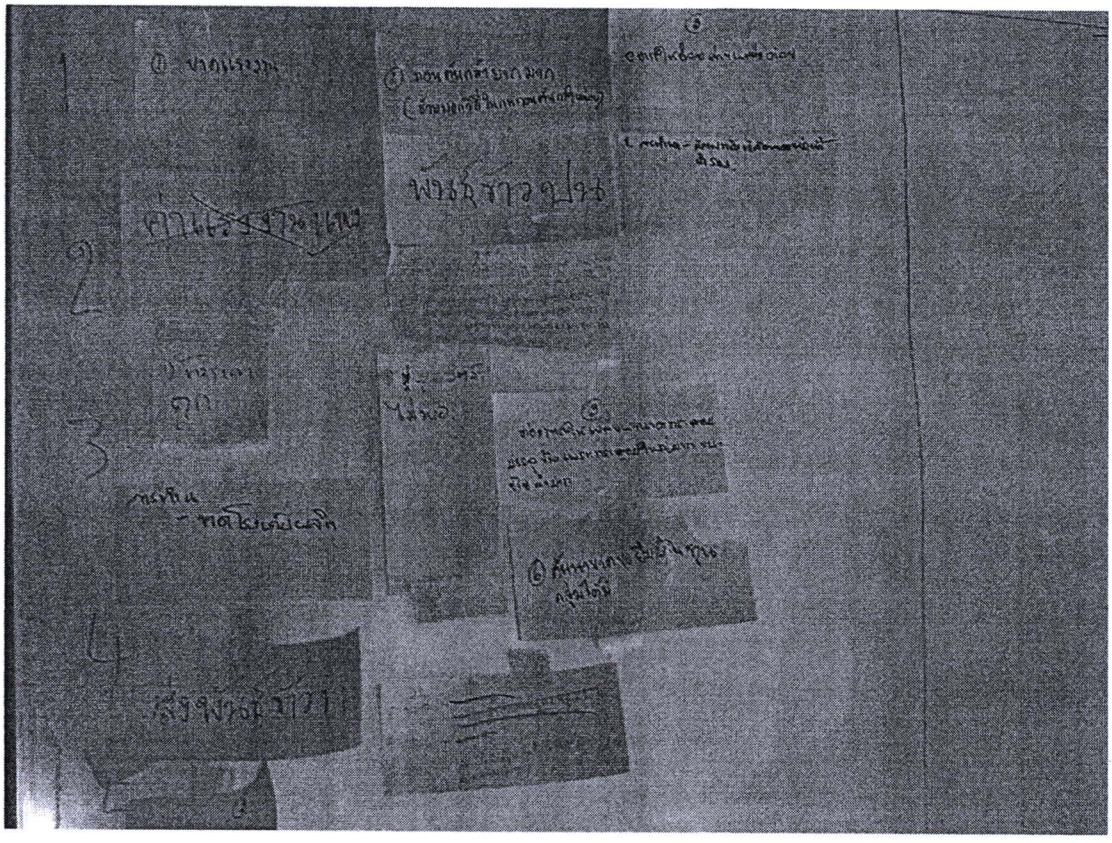

Figure 4.2 Problems of Organic Rice Farming Identified by Organic Farmers

The experts excluded what they consider as "general" problems from organic production system. Hence, the problems of organic agriculture are turned into things that can be solved by calculated means. The expert focuses exclusively on the environmental impacts without considering the social and political constraints faced by the farmers.

An attempt to simplify problems of agriculture leads to another dimension of the will to improve that is the capability of the experts to render technical and non-political (Li 2007: 7). In export-led organic rice farming in northeastern Thailand, the training program is a tool of rendering technical because it is a platform whereby the expertise instructs how agricultural practices are changed to comply with abstractions

of international regulations. After the farmers addressed the problems concerning organic rice farming, the trainer checked the list of problems being written on the post-it notes which were put on the white board in the meeting room. The expert then considered what should be considered as the problems of organic rice farming and what should not be relevant. At the same time, the expert offered solutions to the problems. He stated:

> *First, on the problem of labor shortage, I suggest you recruit migrant laborers from the Lao PDR to meet the labor demand. Second, on insufficient water supply, now the government has a plan to support the Kong Chi Moon project. This project is expected to divert water from the Mekong River to northeastern Thailand. I hope this project would help reduce the problem of water shortage in the future. Third, the problem associated with the leveling of paddy fields. We now have provided you a loan to be used for leveling and improving your paddy lands. The fourth is the problem of insufficient green manure. I suggest you to put the livestock manure into the paddy fields, approximately 200 kg per rai. If you do not have enough animals on your farms, we suggest you ask for a loan to buy additional animals. This helps increase the amount of manure to be put in your paddy fields. Fifth, the problem of insect epidemic, I suggest you spray EM into the paddy fields before the problem occurs. But, if the problem had already occurred, you are required to inform us. We may allow you to use pesticide, or insecticide, if the problem is serious. However, you cannot sell the rice cultivated from this plot as organic. Sixth, the difficulty met in transplanting. We suggest you put organic fertilizer after the transplanting. If you follow the instructions, you are not allowed to put the organic fertilizer into the nursery plots while the baby rice is growing, because you should not have a difficulty in transplanting. Seventh, on the problem of unpurified rice seeds, we are trying to solve this problem by asking for the committees of the producer's group to produce rice seeds instead of buying the rice seeds from others. We hope we can better control the quality of the rice seeds. Eighth, on the problems within the family, you should talk to your family members about the advantages of organic rice farming. For the problems with the neighboring farmers, you might convince them to change to organic rice farming, or you may ask them whether they want to have a long life. If your organic plot is connected to a non-organic plot, you are required to ask the neighbors to sign their name in the contract to prove that they will not use any agro-chemical substances in the future. Ninth, on the problem of low minimum guaranteed rice price, we think that the price set by FLO is fair enough. However, if you want to sell your harvest outside the contract, we might allow you to do so, if you inform us in advance that you intend to do so (Participation in the farmers' training on February 15, 2008).*

It is clear that the farmers concerned about overall aspects of organic rice farming. Yet the experts focused mainly on the economic and technical aspects of organic rice farming. By limiting the scope of relevant problems of organic rice farming to some technical domains, the experts inevitably exclude the important social and political aspects of organic agriculture which become more complex from the boundary of interventions. What are excluded in the process of rendering technical are the farmer's concerns of transaction costs, tighter controls by regulation, low minimum guaranteed rice price, the unavailability of organic rice markets in local areas, and conflicts emerging within the farmers' households and between farmers and their neighbors in relation to organic rice farming. Then, the practice of rendering technical turn organic agriculture into a technical domain which is easily observed, calculated, monitored, and evaluated. At the same time, the practice of rendering technical confirms the role of the experts who identify the problems of others and rectify corrective measures to solve such problems. This calls into doubt the gaps between what the experts identify as problems of organic agriculture and reality embedded in the life world of northeastern farmers which is excluded from the practice of rendering technical.

4.4.2 The Use of Farm Map Making

The EEC No. 2092/91 regulation concerning food safety for organic food specifies that land to be used for growing organic rice must be approved by the development program. Accordingly, production sites for organic rice are carefully examined by the project experts to avoid problems of waterborne and airborne contamination. Moreover, documents about the clear characteristics of each production site are needed in the certification and verification procedures.

Ideally, land to be used for growing organic jasmine rice should be flat, not be lowland or upland. The land should be situated close to a water supply and well-drained soil. If public water ways run onto the land, however, it is not allowed to be used for growing organic rice because of risk of waterborne contamination. Through the use of contracting, land which is suitable for growing organic jasmine rice is turned into a means of organic rice production; even such land is treated as communal

right, or belongs to smallholders. In northeastern Thailand, land remains in the hands of family farms. The paddy fields are dispersed; this factor makes the consolidation of land difficult.

The farmers produce organic rice under the contract farming assumed access to a significant amount of land as a pre-condition to cultivation. As land is fixed, the farmer supplying land in contract production has led to a dramatic decline in production costs. Through contract production, the risk of fixed capital investment in land was transferred from the processing company to the producers. Under contract production, the paddy land is managed by individual growers, even if this land is legally owned by customary rights. The control of land by individual farmers indicates a process of privatization of land within the organic jasmine rice production. Guthman argues that the privatization of public resources is an important element of neo-liberalism to make more profit (Guthman 2008). It is expected that the family farm producing under contract would be able to supply land free of charge and to invest additional inputs to improve the fertility of land at their own expense.

Moreover, map making of the rice farm and plot number are required in organic certification according to IFOAM standard. This study argues that the farm map making is a technology of government through which a clear boundary between an organic plot and a conventional rice plot is constituted. In addition, key characteristics of the farm such as farm size, location, rivers, canals, ponds, roads, waterways, homes, huts, protected areas, trees, rice storage, warehouses, etc. are identified on the farm map (see details in figure 4.3). Moreover, it is necessary that farm map be up-to-date. Through the making of farm map, the reality of the rice farm, total productive area, and the agro-ecological environment of a particular farm are turned into a spectacle and are made amenable to management in a scientific, technical, and calculative way.

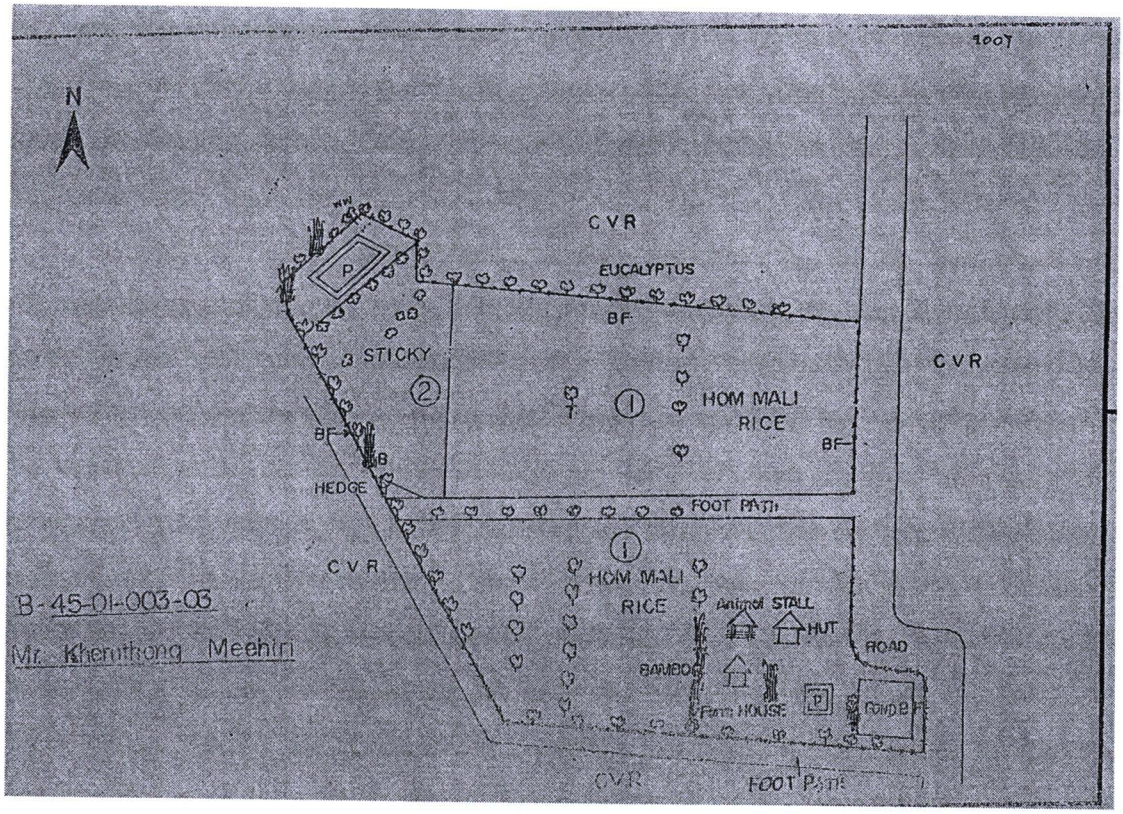

Figure 4.3 Farm Map

Considering the role of farm map making in governing organic rice, I was drawn on the work of Latour which argues that farm map can be seen as a form of technologies of interventions[36] which allows the center to be able to exercise its power to control at a distance on unfamiliar places and people (Murdoch 1997). I contend that the farm map allows for action at a distance because the farm map is mobile, so it allows details of the farm to be brought back to a calculating centre. The farm map is also stable because it conveys farm key characteristics which are maintained through standardization. Furthermore, the farm map is combinable in that it allows unorganized information to be aggregated in new forms.

Therefore, I argue that farm map making is a technique of government which is employed to make visible the unknown object, to turn key characteristics of

[36] Latour (1987) proposes three main interventions that allow power to be exerted at a distance: (i) render the reality mobile so that they can be brought back, (ii) keep the reality stable so that they can be moved back and forth without additional distortion, disruption, or decay, and (iii) ensure that the reality are combinable so that whatever stuff they are made of can be accumulated, aggregated, or shuffled (Murdoch 1997).

agriculture into a standardized category, and to make amenable scientific management, monitoring, assessment, and control at a distance. Therefore, I contend that the farm map making aimed at making boundary of interventions which organic rice farm and agro-ecological environment of organic farms is made to be intelligible and countable.

In addition, the producers are also required to define the necessary precautionary methods, a set of quality assessment methods and monitored their effectiveness based on identified risks and a detailed catalogue of actions to be taken when they are not met according to requirement of the EEC No. 2092/91 standards. To achieve these goals, explicit measures are combined together to assure the consumers that risks from external inputs such as chemical synthetic fertilizers and pesticides are carefully prevented. The implementation of such measures rests on the assumption that risks exist but can be controlled and reduced by using scientific knowledge and corrective measures under the supervision of the experts.

If an organic plot is connected to conventional plot, it is a compulsory that the organic plot must be situated above the conventional plot to prevent water from the conventional rice plot from running onto the organic rice plot. The farmer who owns organic plot that is situated lower than that of the conventional plot needs to up-lift the level of the organic plot to be higher than the level of conventional plot in order to avoid waterborne contamination.

In addition, the international regulations also specify that if the organic rice plot is connected to a conventional rice plot, the terrace building of organic rice plots is required. The terrace must be built to be high, at least 50 cm and at least one meter wide to prevent the problem of waterborne contamination. The underlying logic for the leveling of the paddy dyke is the desire to produce safe food and to save the environment. The leveling of paddy wall can be seen as a terrace to prevent waterborne convention, as it is aimed to prevent the groundwater from conventional rice plots from running onto organic rice plots.

Moreover, the desire to produce safe food and to create ecological sustainability results in restricted access to enclosed resources and space. The farmers who grow organic rice are not allowed to use water from the rivers or canals which run through conventional rice plots. If the organic rice plot is connected to a

conventional rice plot, the farmer is required to block the water from the conventional plot from running through the organic plot. Since the farmers traditionally share waterways and resources, the requirement to enclose resources and space creates new tensions and conflicts between farmers who grow conventional and organic rice.

Additionally, the farmers are required to constitute natural space in local communities of northeastern Thailand. To assure the consumers that production space is safe and risks of contamination are eliminated in the process of rice production. According to the BIO SUISSE standards[37], the farmers have to set aside at least seven percent of total agricultural areas to be "natural" space. This natural space can be empty space, forest, bush trees, canals, reservoirs, fish ponds, farm houses, or large trees. This rule aims to re-arrange the farm operation to enhance the biodiversity[38]. Rosset suggest that organic agriculture helps to promote biodiversity by breaking the monoculture structure of one crop and replacing it with many types of plants (Rosset 1997). Drawing on Rosset's argument, I argue that the requirement to create "natural" space in organic rice farms is the production of "intimated" nature. Yet, nature produced in organic rice farms is constituted and regulated by science and authority of the experts.

Furthermore, another requirement of regulations is the demand to grow shade trees as life-plant barriers along the paddy dyke of organic plot, if the organic rice plot

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[37] Bio SUISSE is the association of Swiss organic farmers and the Bio Suisse quality seal "the bud" is the by far most important seal for organic products in Switzerland. Although Switzerland has also a governmental organic regulation and products certified according to this law or the equivalent EU-Regulation 2092/91 may be marketed as organic, many international exporters experience that they need Bio Suisse approval of their products for optimal marketing in Switzerland. The BIO SUISSE standards differ from the minimum requirements of the EU Regulation 2092/91 in several important respects. Especially noteworthy are the following: (a) the whole farm operation must be converted to organic production. If animals are kept on the farm, these must comply with organic standards (EU or IFOAM) even if not marketed as organic, (b) the minimum conversion period under organic certification is of two complete calendar years. No reduction or retrospective approval of the conversion period is possible. Even operators who are organic since several year, may in some cases be recognized only as in conversion by Bio Suisse, (c) farm operations must set aside at least 7 percent of their agricultural area to enhance biodiversity, (d) there are stringent limits regarding the use of fertilizers and copper products, (e) requirements regarding crop rotation are defined in detail, (f) BIO SUISSE defines processing standards for different products. Additives and processing aids are only allowed if listed in the BIO SUISSE standard, (g) BIO SUISSE products may not be exported by air plane, (h) all operators in the production chain must be Bio Suisse approved (every supplying farm, any processor) and the Bio Suisse approved products must be kept strictly separate from any other "organic-only" products (http://www.imo.ch/index.php?seite=imo_services_organic_biosuisse_en).

[38] Biodiversity represents the enhancement of complex interactions between the biotic and abiotic components and synergisms by the activation of soil biology, the recycling of nutrients, the use of biomass, and the enhancement of beneficial anthropods and antagonists.

is connected to conventional plot (see details in figure 4.4). These shade trees can be many types of plants such as bush trees, with the exception of rice crops. Northeastern Thai farmers are likely to grow shade trees such as eucalyptus and fern trees which are easily grown and require less attention. It is necessary that the height of life-plant barriers must be above that of the conventional rice.

The life-plant barriers represent a measure to prevent airborne contamination. As a result, it signifies an attempt to ensure the safety of certified foods. The creation of life-plant barriers serves to distinguish between agricultural space where safety is assured and space where it is not. Even if organic standards do not ensure the absence of agro-chemical substances in organic products, it ensures that explicit measures are implemented in order to prevent environmental risk. Therefore, the requirement to grow life-plant barriers is a mechanism for the externalization of risk from the activities of organic rice production.

Finally, the rules also specify that the farmers need to concern about animal welfare in response to the EEC No. 2092/91 regulations. As a result, mixing animal farms and organic rice farms is forbidden. If the animals are kept on the farm, some measures are implemented to assure animal welfare. In the case that animals are kept on the farm, it is necessary to assure that the animals have access to free space, not be kept within cages. The livestock regulation laid down maximum permitted stocking levels, and required the animals are fed by natural foods. Moreover, waste water from livestock manure needs to be properly managed to prevent pollution.

Figure 4.4 Shade Trees

The consumers' concern about the welfare of the farm has become a new consumer-drive to the shift toward the growth of provision and consumption of welfare-friendly food production (Skarstad 2007). Through the enforcement of international regulations, the consumers' concern about the welfare of farm animal has become a new drive to reformulate farm management, agricultural practices, and local farmers' life in northeastern Thailand. This requirement echoes the international animal right advocacy which considers human being has duty to protect animals, at the same time it pursuits a reformist approach which wants to bring about some improvements in the lives of animals but does not deny the use of animal in agriculture (Waelbers 2004). In the organic jasmine rice scheme, I argue that the production of organic rice commodity is based on interactions between human being and landscape and biological characteristics of agro-commodity.

In summary, the commodification of organic rice is based on the creation of clear boundary of organic plots, the production of "intimated" natural space, the

assurance of safety space from all contaminations in order to assure consumers about food quality and safety which can create economic rent. It is clear that the creation of buffer zone and protected area which is "intimated" nature here is far beyond a matter of production of physical space alone. Yet it shows that the governmentality in organic rice production system is also operated through the control of nature. As such, I argue that the regulatory regime in organic rice production system has two aspects. One is the control of labor being inserted into organic rice production process. Another is the control of nature which is a prior necessary condition for accumulation in the shifting profitability conditions.

Nevertheless, the farmers who grow organic rice are sometimes unable to comply with this regulation because of objections from their neighbor farmers who do not subscribe to organic agriculture. The requirements of international regulations such as to grow shade trees are often regarded as problematic by fellow farmers, as they may block the sunlight or take up underground water, or attract rice-destroying insects. The requirement to block public water ways is also opposed by the farmers, since public water ways are common property which is not allowed the management by individual. Hence, the intention of improving food quality and environment calls into question the enclosure, marginalization, and conflict.

4.4.3 Use of Contracts

Contracting is a technology of government in the new agri-food governance. In the organic jasmine rice scheme, contracting requires annual renewal of farmers' status as members of the organic jasmine rice producer group. The proliferation of contract farming in Thailand since 1980s onwards is part of a national agrarian restructuring toward export-oriented agro-industrialization as outlined in the Thai Sixth National Economic and Social Development Plan (1989-1991) (Watts 1994: 52). Manarungsan and Suwanjindar (1992) contest that proliferation of contract farming is a result of the national agrarian restructuring which shift from its production of traditional commodities to an integrated agro-food system built around transnational trade in feed grains, poultry and processed meat, and fresh fruit and vegetable.

This study focuses on the role of contract farming as a mechanism to rearrange farm management and to control of labor[39]. The organic jasmine rice scheme in northeastern Thailand is a resource-provided contract which covers details of input decisions, operational decisions, and marketing decisions (see details in Chapter 3).

The steps in the production contract in organic jasmine rice scheme are identified as follows:

1. The producers are required to attend training.
2. The farmers negotiate the size of the paddy fields they wish to use for contract production of organic and fair trade rice.
3. The project team inspects the paddy land, choosing the producers based on the field inspection.
4. The contract between the project manager and the producer is created on an individual basis.
5. The project manager sends out the standard contract to each producer on a take-it-or-leave-it basis.
6. The producers sign the contract, specifying the paddy fields to be used for rice growing.
7. The project manager decides on the production plan.
8. The farmers prepare the soil, sow rice seeds onto the nursery plots, and transplant rice crops from nursery plots to paddy fields.
9. The farmers nurture, provide field maintenance, and weeding of organic rice.
10. The farmers harvest the rice crops, dry the unhusked rice, and deliver it to the project.
11. The farmers are paid.

[39] Many aspects of labor dynamics in regard to contracts are noted: (1) contract farming commodities are labor-intensive, requiring the type of careful management that does not lend itself well to mechanization, (2) the high labor requirements of contact commodities are usually borne excessively by women and children, (3) returns per unit of labor in contract farming are relatively low, forcing most participants to invest labor in more remunerative activities, particularly off-farm work, (4) contract farming has a restrictive nature which has led to a critical concern that farmers may lose autonomy in controlling the means of production (Watts 1994).

Considering the issue of labor control under contract production, Burawoy suggests that we need to analyze the labor process in a particular organization of work tasks (which may be specified in details in the contract), a series of political apparatuses, and a mode of regulation (the institutional and power relations of which the contract is part) (Burawoy 1985 cited in Watts 1994: 255). In organic jasmine rice scheme, a mode of regulation is the twenty locally-established rules imposed on the farmers. These twenty locally-established rules are: (i) the farms must completely convert to organic agriculture in all plots, including subsistence food plots. Parallel production of organic and non-organic agriculture is prohibited. Northeastern Thai farmers must provide information about the total areas of paddy fields, types of rice to be grown in particular plots, total areas to be used for growing subsistence crops for household consumption, total areas to be used for growing organic rice for sale, and the total labor force within the household involved in rice farming. Additionally, farmers must inform the development programmers of any adjustment of productive areas to be used for organic glutinous and organic jasmine rice in order to keep records up-to-date, (ii) mixing animal farms[40] and organic rice farms is forbidden. If the animals are kept on the farm, some measures are implemented to assure animal welfare[41]. In the case that animals are kept within cages, it is necessary to assure that the animals have access to free space, must not be kept within cages[42], and waste water from livestock manure is properly managed to prevent pollution according to the EEC No. 2092/91, (iii) the farmers are required to set aside at least seven percent of total agricultural area as "natural" space to comply with the BIO SUISSE standard. The natural space can be empty space, forest, bush trees, canals, reservoirs, fish ponds, farm houses, or two trees per rai of paddy field. If the organic plots are

[40] In the training program on 9 April, 2007 the expert was asked by the farmers to clarify the definition of animal farm which is prohibited in organic rice farming. The expert explained to the farmers, "To know if animal husbandry is considered "animal farming", we will consider whether the animals are chemically treated or not. If the animals were fed by industrially-based foods, we consider it animal farming. If the animals were fed by natural foods, we will not consider it animal farming, and the manure of the animals can be used in the organic rice plots'.

[41] Increasing consumer concerns about animal welfare in Europe are about the way that animals are treated and the association between farm animal welfare and particular characteristics of animal products, for example, safety and taste (Blandford, Bureau, Fulponi, and Henson 2002).

[42] The livestock regulation laid down maximum permitted stocking levels and required feeding regimes. Moreover, livestock regulation according to the EU 2092/91 regulation insists on proof of organic production methods for all inputs, including bought-in animals, seed, and feeds (Gibbon 2008).

connected to conventional plots, the farmers are required to grow shade trees. These shade trees are life-plant barriers serving to prevent airborne contamination, (iv) the farmers must apply to be members of the organic jasmine rice producer group and are required to sell all of their organic produce to the development program only. Selling organic rice outside the contract is prohibited, unless the farmers inform the development program and the farmers are then given permission, (v) the farmers have to sign the contract. Contracting represents the civic convention between the farmers and the development program and the farmers' agreement to produce organic rice according to the EEC No. 2092/91, BIO-SUISSE, US NOP, and JAS standards. The contract specifies the rules to be followed by the farmers and must be renewed every year. Importantly, the organization has the authority to manage internal relationships that move rice to certified organic markets and to organize an internal price structure that determines prices received at the farm gate. Consequently, if the farmers break the rules, the organization has the authority to penalize the farmers for defects, (vi) it is compulsory to use certified organic rice seeds. The rice seeds, including other production inputs, must be bought from the development program only. The rice seeds must be changed every year. (vii) use of chemical synthetic fertilizer and pesticide is prohibited. Moreover, the farmers cannot share the sprayer of chemical pesticides with other farmers and cannot use batteries or plastic bags which contain chemical synthetic fertilizers (viii) all production inputs must be made organically, must not be chemically treated, and must be approved by the development programmer. Organic compost must be made, with that made from the manure of buffalos and cows preferred. Direct placement of animal manure into the paddy fields is not allowed. The use of organic compost made from industrially-fed manure is prohibited.[43] According to the US NOP standards, organic compost must be placed in the organic rice plots no less than 90 days before harvest to assure safety from the problem of BSE (bovine spongiform encephalopathy, or mad cow disease), (ix) use of genetic modifyed organisms[44] (GMOs) is prohibited, (x) the farmers are required to

[43] The livestock rule is subject of the EU 2092/91 regulation. It was extended beyond crop production to cover the specification of production methods and input provenance requirements in more strict and demanding terms than had been the case for crop production (Gibbon 2008).

[44] The bio-molecular techniques by which the genetic material of plants, animals, micro-organisms, cells and other biological units are altered include ways that could not be performed naturally through

grow annual rotation crops such as green beans and other species of bean to improve soil fertility. Rotation crops must be left in the soil as green manure, (xi) airborne and waterborne contaminations must be prevented. The farmers who grow organic rice plots connected to conventional rice plots are required to create a terrace. The terrace is built by leveling the paddy walls (at least 50 cm. high by one meter high) to prevent waterborne contamination. Moreover, shade trees are required to be grown along the border of the conventional and organic rice plots to prevent airborne contamination, (xii) rice must be handled in such a way as to avoid mixing of organic rice with other rice and to avoid mixing organic rice with rice produced by other non-organic certified producers in harvest, threshing, rice storage, and rice containers. Organic rice must be contained in the sacks provided by the development programmer only. The code number of the farmer who produces the organic rice must be marked onto every sack to conform to the Bio SUISSE standard, (xiii) harvest and post-harvesting processes must follow the instructions specified in the guideline. Harvest must be done by hand. Harvest by a combine machine is prohibited because of potential risk of contamination from other types of rice, weeds, and unhusked rice This may make the organic rice susceptible to color impurities and affect its overall grade. After harvest, the paddy must be dried under the sun for three to five days to reduce the moisture of the paddy. The moisture of organic rice produced must not be higher than 15 percent. If the moisture of rice produced is higher than 15 percent, the farmers cannot sell their organic rice at the guaranteed price. Adjustment of post-harvesting procedures must be reported to the development project, (xiv) the farmers must apply to be members of the producer's group and must constantly participate in annual training programs. If the farmers cannot attend the annual training for whatever reason, they have to assign family members who engage in organic rice farming to participate in the meeting in their stead. Otherwise, their status as members of the producer's group will be nullified, (xv) farm records[45]must be made clear, and

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breeding, selection or mutation. The genetic engineering techniques include recombinant DNA, cell fusion, micro and macro injection, encapsulation, gene deletion and gene doubling. The genetic engineering techniques do not include conjugation, transduction and natural hybridization.

[45] The farm record is the record of the farm's history. It includes the agricultural area, land ownership, land use pattern, types of crop, chemical use, water resource for cultivation, management of agricultural inputs, harvesting and selling of crops, total production, and income from product sales. Importantly, it is a field history of the farm over the previous three years.

original receipts of the purchase and sale of items must be kept ready to be checked by internal and external inspectors, (xvi) the farmers must allow the internal and external inspectors to undergo field spots, houses, rice storages, warehouse, and other crop checks. The inspections can take place at any time, without prior notification. Verification by internal and external inspectors must be practiced at least once a year during the conversion period from non-organic to organic agriculture which usually takes three years, (xvii) the farmers must attend the annual meeting. If the farmers cannot attend the meeting, they must assign family members to attend in their stead. If they fail to attend or send a family representative, their membership will be nullified. Should they re-apply for membership, they have to re-do the three-year transition-to-organic phase, during which time any rice they produce will be sold at one baht per kg less than the organic price (xviii) the conversion to organic agriculture for rice farming usually takes three years. During the conversion period, the farmers cannot sell their produce at the guaranteed farm-gate price. The farmers must be verified by internal and external inspectors at least once a year, (xix) the farmers must sell all of their rice to the project only. Delivery of organic rice to the rice mills, including the cost, is the responsibility of the farmers, (xx) adjustment of production and post-harvesting processes, including the occurrence of pest epidemic must be reported to the development programmers. Increasing productive areas is possible, but the farmers must inform the development program in advance. The new plot must grow non-glutinous rice in the conversion period, and farmers are not permitted to grow jasmine rice to prevent the contamination with decertified rice according to the EEC No. 2092/91, BIO-SUISSE, NOP, and JAS (Field observation notes, February 20, 2007).

Through the enforcement of twenty locally-established rules on the farmers in the Northeast, the codes of practices were also constituted. In the fair trade and organic rice production systems, the codes of practice are farm management responsibilities and proper documentation, crop protection strategy, prohibition of use of pesticides, application of organic inputs[46] and methods, protection of worker rights, creation of animal welfare, and protection of the natural environment. The codes of practice

[46] Products used in organic production and processing, e.g. fertilizers, soil conditioners, plant protections, including additives and processing aids used in organic processed products.

represent ideals of the fair trade and organic agriculture which are required to follow by the farmers. As such, the codes of practice represent a model aimed at changing the way in which the export-led rice farming should be performed. Contracting is a significant technology of government used in organic agriculture to create good agricultural practices, to clean up environment, and to control food quality to comply with the international standards.

The use of contracting in organic rice scheme represents a distinctive form of labor process. The use of contract farming in organic agriculture has two significant effects. On the one hand, it makes practical the enforcement of codes of practice on the farmers. On the other hand, the use of contract farming in the export-led organic rice production makes amenable the restructuring of agro-food production system in response to new demands of consumers.

Moreover, the use of contracting in fair trade and organic rice scheme represents an explicit model of disciplinary power. Contracting represents the ideals of organic farming and fair trade to be followed. At the same time, contracting specifies the penalties for those who break the rules. The consequences of failing to conform to international requirements are serious. If there is any serious violation of international standards, it is possible that all members of a producer's group may be de-certified. So organizations are under pressure to sanction members who do not follow all the procedures, usually by giving them the penalties. The development program has set the penalties at two levels: moderate and serious (see details of the level of penalties in Appendix S).

In the training program the farmers are informed about the level of penalties for those who break the rules. In reality, the claim of power and knowledge to upgrade food production has extended beyond the surveillance of the production sites to cover other aspects of the farmer's life. For instance, the regulations specify that the whole farm must be complete the conversion to organic agriculture, including subsistent plots. This requirement affects the family farms' capacity to diversify their crops. Moreover, the regulations prohibit to the farmers to have batteries and plastic bags in the farm and in the houses. Such rule opposes the farmers' living, as at least one farmer told me about his worries that he was at risk of receiving a penalty for the use of batteries and plastic bags which contained chemical fertilizer.

If the farmer acknowledges that he or she has broken a rule at the moderate level of penalty, he or she might be warned to stop such practice immediately. In the case that the farmer does not heed the warning and continues the erroneous action, he or she will be punished at the serious level. The farmers who intentionally break the rules seriously are given a "red card" *(dai bai deang),* and he or she will be forced to quit the organic food network. Notably, some practices can be considered either moderately wrong or seriously wrong. It depends on judgment of the experts. This is a form of social sanction that the development practitioners use to punish the farmers who violate the rules.

The farmers who are forced to withdraw from membership of the organic jasmine rice producer group due to a red card will lose their saving money with the group. In a meeting in 2008, there was a regulation proposed by the farmers' group committee that a portion of the sales of those violating the rules, one baht per kg, would be deducted and transferred to a common fund to develop water resources and business capacity in the future. This amounted to several thousands of baht per farming family per year and was the cause of intense opposition and conflict. Therefore, penalties and fines are mechanisms of government to maintain the power of control over farmers and to suppress potential conflicts between the contractors and farmers.

4.4.4 The Use of Farm Record

In this section, I will examine how another mechanism of government which is the farm records. Drawing on the notions derived from Higgins and Lawrence (2005b), I argue that the farm record is a technology of government, as it allows the calculation which centers on the capacity of the farmers to make the farms and the agricultural practices visible, stable, mobile, comparable, and combinable (Higgins 2005). Drawing on Agrawal's (2005) argument about the technology of the self to constitute forest dwellers as environmental subjects (Agrawal 2005). Here, I argue that the farm record is also a technology of government to constitute the subjectivities of self-regulated farmer. The farmers are trained into the believing that expectation of

higher productivity per farm and improvement of agro-ecological environments are their goals and benefits.

First of all, the farmers are required to complete details of the production record which covers four areas: (1) land preparation, (2) fertilization for soil improvement, (3) harvest, and, (4) post-harvest (see details in figure 4.5). The details of land preparation required to be completed in the farm record are date and amount of application of livestock manure, natural fermented fertilizer, and green manure. The details of fertilization include date and amount of application of animal manure, natural fermented fertilizer, molasses, effective microorganism (EM), and natural pesticides. The details of harvest required are date of harvest, threshing, storage, and delivery of rice. Lastly, the details of post-harvesting activities required include the amount of green manure to be grown, additional plants to be produced, and other activities. Importantly, the farmers are required to assess their own capacities to handle overall on-farm management in meeting the standard-based regulations.

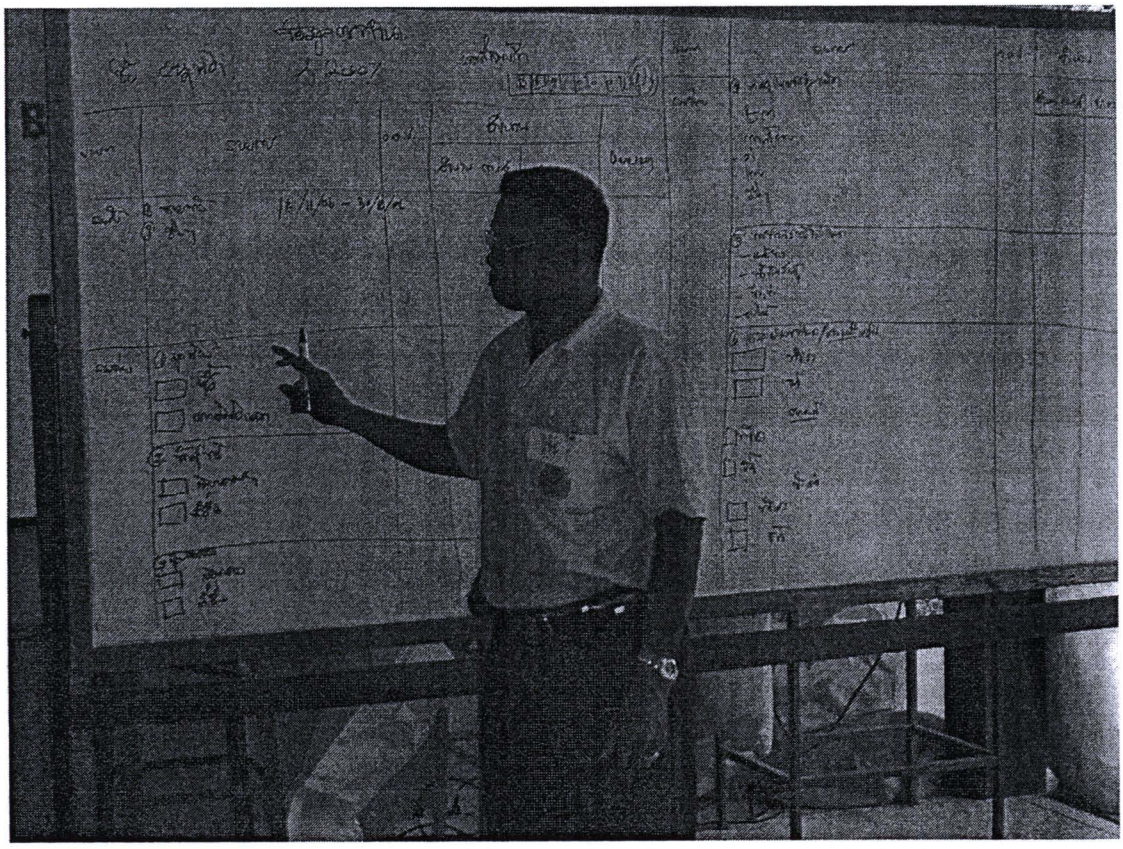

Figure 4.5 Farm record

Additionally, the farmers are required to put the details of data about total household's income, derived from rice selling in the previous year plus incomes derived from other activities and total expenses, including the expense in regard to animal manure, rice seeds, green manure seeds, ingredients for organic bio-fertilizer, natural pesticide ingredients, and labor wages for all production processes.

Indeed, the regulations specified that the farmers must complete data on the farm records, but the farmers were convinced by the development programmers that completion the data on the farm records were beneficial to the farmers themselves for three reasons. First, the farm record makes possible cost-benefit analysis and makes amenable the calculation of production costs at the farm gate level. The data about overall production costs is a prior condition for the calculation of minimum farm gate price. Second, knowing the on farm-management and the production cost in such a way that can be governed would allow both the farmers and the experts to assess whether or not a particular rice farm could make a profit. Finally, the farm record is necessary for project certification, as external verification depends on checking the internal management of the organization. The use of farm record to make the reality in the farm illegible and mobile, and to bring agricultural practices into the realm of explicit calculations is employed to improve the capability of farmers to generate productivity, efficiency, and environmental sustainability in a calculable way.

Moreover, the farmers are forced to estimate their farm inputs and outputs into standard quantifiable dimensions which can be used as the basis for judging by internal and external inspectors. In this sense, the farm record not only enables particular farming practices to be accumulated in statistical terms, but also constitutes the practices that are representatives of the incorrect and undesirable. Through the farm record, the right manner will be defined, the distinct finalities are prioritized, and the tactics are turned into achievable, corrected results. In this respect, the farm record permits the standardization of farm data according to specific categories, and it is a crucial step in getting farmers to reflect on their practices in a similar way.

Additionally, as I mentioned in 4.3, the training program in respect to the organic jasmine rice production has explicitly focused on bringing about long-term attitudinal and cultural change in farmers. The key question in the training of the development programmers is how to raise awareness of the farmers in order to

acknowledge the benefits of farm record and how to instruct them in such a way to assure that the farmers would do it in their daily life.

Therefore, I argue that the construction of calculative farmers is the use of calculation to improve farmers' conduct in order to improve their competitiveness and to improve the environment. Here, calculation is used to improve farmers' capability to make plans, to do cost-benefit analysis, and to manage farms in directions that can improve competitiveness by using self-regulating practices. Yet, the farmers are forced to find ways to increase output and to keep up with rising input costs by maintaining environmental sustainability. The calculation calls for an individual farmer to bear risks from natural disaster, to cope with increasing production costs, and to comply with international regulations, even if they would be undertaken by the farmers at their own expense.

The following example will illustrate how the farm record acts at a distance to render farming practices technical and to improve capacity of farmers to act as calculative agents. It is a compulsory that the individual farmer informs the development programmer of the total number of the paddy lands they have and total productive areas to be used for each type of rice plot. The data about total productive areas used for growing organic jasmine rice makes possible the calculation of total estimated productivity in each rice farm. The average yields for the organic jasmine rice production in northeastern Thailand are estimated at about 320 to 350 kg per rai. The farmers who grow organic rice for export are required to put livestock manure, or organic compost, into the paddy fields at least 200 kg per rai to increase soil fertility. If the farmer "A" has one paddy field of ten rai (1.6 hectares), the estimated minimum yields of this farm are estimated about 3,200 to 3,500 kg per year.

Theoretically, when there is no sign of severe drought or flooding, the productivity of organic jasmine rice should gradually increase year by year from improvements in soil fertility. The exception is when the farmer grows jasmine rice in the transitional period of three years. It is known that the rice yields of organic plots in the transitional period might decrease by approximately 25 percent in total productivity. As such, if the experts find that the productivity of a particular farm is less than estimated, they commonly conclude that the amount of manure or organic compost added onto the paddy fields was not sufficient. The fields thus cannot

generate fertile soil and cannot allow the rice plants to give productive yields. Another conclusion might be that the farmer does not grow rotation crops which usually are left in the soil as green manure to increase soil fertility. If the productivity of a particular farm is not less than the others in the same area, but the rice sold by the farmer to the project is less than the estimation, or less than the amount of rice that was sold in the previous year of cultivation, the conclusion might be that that the farmer sold his or her organic rice outside the contract, which violates the rules.

Through the application of governmentality perspective, the use of calculation facilitates active citizens who take greater responsibility for their self-governance. Here, the capability of calculation as an advanced liberal form of rule is socialized among the farmers. This allows for the management, self-surveillance, and regulation of behavior in such a way that lays claim to the kind of subjectivity that those who are socially and environmentally conscious wish to have. However, it also creates the constraints for the farmers because the farmers are expected to acknowledge and be responsible for every possibility.

Despite the strong intention to encourage farmers to complete the farm record, the development programmers find that it is difficult to do so, as a trainer on the training day of February 20, 2007 complained to the participants:

> *Why do you neglect to complete the farm record? Without the farm record, although you do organic rice farming, no one believes that you really do it. The farmers who do not have farm data in the farm record are equivalent to those who claim that they finish the graduate school, but have no degree to prove their claims (Observation, Farmers' Training, February 20, 2007)*

The attempt to impose the rule regarding the farm record always results in failure. It is common that farmers frequently neglect to complete the farm record for the reason that many may be unfamiliar with writing, calculation, and recording. However, what is more important is that the farmers have no incentive to do farm recording, and they do not regard failure to prepare documentation a critical mistake. This situation is also noted by Mutersbaugh who studied organic coffee certification in Mexico (Mutersbaugh 2004). The Mexican trainer also stressed at length the importance of document production to the farmers:

Organic agriculture is documents. Has anyone said that you don't know how to produce organic coffee? Has anyone said that you don't know how to process and warehouse organic coffee? What certifiers have said is that you don't know how to fill out forms.

In summary, northeastern Thai farmers are required to act in response to environmentalism in certain ways. The development program is employed as an explicit intervention to follow the codes of practices[47] of international regulations and to change toward green agriculture. The use of technologies of government has created "self-regulated" farmers, or the farmers who are conscious about the competitiveness in global markets and act in response to new demands of quality concerning safety, health, and environmental conservation.

4.5 The Creation of Accountability through Auditing

The practices of auditing are used to monitor and verify the degree to which the codes of conduct are actually enforced on farmers. Thus this section examines the emergence of an auditing work in the fair trade and organic rice scheme. Central to the discussion is the capacity of scientific management and of experts to assess the efficiency, accountability, and transparency of the internal control systems of the organization. It also examines how the audit acts upon production systems and farmers' livelihoods at a distance.

Power suggests that auditing work represents a technology of government employed to achieve the control of internal control system. General components of auditing work include technical work in the form of evidence gathering and the examination of documentation, the expression of a view based on this evidence, and a clearly defined object of the audit process. Environmental audits are the expert assessments of the environmental impact of a firm's activities, based on the pure compliance based approach and a management-based style of self-assessment (Power 1997a).

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[47] The codes of practices are: (1) complete conversion to organic agriculture, (2) soil, water, and fertilizer management, (3) biodiversity, (4) prevention of disease, (5) control of insects and weeds, (6) prohibition of the use of genetically modified organisms (GMOs), (7) animal well-being, (8) protection from contamination, (9) scientific management, (10) accountability, (11) transparency.

I draw on the work of Michael Power (1997) to consider the significance of social and environmental audits in creating accountability in government of the fair trade and organic jasmine rice scheme. The control of social conditions of production is a basis for fair trade certification. Yet the certification for organic food focuses entirely on organic methods and production inputs. Organic jasmine rice certification and fair trade certification are project-based certifications, not an individually-based certification.

To understand the role of auditing in creating accountability in organic rice scheme in northeastern Thailand, I examine three dimensions of operation: (1) sampling testing, (2) risk analysis, and (3) the evaluation of internal control systems. The three elements of auditing work must be understood as ways of making audits economically and epistemologically possible.

4.5.1 Sampling Testing

In the organic jasmine rice scheme, the international certifier usually sends a list of auditing requirements to the development programmer in advance. These requirements are the matters being audited according to standards for organic[48] and fair trade certification[49] . The external inspectors such as those from IMO-control inspect all production sites such as the farm plot, warehouse, village or community's warehouse, regional rice milling plant, and the port. The external inspectors review documents. Then, the external inspectors interview key informants such as the project manager, the leader of the farmers, the committees of the producers' group, the extension officers, the internal inspectors, the financial officers, the accountants, and

[48] In organic certification, the criteria on which growers are assessed includes: (i) degree and extent of on-farm fertility management through composting and cover cropping, (ii) degree of on-farm biological pest management, (iii) avoidance of legally restricted and controversial materials, (iv) employment of innovative weed control practices such as mulching, (v) bio-diversified cropping patterns, including intercropping and integrated livestock, and (vi) evidence of intensive management (Guthman 2000).

[49] fair trade certification cover following issues: (i) guaranteed minimum prices for producers, fair wages to laborers, social development premium, (ii) advanced credit, or payment to producers, (iii) democratically run producer cooperatives or workplaces, (iv) long-term contracts and trade relationships, (v) environmentally sustainable production practices, (vi) public accountability and financial transparency, (vii) financial and technical assistance to producers, (viii) safe, non-exploitative working conditions (www.fairtrade.net/standards.html).

individual peasants. The linkage between organic production sites in Thailand and other production sites oversea is illustrated in Figure 4.6.

<table>
<tr><td rowspan="8">Commodity Movement
↓</td><td>Commodity chain</td><td>Custody chain</td><td>Certification practice</td><td>Certification Product</td><td>Certifying entity</td><td rowspan="8">Thailand
↓</td></tr>
<tr><td>Farmers' plot</td><td>Farm family</td><td>Field inspection</td><td>Peasant inspector documents</td><td>Internal peasant inspectors</td></tr>
<tr><td>Farm store house</td><td>Regional organization</td><td>Product flow audit</td><td>Field inspection report</td><td rowspan="4">External inspectors</td></tr>
<tr><td>Community warehouse</td><td>Regional organization</td><td>Community warehouse audit</td><td>Project certification</td></tr>
<tr><td>Regional milling plant</td><td rowspan="2">Statewide organization</td><td rowspan="2">Milling plant inspection</td><td rowspan="2">Milling plant certification</td></tr>
<tr><td>Port/ Custom House</td></tr>
<tr><td>Wholesaler</td><td>Roaster/ Retailer</td><td>Dossier review</td><td>Dossier Organic seal</td><td>EU-based, US-based, Japan-based certifiers Organic labeler</td><td>EU/ USA/ Japan</td></tr>
</table>

Figure 4.6 Transnational Links in Organic Agricultural Product Certification

In addition, the requirements of the ISO/IEC guide 65 EU 2092/91 norms specified that the yearly on-farm inspections would be increased from the previous pattern of 10 to 20 percent randomly selected producers to cover 100 percent of the producers every year. To make inspection and certification applicable to all producers, it is required that the producer organizations possess a well-functioning

"Internal Control System" (ICS). The external inspector thus reviews the functioning of ICS and the compliance with international norms via the random selection of producers for review. In other words, the problem of increasing certification costs is resolved through the arrangement of organization management systems. This makes it possible for the farmer organizations to certify 100 percent of their producers every year internally, whereas the external inspections would be limited to 10 to 20 percent of the overall producers.

In the field inspection in 2007 that I observed, the external inspector traveled to the village and undertook a random selective sample in a particular village. He inspected warehouses, vehicles, farm storage sites, and organic rice transaction records. After reviewing documents and making field inspections, both the inspection report and the village record were forwarded to a transnational certifier. If a review is favorable, two types of certifications are given: each farmer receives a yearly organic producer certification, and the NGO organization receives harvest certification. And, in the fair trade certification, the NGO organization is certified as a fair trade small producer organization.

In the field inspection in 2007 the sampling selected by the external inspectors from IMO-control was about 22 to 23 households from a total 568 households. The component of sampling was chosen from criteria such as land ownership. The total number of farmers was divided into three categories as representatives of large-scale farmers[50], medium-scale farmers[51], and small-scale farmers[52]. Another criterion used for sampling selection is different stages of rice production: those who are in the first year of transition to organic agriculture, those who are in the second year of transition to organic agriculture, and those who are the third year of transition or more.

Moreover, the external inspector frequency chooses the "uncommon" cases which were chosen from the previous year as samples. As such, the farms which were inspected by the external inspector in the previous year continue to be inspected in the following year by other external inspectors. In this way, the external inspector is able

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[50] The large-scale farmers, classified by external inspector, own land over six hectares (37.5 rai).
[51] The medium scale farmers, classified by external inspector, own land between two and six hectares (13 rai-37.5 rai).
[52] The small-scale farmers, classified by external inspector, own land between one and two hectares (6.5 rai-13 rai)

to monitor whether the farmers and internal control system have been improved according to the comments of the external inspector of the previous year.

The samples are selected from amongst the farms considered "uncommon" cases. However, the definition of "uncommon" is subjective, not objective. Hence, it can be a space in which contradictions and negotiations emerge. An example of an uncommon case was a farm which had sold excessive less or high organic rice than estimated by the internal inspector (Interview, international inspector from IMO-control, December 15, 2007). Here, calculation plays a critical role both in assuring the efficiency and accountability of the system. As I have shown earlier, calculation allows the experts to estimate the annual yields of each farm. The statistics make intelligible the history of yields for every farm in the project. In this sense, the legitimacy of sampling depends on the statistical science and authority of the experts.

An observation of the field inspection in December 2007 shows how the audit works through sampling and calculation to ensure rice quality, safety, and system accountability. The external inspector usually begins the audit by checking the farm map, statistics, and documents. After that, the external inspector walks along the boundary of the farm to check whether the details of farm map are correct. In this way, the external inspector assesses whether the farm terrace is built to prevent waterborne contamination and whether shade trees are grown along the border of the organic rice plot which is connected to conventional farm. In this case, the external inspector noticed that the amount of organic rice sold by a farm was higher than the estimated yields. The external inspector then interviewed the farm owner, the extension officer, and the internal inspector. The discussion between the relevant actors went as follows:

The external inspector: How many rice plots do you have?
The farmer: I have one organic rice plot. My farm is 58 rai (about nine hectares).
The external inspector: Who is the internal inspector?
One internal inspector signaled that he was the inspector of this plot.
The external inspector: What is the estimated yield for this farm in 2007?
The internal inspector: The estimated yields are 10,801 kg.
The external inspector: What was exact amount of rice sold in 2007?
The farmer: I sold 15,913 kg of rice this year.

The external inspector: The rice sold is higher than the estimated yield of about 5,000 kg. Where does the extra rice come from?
The internal inspector: The estimated yield is 274 kg per rai, but the farm was in fact cultivated more than what was estimated.
The external inspector: Why do others in this area say they cultivated less yields this year, due to less rain-fall? But at this farm the farmer says his yield increased? Do you sell rice from your own plots, or take rice from others to sell under your quota?
The farmer: I sell organic rice harvested from my farm only. But the yields of my farm are high because I invested a lot to grow green beans. The quality of soil in my farm is better. And I can cultivate more rice than others.
The external inspector: How many green beans did you grow this year?
The farmer: I bought 150 kg of green beans (The cost of organic green beans is about 30 baht per one kg. Then actual cost of green beans spent by the farmer was 4,500 baht).
The external inspector: I suggest that next year your estimated yield should be adjusted to be higher than the estimated yield of this year (Observation in the field inspection of Sombat Sriwong, Na Dee village, Nuang Pue sub-district, Kemmart district).

The average yield of organic rice produced in Ubon Ratchatani province is about 350 kg per rai, or 2 to 2.5 tons per one hectare. The rule is that the annual yields estimation must be close to actual yields. If actual yields are more or less than the estimation by 10 to 15 percent, it is acceptable. However, in this case the external inspector noticed that the amount of organic rice sold by a farmer was higher than estimated yields about 5,000 kg, or over 15 percent. Then this case was considered by the external inspector as "uncommon"; it indicates that the internal control system was not function. However, a dialogue between the farmer and the external inspector mentioned above shows that although the farmer sold excessive higher organic rice than the estimated, the farmer can explain why the amount of organic rice sold by him was over estimated. As such, the external inspector assessed that it is not the farm operation that had a problem, but it is the internal control system which needs to be improved.

The above example field inspection echoes what Power (1997) argued that auditing draws on the legitimating force of statistical science to rationalize the selective testing that was already in place. Central to the use of sampling in auditing is that sampling must be constructed so as to be "representative" of the population of transactions under examination to allow for learning something about whole populations. Power argues that sampling makes the audit more efficient while giving

it a basis for making hard quantitative statements of assurance (Power 1997). Despite an emphasis on accountability of auditing work, I argue that it is difficult for international inspectors who have limited time, focus mainly on documents, and conduct random-sample inspections to determine whether the farm management and internal control systems are really complied with the international regulations.

4.5.2 Analysis of Risk of Contaminations

Apart from the use of sample testing, auditing also works on risk analysis. To determine the existence of risk, Kostov suggests that the uncertainty of the objective world needs to be translated into a subjective perception. Then, calculation can be employed to determine environmental probabilities, though the probabilities do not need to meet "objective" environmental uncertainty. In this respect, the concept of "risk" is related to the concept of "security" which is a way of avoiding some risk and accepting other forms of risk. So risk is closely related to rational calculation and implies social character of the uncertainty, the notion of risk is institutionalized via our desire to control reality. Risk management creates a subjective comfort through a reduction of risk. Calculation becomes an important tool that is employed to determine whether or not such risk should be neglected or controlled. In the risk management, calculative agents work through the neglect some important aspects of reality, or change the environmental uncertainty to be something that is acceptable (Kostov 2003).

Risk analysis is generally implemented through: (i) risk assessment that is an assessment of the risk which may affect human health through food-borne hazards, (ii) risk management that is a decision regarding acceptable levels of risk and measures to be implemented for control of this risk, and (iii) risk communication that is a communication about the risk and chosen methods of control amongst interested parties (Henson 1999). In practice each inspection organization set up criteria and methods to be used for assessment of risk. Then, international inspectors adopt these criteria and methods to assess to the level of risk of each project. For instance, the IMO-control set the range of risk at levels one through ten, with one the lowest risk and ten the highest. The levels correspond to the following categories:

Table 4.1 Different Levels of Risk

Risk Level	Category
1-3	Low
3-5	Normal
6-10	High

According to the external inspector from IMO, the environmental risk of the organic rice scheme in northeastern Thailand is ranked lower than level three. The project is being assessed as less risky, because organic rice farming here depends on rain-fed plots, not irrigation systems and no chemical synthetic insecticide use. The only risk comes from the waterborne contamination caused by the use of synthetic chemical fertilizer in conventional rice plots which are connected to organic rice plots. Thus sampling was selected by considering the degree of risk of a particular farm (Interview, an international inspector from IMO-control on December 15, 2007).

Therefore, the organic plot located next to conventional plots is frequently selected by an external inspector as sample for field inspection. It is common for the experts to assume that such a farm is high risk from airborne and waterborne contaminations. To prevent airborne contamination, the organic farmer is required to grow life-plant barriers as a natural fence. Ideally, the life-plant barriers to be grown should be higher than the conventional crops. Nevertheless, the farmers sometimes cannot comply with the international regulations because of the objection from their neighboring farmers, as illustrating in the case of Mrs. Pakaa.

Mrs. Pakaa, a widowed farmer living in Ban Na Dee village, Senangnikom District, Ubon Ratchatani Province, had just begun participating in the project. It was her first year when her farm was chosen as a sample for field inspection 2008. She had one field of 15 rai, and she worked the field by herself, with occasional help from her still young daughter. The internal inspector evaluated her field at 2.5 tons of production. However, in the previous year, she sold 2.8 tons of grain, an excess of 300 kg.

Pakaa was representative of marginalized small-scale farmers, as she had no power whatsoever to contest the market or capital. She had no capital to improve her production system. She had limited access to labor as she worked alone, having no

money to hire additional labor. In addition, she had to care for her primary-school age daughter. Her daughter was too young to help her work the fields in earnest.

Pakaa had a tractor but had to depend on her uncle and other relatives who lived in neighboring villages to use it. In return, she had to allow her uncle to use the tractor for his own fields. When the external inspector came to inspect her field, he saw that she needed to plant life-plant barriers as a natural fence to prevent airborne contamination. She tried to explain that she had already tried planting trees, but her neighbor—who was a relative—did not allow her to do so. Her voice trembled and tears welled up in her eyes, which indicated feelings of being pressured.

Discussions between the external inspector and the farmer in the following illustrate the way that risk is interpreted, assessed, communicated, and turned into thing that can be managed and controlled through the use of corrective measures:

> *The external inspector: In 2005 the inspector reported that there was a suggestion to grow life-plant barriers along the border which was connected to the conventional rice plot. But the farmer did not act on the suggestion. In 2006 the extension agent and the external inspector reported that the farmer still had not taken up the suggestion. It is true that the conventional plot uses only synthetic chemical fertilizer and does not use synthetic chemical pesticide. Nevertheless, I want to know why does the farmer not follow the suggestions?*
> *The farmer replied in a soft voice, nearly in tears: I can grow only vetiver grass but I cannot grow bush trees or big trees as they suggested, because my neighbor does not allow me to do so. The farmer who owns the conventional plot is my neighbor, but he is concerned that the shade tree would grow up and block the sun light in his plot (Participatory observation of field inspection of Pakaa, Na Dee village, Senangnikom District, Ubon Ratchatani Province, December 16, 2007).*

The dialogue between the farmer and the external inspector mentioned above indicates that the expert plays a key role in assessing risk and providing corrective measures to turn risk to be low and acceptable such as the recommendation to plant tall grass or shrubs such as hummingbird trees along the buffer zone and repairing the southern border. Once the farmer follows the recommendation by the expert, such risk is acceptable.

Another form of risk which is a concern of the external inspector is waterborne contamination. As explained earlier, it is a compulsory that terrace

building is required if the organic rice plot is connected to conventional rice plots (see details in figure 4.7). This measure is implemented to ensure that water from conventional plots does not run onto the organic rice plot. However, the external inspector views the prevention of waterborne contamination as easier than the prevention of airborne contamination. From this perspective, the use of spray pesticide is more risky than the use of chemical synthetic fertilizer. As I illustrated above, the inspection represents a dialogue among actors involved and it is a result of negotiation centering on the notion of a true and fair view and best practices. Insofar as inspection and verification are important tools in controlling farm management system. The experts claim the legitimacy of a technocratic form of knowledge, and a hierarchy of professional knowledge (Power 1996, 1997).

Figure 4.6 Control of Risk of Contaminations

4.5.3 Evaluation of Internal Control Systems

The second dimension of auditing is the evaluation of internal control system (ICS) existed in the organization. The internal control system represents the first order of control which is the control of farm management system where the ICS is designed to assure product quality and self-regulating system. Auditing works on the assessment of functioning of internal control systems and the performance of the internal inspectors to ensure that procedures and management systems of organic rice production comply with the international standards.

In the case of organic rice scheme in northeastern Thailand, the internal control systems were organized in accordance with ISO/IEC guide 65 and EU 2092/91 norms[53]. The most common problem with the certification is the high costs of certification, particularly considering from the point of view of local farmers who live in developing countries. This does not include the expense the producers' group has to pay for the external inspectors during the field inspection. Another problem constantly mentioned refers to the implementation of standard-based regulations are inappropriate in different cultural and environmental conditions and types of farmers. Lastly, paperwork requirements are often mentioned as increasing burdens for producers who are unfamiliar with document management.

This study finds that the internal control system (ICS) was created to solve problems of increasing certification cost. Yet, ICS requires additional labor expense and re-embedding of traditional style of agriculture. The organic producers' group

[53] The ISO/IEC guide 65 and EU 2092/91 norms cover the following issues: (a) expanded scope of certification. Inspections now cover all farms operations, including subsistence crops, (b) creation of peasant inspectors (PIs) and a community technical officer (CTOs) corps. Peasant inspectors inspect 100 percent of peasant fields while community technical officers devise individual household organic improvement plans and provide organic technical assessments, (c) implementation of training and certification programs. IPs and CTOs attend certifier-approved training programs each year and must pass an examination. The producer's group organizes workshops, and the PI and CTO participation and examination record becomes part of the regional organization record, (d) introduction of producer organization internal norms, inspection mechanisms, and "sanction catalogs". Each organization devices a code of conduct for farmers that includes adherence both to organic and to internal norms, a means of documenting adherence to norms, and a sanctions catalog of penalties applied to non-compliers, (e) expansion and standardization of documentation and archives. Regional producer organizations create new documentary instruments such as individual production plans, inspection reports, and cadastral maps. All producers have a personal, non-transferable, internationally recognized, permanent number appended to their documents. The regional organization maintains a peasant personal record and regional organization records.

need to invest a great deal of time, budget, and training to create mechanisms to be used for installing ICS, for promoting organization's norms, and for conducting farm inspections.

Among other mechanisms, extension agents and peasant inspectors are important. The organization has one team of extension agents and one team of peasant inspectors; each team has six to seven staff who are given full-time, salaried positions and who undertake double roles. On the one hand, the extension agents give technical advice to individual peasants in a particular community. On the other hand, they work as peasant inspectors who travel to other peasant communities (not the same community in which they give technical advice) to perform inspections in every single rice plot every year.

The internal inspector performs farm inspection. Basically, the internal inspectors visit the farms to complete the checklist and assess the quality of the internal management and control systems. Details of the checklist for organic certification are illustrated in Appendix T while details of the checklist for fair trade certification are illustrated in Appendix U.

The internal inspectors frequently visit and audit the farms without the need to inform the farmer in advance. Thus the appearance of internal inspectors in peasant communities may lead to tensions for farmers who are targets of surveillance. After performing the field inspection, the internal inspector completes internal inspection reports and makes recommendations on the conditions of certification. For instance, the internal inspectors may check whether or not the farmers have followed the conditions of certification that were recommended in the previous year. Or, it may be that the internal inspectors recommend measures to be taken by the farmers in current year as conditions for certification. Lastly, the internal inspectors may recommend whether or not a farm should be certified in the current year. The internal inspectors then sign their names on the paperwork. In this sense, completion of the checklist form makes farming practices and the performance of inspection auditable. Figure 4.8 shows the auditing works on checking accountability of internal inspector.

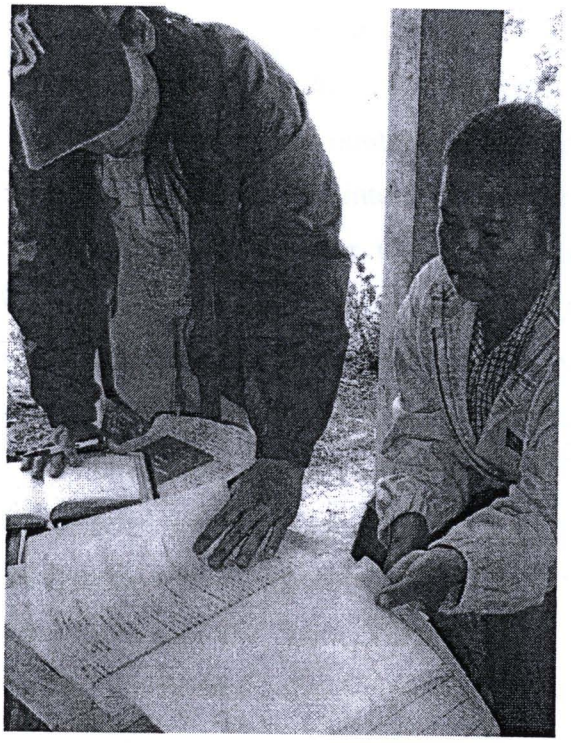

Figure 4.8 Auditing Work

In each year a number of farmers are panelized and given the "red card" which is the serious level of punishment. For example, 34 farmer members were given the red cards in 2006, and 28 farmer members were given the red cards in 2007. As a result, they lost their status as a part of the producer's group and could not sell their produce at certified organic prices. In addition, they lost their savings which was deducted from the income derived from selling rice at the rate of one baht per kg. Through the use of ICS, the farmers are turned into self-observing and self-disciplining agents, and farming activities are turned into objects of surveillance.

Power who rightly argues that surveillance is conducted to control rather than to evaluate, to prevent rather than to learn. Surveillance suggests a form of first order control whereas the audit has become a form of second order control of the first order control system. In this respect, auditing makes use of surveillance systems, as it is a form of quality assurance for surveillance systems. The weakness of auditing stems from the fact that it relies on other internal sources of information and it is epistemologically independent (Power 1997).

The attempt to assure security and surveillance inevitably creates tensions and contradictions within the system. Although it is difficult to determine the expense that must be incurred to make things auditable and accountable, the complaints of relevant actors clearly reflect these inherent tensions. The internal inspectors claim that they must give a "red card" for some farmers every year, though some complain that it is embarrassed for them to do so. One internal inspector even said that when the he traveled into and out of the village where some farmers had been given a red card; he had to use different routes to avoid confrontations and counter-attacks by the penalized farmers. One external inspector also complained that he felt uneasy inspecting others. Another external inspector said that he simply came to check whether the internal control systems were "fairly accountable".

If a minor mistake was found, the international inspector would suggest corrective measures to improve the systems. If a serious violation of the rules was committed by a farmer or by an internal inspector, the external inspector would recommend decertifying the produce from the farm or zone involved. The external inspector admitted that decertification of all the produce of the project as a whole was rare. As decertification means that the project cannot export the produce, it amounts to a severe loss for the organization and the exporter.

An interview with an external inspector sheds light on a considerable gap between the capability of the experts to control the production and internal control systems and actual actions undertaken by the farmers:

> *Researcher: When there is an evaluation, you have limited time. How do you know about the risks around a particular farm?*
> *External Inspector: We look at the previous evaluation report, which includes a survey of the degree of risk.*
> *Researcher: How do you determine the degree of risk of the selected samplings within the limited time you have in the field inspection?*
> *External Inspector: The certifying body (IMO) sets up a check list to be used by inspectors; the check list is used for determining the level of risk of the project. I follow the remarks and suggestions given by the former inspector. The inspector who will come to do the field inspection after me would determine the correctness and accountability of my evaluation. It is correct that inspection and certification serves to improve defects and to eradicate errors found in the production system and in the internal control system.*
> *Researcher: Do you think you have the authority to judge the behavior of others?*

External inspector: (laughing) I just check whether the farmers comply with the regulations. I am concerned about efficiency and accountability. If the farmers make a minor mistake, I suggest how to improve their farm management. Unless I find a farmer intentionally making a serious mistake, I do not give them red cards.
Researcher: Is the entire project de-certified if one farmer breaks the rules?
External inspector: I divide areas under cultivation into different zones. If farmers in a particular production zone make a mistake, only that particular zone of rice production will be decertified. However, the project as a whole can still be certified..
Researcher: What are the limitations of your evaluation?
External inspector: I can determine whether or not the farmers conform to the quality specified in the organic regulations, comparing their actual yield with the calculated target. Improvement of soil fertility usually encourages an improvement of yields. I can say whether production is good or bad, but I cannot say what conditions make it good or bad.
Researcher: What do you think of the evaluation system and the internal control system of this project?
External inspector: I follow a documentation system that is very thorough. I have never before found an organic farming group that has to complete such complicated paperwork as this one.
Researcher: Is it difficult for the farmers to follow the regulations?
External inspector: The project has to rely on the production over a dispersed land area, it is more difficult for the project to control the farmers working over such dispersed plots than over single, confined plantations. I was told by the project staff that it is not easy for them to convince the farmers to apply to become a member of this organic producer group. So, it is important that the regulations are imposed on the farmers in practical and flexible way (Interview, External inspector from IMO, December 18, 2007).

The external inspectors rely on the work of other specialists, especially in assessing the competence of the internal inspectors, rather than their knowledge base. Power argues that audits depend on the trust in capacities of specialists in the internal control systems. At the same time, audits work under the circumstances where trust is lacking and must be restored by the audited activities (Power 1996, 1997). Drawing on Power's argument, I contest that despite the creation of internal control systems and self-regulating surveillance, the attempt to discipline the labor of production and the labor of inspection is not totalized. Auditors and inspectors cannot totally observe the farmers and farming practices all the time. It points to gaps between the ideals and actual practices of standards-based regulations.

To solve the problems of enforcement of international regulations, every community which becomes a production site of organic rice for export has key

persons who act as coordinators between the organization and the farmers. These people usually are committee members of the producers' group, well-to-do farmers, village heads, elders, and those who have positions within the communities which are respected by the farmers. Due to their close relationship with the organization staff and their privileged status in the village, they can better observe and conduct surveillance of fellow farmers in the village. In this sense, personal relationships are employed as indirect mechanism to make possible the control at a distance which helps to be greater accumulation.

4.6 Conclusion

This chapter drew upon Foucault's concept of "governmentality" to examine the governing farmers' life and agricultural practices which represents the practices of politics. This study argues that the international regulations are institutional mechanisms employed to transform natural landscape and agricultural practices to conform to idealized principle of organic agriculture and fair trade standards.

The rationale of government is created to justify the shift from traditional agriculture toward industrialized and standardized agriculture as the same as an assembly line in industrial capitalism. The governing farmers' life and agricultural practices depends on various forms of technology of government to act upon nature and farmers at a distance. These technologies of government are the practices of problematization, the rendering technical, the making of boundary of organic and non-organic plots, and the production of the natural space, the use of contracting, and the use of farm record. These mechanisms of governmentality reflect the desire to conduct the beliefs and practices of farmers to conform to international regulations.

The practices of rendering technical make intelligible the domain to be governed and the boundary of intervention. However, the process of identification of problems of organic agriculture focuses on technical aspects of organic agriculture but screens out social and political aspects of organic agriculture, despite the neglected aspects determines the failure of organic agriculture. Moreover, the making of boundary of interventions is a technology of government employed to make intelligible the boundary of organic plot as governing object to be controlled and

monitored. Moreover, the production of intimated nature such as life-planted barrier, and protected area in organic agriculture indicates that the drive of sustainability initiative is far beyond the control of labors but it is also the control of nature, as nature is re-arranged and turned into things to be disciplined and controlled.

Considering the drive to use good agricultural practices to create idealistic ways of life and to clean up the environment in neoliberalization, I argue that the government of organic rice scheme is based on two regulatory regimes. The first regulatory regime is the control of production process or the re-arrangement of farm management to comply with international regulations. The second regulatory regime is the control of nature or the transformation of ecosystem of the production site to fit with the principles of organic agriculture. These two regulatory regimes aim to assure consumers about worker's right, safety, and quality of organic rice, so the operation of two regulatory regimes can create exchanged value which generates greater flexible accumulation. Yet, the attempt to control nature and production process in organic rice scheme has created unintended consequences. For instance, through contract farming, paddy land and irrigation system are managed by individual farmers; thus the privatization of common property emerged. It works through detaching natural resources from complex social relations, then places it under the control of individual farmers and the self-regulated market which encourages capitalist accumulation.

In addition, the use of contracting in organic jasmine rice scheme turns the farmers into proletariats; although the farmers loose the autonomy to control the means of production but they use the means of production to serve the demand and interest of the capitalists. Moreover, contract farming in organic jasmine rice scheme makes possible the enforcement of international regulations on the farmers. At the same time, contracting represents a disciplinary power because it specifies the penalty of the farmers if they cannot comply with the regulations.

Moreover, auditing work is a technology of governing farmers' life and agricultural practices. The emergence of auditing work conducted by international inspectors assures the accountability and transparency of the farm management and

internal control systems of organic and fair trade rice production. The emergence of auditing and certification infers abstract systems, as well as expertise systems. Therefore, this study confirms the argument of Miller and Rose (1990) that governmentality has come to depend in crucial respects upon intellectual technologies, practical activities, and social authority associated with expertise. It argues that the expertise is a key resource for governing; they have established some crucial conditions for governing in a neoliberal democratic way.

Finally, I argue that the drive to rearrange northeastern farmers' life, agricultural practices, and social-nature relations to achieve the ideals of international standards fits with the frame of virtualism. Theory of virtualism argues that in a new capitalist economy the economic relations are increasingly determined by economic model such as international standards, and the new capitalist economy puts emphasis on the preferences of the virtual consumer over real consumer, at least in terms of the ways in which economic action in the productive and distributive sphere is justified and rationalized. The justification of virtualism is the claim that the failure of the real to conform to the ideal creates not merely imperfections, but also creates undesirable consequences (Miller 1998). I argue that these technologies of government are used to channel the beliefs and practices of the farmers in accordance with ideals of fair trade, organic principles, and neoliberal agendas.

Through the construction of rationality of government and the use of technologies of government, the construction of new quality associated with safety, sustainable environment, and fair trade is possible. Through the construction of new quality, the commodification of organic rice is a solution to eliminate the problems of conventional agriculture and also a means for accumulation in the context of neoliberalization. Reproduction of capitalism can be possible via the relaxation of national control, increasing role of transnational institutions and corporations, and dis-embedded economic action and thought. However, the tensions and contradictions associated with natural resource management and labor control emerged in the attempt to control agricultural practices and to discipline labor. These contradictions point that the creation of standardized and industrialized agriculture is not totalized, due to a resistance of the farmers.