



CHAPTER IV

THE IMPACT OF CONTRACT FARMING ON CONTRACT

FARMERS' LIVELIHOOD

Contract farming schemes need to be assessed to understand their impact on contract farmers' livelihood. In the current case study, it is found that the contract farmers are generally happy with their experience of contract farming to date, although they do face some day to day problems which have implications for their income. Based on interviews with 16 *Angkor Kasekam Roungreung* company contract farmers in nearby 3 villages, this chapter will examine the impact of contract farming on farmers' livelihood using the Households Livelihood Security (HHLS) approach. The first part describes the social economic characteristics of contract farmers and the second part analyzes the impact of contract farming on farmers' livelihood.

4.1. Social Economic Characteristics of Households

The fieldwork survey was conducted in July 2010 with 16 contract farmer and 20 non-contract farmer households in Kres Thom, Thum Phiem, and Chong Tnol villages, Tang Krouch commune, Samrorng Thong district. Table 4.1 presents the respondents' basic characteristics, which are discussed in more detail below.

4.1.1. Household Head Characteristics

On average, contract farmers' household heads are older (47.5 years old) and less likely to be female. Their educational background majority was grade school and their experience with contract farming an average of 4 years (table 4.1). From the field work, farmers who are older, have a lot of experience and are male-headed household tended to have large areas of land because they have better access to first hand information and are therefore in a better position to make decisions. In the

community, other farmers will follow the decisions of successful farmers in order to learn from their experience and to better their livelihoods. If one farmer succeeds with contract farming, other farmers are more likely to join afterwards.

Table 4.1. Characteristics of Contract Farmers

Variables	Contract Farmers	Non Contract Farmers
Average age of household head	47.5	39.0
(Max)	(69)	(53)
(Min)	(22)	(23)
Average education of household head	Grade school	Grade school
(Max)	High school	Vocational training
(Min)	Grade school	No study
Average years attended contract farming	4 years	0
(Max)	(6)	-
(Min)	(1)	-
Average number of family members	6 person	5 person
(Max)	(11)	(8)
(Min)	(4)	(2)
Average number of family members who works in agriculture	4 person	3 person
(Max)	(8)	(6)
(Min)	(2)	(2)
Average rice field (ha)	4,3 ha	1.4 ha
(Max)	(13)	(3)
(Min)	(1.5)	(0.1)
Average forest land (ha)	2.2 ha	0.87 ha
(Max)	(10)	(4.5)
(Min)	(0.5)	(0.5)
Average household annual income (million Riel per year)	6.87	2.70
(Max)	(12.0)	(9.0)
(Min)	(4.0)	(1.0)

4.1.2. Family size

On average, contract farmers have larger families and more land compared to non-contract farmers (table 4.1). The average family size for contract farmers is 6 persons per household, which is greater than non-contract farmers' average family

size of 5 person per household. The average number of family members who work in the agriculture sector for contract farmers and non-contract farmers is 4 and 3 persons respectively.

Based on the interviews with contract farmers, it was found that many of the family members, especially women and children, work in agriculture because they have a large area of land that requires more labor. They do not only work on the farm to cultivate rice and vegetables, but also animal rising including pigs and cows. Non-contract families have less family member who work in agriculture. Most of them rely on farming and hired labor for their livelihoods, including guarding cattle for other families, hired labor on others farms, working in garment factories in Kampong Speu and Phnom Penh, and cutting down trees in the forest.

4.1.3. Farm Size

Contract farming households have more land than non-contract farming households (table 4.1). On average, contract farmers have 4.3 Ha of rice field per household, while non-contract farmers have 1.4 Ha of rice field per household. There is unequal distribution of land in these villages because each household has different access to land and source of land (further details in chapter 6). Several recent studies, point to rising land inequality in Cambodia, citing Gini-coefficients in the range of 0.50 – 0.61 for agricultural land (CDRI, 2007). The reasons include demographic pressures, large unsettled populations, weak credit markets, and speculative land purchases by wealthy urban residents for investment purposes (So, *et al*, 2001).

Beside rice field area, contract farmers also have informal possession of more forest land.²⁴ Forest land is important for farmers because, once cleared, it has fertile soil and produces good rice yields whilst requiring little fertilizer. Therefore, contract

farmers clear their forest to plant AKR's rice seed in order to ensure that they get the high rice yields expected by the company. On average, contract farmers control 2.2 Ha of forest land per household, compared to 0.87 Ha per household for non contract farmers.

4.1.4. Households Economic Conditions

On average, contract farmers have a better economic condition than non-contract farmers. Contract farmers' average annual income is 6.87 million Riels²⁵, which is greater than non-contract farming household whose average annual income is 2.70 million Riels. For contract farmers, the main source of income is from agriculture, while for non-contract farmers the income is derived from a mixture of agriculture (farm) and hired labor (off-farm) sources. Contract farmers have more land and higher rice yields (around 2.34 ton/ Ha) which also increase their income, more so because the company also offers a higher price for their rice. Non-contract farmer either own no animals or have only small animals, such as chickens, compared to contract farmers who tend to also own larger animals, such as ox, pigs or cows. Non-contract farmers also have less land area and less household goods than contract farmers.

4.2. The Impact of Contract Farming on Farmer's Livelihood

In order to analyze the impact of contract farming on farmer's livelihoods, this study uses the household livelihood security approach (HHLS) framework, which consists of 5 aspects, namely: economic security; food security; health security;

²⁴ The nature of the "ownership" of the forest land is that once a family clears forest land for agriculture, then it is recognized informally as belonging to them (without a formal land certificate)

²⁵ This annual income is according to farmers' estimation. Moreover, there are many forms of non-monetary income, such as rice for household consumption, land, etc that are not captured by the measurement of cash income (i.e. a family could be resource rich, but cash poor)

education security; and empowerment. This approach is used to assess whether farmers' living standards are better or worse off due to contract farming.

4.2.1. Economic Security

Each farmer has a different experience of higher incomes under contract farming. If the farmer that signs-up for the contract scheme is more hard working or more skilled than another, they will experience higher income. From in depth interviews, one contract farmer said:²⁶

“My farm produce is a good rice yield and the company never deducts a penalty from my rice because it is dry enough, so I always get a higher price, which increases my income. Since I joined the company, I have experienced a better living standard and can buy everything”

Using an independent sample test and comparing the reported income of the 16 contract farmer and 20 non contract farmers, it is found that there is a significant income difference between contract farmers and non-contract farmers (table 4.2).

Table 4.2. Different of Income by Farmer's Status

Status	Mean	t	Significant
Contract Farmer	6.87	4.472	0.000**
Non-contract Farmer	2.70		

Note: ** significant at the 0.01 level

However, the higher income from contract farming is not the main factor in improving contract farmers' livelihood, because they also generate income from other sources including non-farm activities and productive assets ownership. The contract farmer's economic security status can be seen in table 4.3 below.

Table 4.3. Economic Security

		Contract Farmer	
		Yes	No
Source of Income	Sell rice	16	0
	Sell non-rice (grocery)	16	0
	Sell livestock	3	13
	Non-farm income	11	5
	Others (specify)	0	0
Fixed Assets ownership	Own a motorbike or car	15	1
	Own a bicycle	13	3
	Own a tractor	12	4
	Own a rice miller	9	7
	Own a TV	16	0
	Own a pumping machine	15	1
	Own livestock (cow)	16	0

Contract farmers own large areas of land and fixed assets. Among their assets, contract farmers have their own farm equipment and tools, including pumps, hand tractor and rice mill. They also have household goods, such as generators, TVs, motorbikes, bicycle, and some have a car. Contract farmers also have cattle such as pigs and cows for animal labor, but that also function as an investment; they can sell their pigs or cows if they need emergency cash money. Besides increasing income from farm activities, contract farmers have the potential for significant economic security due to their ownership of these productive assets.

Based on table 4.3 the main sources of income for contract farmers come from selling rice. Other sources of income are non-farm activities, such as owning a small shop, selling palm wine, selling livestock, raising pigs, and official employment, for example as a government official or a teacher. Some contract farmers also receive remittances from family members who work in garment factories in Phnom Penh. Not many contract farmers sell their livestock, particularly their cows because they use them as animal labor and as a means of transportation in the village.

²⁶ Interview with contract farmer 14, Thum Phiem village, July 15, 2010

In a case study in Chiang Mai, Thailand 50% of the farmers earned off-farm income prior to, and after, joining contract farming and they felt that contract farming had neither affected their off-farm activities nor their income. However, after the contract, it was found that 74% of respondents enjoyed higher household income (Sriboonchitta, *et al.*, 1996).

According to Cai, *et al.*'s (2008) finding, Cambodian contract farmers on average have more income from other crops than non-contract farmer. They argued that contract farmers receive higher rice prices and revenues, have a lower percentage of non-cash costs in total production costs because of the use of more family labor, less use of chemical fertilizers and a higher use of compost and irrigation. The findings indicated that contract farmers are more orientated towards rice and other agriculture for commercial purposes when compared to non-contract farmers (who are more subsistence focused).

My interviews with contract farmers also revealed that most contract farmers depend on rice cultivation and selling rice as their main sources of income. Contract farmers who have large areas of land usually spend their time on farm activities²⁷ and use more family labor. They also diversify their activities beyond rice production, for example selling livestock (pigs), vegetables and other consumer goods to increase their income. Some farmers are even renting out plough machines, hand-tractors, and water pump machine for irrigation.

Several studies have found that contract farming projects do appear to contribute to smallholder welfare and improve farmer incomes, at least in the short term (Baumann, 2000). A comparative study on income from contract farming by Glover and Kusterer (1990) in South East Asia, Latin America, and Africa identified a rise in income because of contract farming. Similarly, a study by Ramaswami, *et al*

²⁷ Farm activities include rice cultivation, raising pigs and cows, growing vegetables etc

(2006) in Indian poultry growers found the incomes of contract farmers to be significantly higher than they would have been without contract farming.

4.2.2. Food security

Table 4.4 presents the food security status of the contract farmers. Overall, all of the contract farmers reported that they were able to meet their household rice requirements from their own rice production. They said that they had never experienced food insecurity and that they do not have rice insufficient months.

Table 4.4. Food Security Aspect

Question	Yes		No		Value
	N	(%)	n	(%)	
Do you have enough rice for your daily needs?	-	-	-	-	Enough
Do you experience food insecurity?	0	0	16	100	
Do you think contract farming has increased your food insecurity?	0	0	16	100	

The interviewed contract farmers said that contract farming did not increase food insecurity for their families. This is because contract farmers not only grow rice for the company, but they also plant rice for their own consumption. Based on their experience in rice farming, they can determine how much rice to sell and how much rice is required to meet the food demands of their family.

The farmers can also estimate their annual rice production from the rice field area they plant and their average rice yields. One contract farmer said that he has 2 ha of paddy field which produces a yield of 4 ton/ ha on average. He then sells 1.5 tons to company, 1 ton to middlemen and he keeps 1.5 tons for family consumption for the year. When he has a shortage of rice he buys it from the market. In Cambodia, farmers usually sell rice to gain cash income; when they have a surplus of rice, they

will sell it in the market at a low price to buy household goods. When they have a lack of rice, they will purchase rice back from the market (but at a higher price).

According to Sothat Ngao, a researcher in Cambodia Economic Association (CEA), contract farming in Cambodia which requires farmers to sell crops to a company and implement a monoculture crop system does not affect farmers' food security. Food insecurity does not occur under AKR's contract farming because the company provides extension services about "integrated farming systems" and encourages farmers to grow other crops after the harvest in order to increase their income. Moreover, contract farmers also benefit from a higher income from company, and contract farming also opens up job opportunities for non-contracted farmers to work on contract farmers' farm as hired labor. This increased income also helps contribute towards food security.

According to the NGO Forum on Cambodia, many contract farming agreements are based on mono-cropping and often the introduction of new non-traditional crop (Pers.comm NGO Forum on Cambodia, 2010). These arrangements force farmers to become more reliant on the income produced from the contract-farmed crops and necessitate them to purchase rather than grow food for their households. This then creates the risk that if food prices rise, in particular in the areas where contract farming is occurring, it will reduce the overall benefits from contract farming as profit-margins will be reduced (NGO Forum, 2010). However, for the farmers interviewed in this study, they largely still grow their own rice for domestic consumption and sell additional rice to the company or middlemen.

4.2.3. Health Security

Attaining health security is important for rural livelihoods to make a sustainable living. For rural people, the cost of health care and major health shocks are significant expenditures for them, requiring taking out loans or selling assets

including land, and can initiate spirals of indebtedness.²⁸ In the three villages studied, the villagers still lack access to health services, and suffer from poor sanitation and limited access to clean water. Table 4.5 below assesses the health security of the contract farmers interviewed.

Table 4.5. Health Security Aspect

Question	Yes		No	
	n	(%)	n	(%)
Can you access clean and fresh water?	3	18.8	13	81.3
Do you have sanitation facilities?	9	56.3	7	43.8
Do you face difficulties accessing health care?	5	31.3	11	68.8
Can you afford medical expenses and medicine?	16	100	0	0
Do you go to hospital?	15	93.8	1	6.3
Have you use pesticides and fertilizers before contract farming organic rice?	13	81.3	3	18.8
Is contract farming improving your health?	1	6.3	15	93.8
Do you have health insurance from the company?	0	0	16	100

From the interviews with contract farmers, it is found that 80 percent of the respondents do not have access to clean water, with can have severe consequences for health. The villagers still lack piped water, and most of the households depend on rainfall for cooking and drinking. They store the water in big jars and use it for a couple days. Some wells and pumps have been constructed, funded by external assistance and the government, but there are not enough for all villagers to use. Some contract farmers therefore use their own personal water-pumps to recover groundwater for their own consumption. For washing and cleaning, the villagers use water from local ponds or a nearby stream. In order to prevent health problems related to dirty water, the villagers always boil their water and wash their hands before eating. Furthermore, 55 percent of the contract farmer respondents reported that they have sanitation facility, such as bathroom and toilets, while the remainders do not.

From the interviews, 69 percent of contract farmer households said that they do not have difficulty to access to health care. However, from my observation, the

²⁸ Interview with Social Action for Cambodia (SAC), July 6, 2010

nearest government clinic is 15 km away in Kampong Speu city, and there is only one small clinic with limited medical staff located about 1 km from the villages, where the majority of villagers go for simple illnesses. Yet, the quality of health services in rural areas of Cambodia is often poor and public health services lack medicines and staff, while private practitioners are sometimes unqualified or poorly trained, and expensive. The interviewees reported that they can afford to pay their medical expenses and always go to hospital in case of serious illness in Kampong Speu city or Phnom Penh. AKR does not provide health insurance for contract farmers and 94 percent confirmed that they have not observed an improvement in their health since participating in contract farming.

The interviews with contract farmers revealed that before entering contract farming arrangements 81% used fertilizer and pesticides for rice cultivation. Even though it is against the company's rules to use fertilizer and pesticides for the organic rice production, the farmers still continue to use it in small amounts.

4.2.4. Education Security

Education level is very important in family decision-making and has a significant influence on the extent to which households are able to manage difficulties. Table 4.6 summarizes the education security aspect for contract farmers.

Table 4.6. Education Security Aspect

Question	Yes		No	
	n	(%)	n	(%)
Can your household access education facilities and afford to use them?	12	75	4	25
Is there any increase in your household's level of education due to contract farming	7	43.8	9	56.3

From the interviews, on average only 2 people in each contract farmer's household had completed their primary-level education. Primary education is compulsory and (in principle) free in Cambodia; around 75 percent of the respondents said that they could access and afford the education facilities. However, the education facilities for these villages are poor, because there is only one primary school building that is located around 1.5 km from the villages. Furthermore, only a few students continue to and complete higher education from these villages because the high school is located 10 km away from village, which is a considerable distance for daily travel. If they do study at high school, they have to travel or else stay at their relative's house; both choices reduces the amount of labor available to the family.

Children from these villages who attend high school are more likely to be boys than girls, because parents usually support their boys to attain higher education than girls. Furthermore, the girls have a high incidence of higher school dropout than boys since higher education is far away from the village, so the parents worry with their safety. Very few children attend higher school and villagers rarely cited examples of local children attending university.

From the interviews, 56 percent of respondents said that there is no increasing education level as a result of contract farming. Despite the increased income from contract farming, they still cannot send their children to higher education because of the limited availability of education facilities. While another 44 percent of the respondents state there is increasing in education level because their children get better education than parent's education. The highest education in contract farmer households is high school.

In Cambodia, the problems that hamper increased education enrolment are complex. Poverty is the biggest obstacle to the education of children particularly in rural areas. The children of the poor are deprived of their opportunities for schooling because they are needed for household chores or income earning jobs to support the

families and their younger siblings (WFP, 2006). Other reasons for limited schooling among children of the poor include the inability of the household to pay for school uniforms/ books, that children are needed at home and the distance to school, among others. Furthermore, the quality of education is poor due to a lack of trained teachers and facilities, such as books and libraries (Fitzgerald, et al., 2007).

4.2.5. Empowerment

Table 4.7 illustrates the empowerment aspect to understand the farmers bargaining position towards AKR Company. From the interview, all of the respondents stated that there is not a Farmer Association in community. The contract farmers stated that the company does not allow the farmers to form a Farmer Association because the company has a Commune Association to monitor the contract farming in the village. At the Commune Association contracts are signed, seeds are distributed, basic technical advice is provided, and paddy is collected for AKR. Since the Commune Association works at a lower hierarchical level, they have to concentrate on issues of production, building trust, and contract enforcement (Chai, *et al.*, 2008). Each Commune Association consists of an association head, the commune chief, the village head, and village representatives who are members of the association.

Table 4.7. Empowerment Aspect

Question	Yes		No	
	n	(%)	n	(%)
Do you have a Farmer Association in your community?	0	0	16	100
Do you think a Farmer Association is important?	16	100	0	0
Could a Farmer Association be used to bargain with the company?	16	100	0	0
Do you get any support from NGOs	13	81.3	3	18.8

The respondents also stated that a Farmer Association is important to them to increase their bargaining power with the company. Farmer Association can be used to

coordinate farmers and share information to solve problems in their community. However, it is not easy to form a Farmer Association in Cambodia. From the interview with Cambodia Institute for Research and Rural Development (CIRD)²⁹, Cambodian farmers are not well organized and they tend to work individually. This happens in part because of their experience from the past during the Pol Pot regime when farmer groups were coercive and victimized the farmers. Moreover, he said, it also depends on the farmers' interest; if they have no interest with other farmers they will not want to form as a group. Economic behavior, however, is clearly embedded in the networks of social relations among farmers. For many farmers, it is clear that if they work individually they can not negotiate with the company because they lack information to negotiate and their voices are not heard as a collective voice.

Contract farming have some elements which it seems would encourage collective action: many smallholders, a common adversary, a degree of interdependence, the contract, and a tangible and common issue for negotiation (Baumann, 2000). The Farmer Association should grow from contract farmers' initiatives if they consider forming as a group with shared goals to improve their livelihood and to increase their bargaining position with the company. Around the world, farmers' groups appear not only to improve the bargaining power of smallholders, but also serve to lessen some of the criticism of contract farming. Moreover, effective farmer organizations can act as a basis of community empowerment; they serve to generate social capital and therefore contribute to sustainable poverty reduction (Setboonsarng, 2008). Glover and Kusterer (1990) also point out that farmers association that represent the farmer's interests, whilst increasing their bargain power, can also improve coordination between companies and farmers which can benefit the company too.

²⁹ Interview with CIRD, July 18, 2010

4.3. Summary

Despite contract farmer experiences increasing income, but it does not bring much benefit for farmers' livelihood in terms of health and education security. Farmers still face of limited clean water and sanitation facility. Even though, they do not have difficulty to access health care, but the nearest health care in the village is very poor, limited staff and medicine. In the education security, most of the contract farmers stated that there is no much increasing in education since the villagers still lack of education facility and infrastructure. The level of education attainment in this village study is low and high rate of drops for girls not to continue to higher education. In the food security, contract farmer state that they have enough food for one year consumption and inform that contract farming does not threat their food security.

Under AKR contract farming, the farmers do not have bargaining power because the company does not allow them to make farmer association. Majority of contract schemes sets by the company includes price mechanism, quality standards, profit sharing, and penalty. Although contract farmers discuss about contract schemes in a groups (not individually) with company, but they still do not have opportunity to give suggestions in the contract scheme. At present, contract farmers realize that farmer association is important to increase their bargaining power to negotiate with company and their voices will be heard as a collective voice because they work together.