

## CHAPTER I

### INTRODUCTION

Cambodia is still largely an agrarian society, where agriculture is both the main source of revenue and the single largest employment sector; in 2006, agriculture represented 30.1% of Gross Domestic Product (GDP) and employed 79.7 percent of Cambodia's total population (Sophal, 2009). Approximately 36 percent of Cambodians live below the poverty line<sup>1</sup> and around 85% of the population is living in rural areas (World Bank, 2006). The majority of these people depend on agriculture for their livelihood at the subsistence-level using traditional agricultural methods, and consequently agricultural productivity is low. Under these circumstances, access to and control over productive land assets is crucial to both livelihoods and poverty reduction in Cambodia.

The Royal Government of Cambodia has indicated in its Rectangular Strategy Phase II 2004-2008 that its agriculture policy is "to improve agricultural productivity and diversification, thereby enabling the agriculture sector to serve as the dynamic driving force for economic growth and poverty reduction" (Agrifood and CamConsult, 2006). To develop its agricultural sector, the Cambodian government is promoting contract farming, seeking Foreign Direct Investment (FDI) and promoting agricultural exports. Investors from Kuwait, Qatar, South Korea and China are entering Cambodia seeking to invest in the agricultural sector, as well as to provide loan, grants and technical assistance.

This thesis examines organic-rice contract farming in Cambodia. Firstly, I analyze the costs and benefits of organic-rice contract farming on participating farmers' livelihoods. Secondly, I study the terms and conditions of contract farming

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<sup>1</sup> Poverty lines in Cambodia are expressed as the income required to meet a minimum requirement of daily per capita food and nonfood consumption calculated at current prices for each region. This is approximately equivalent to 1 US\$ per day (or 4000 Riels) (World Bank, 2009) [See footnote 6 for further details]

and seek to understand the reasons why some farmers do not participate in contract farming. Finally, I look at the changing land ownership within the community and the influence that contract farming plays in this.

## **1.1. Background of the study**

This section first discusses about agriculture in Cambodia in general. It then explores the key issues surrounding contract farming systems, and looks into the experience of contract farming systems in Cambodia to date. Finally, it identifies new major drivers of investment for rice contract farming in Cambodia, led by Kuwait and Qatar investment.

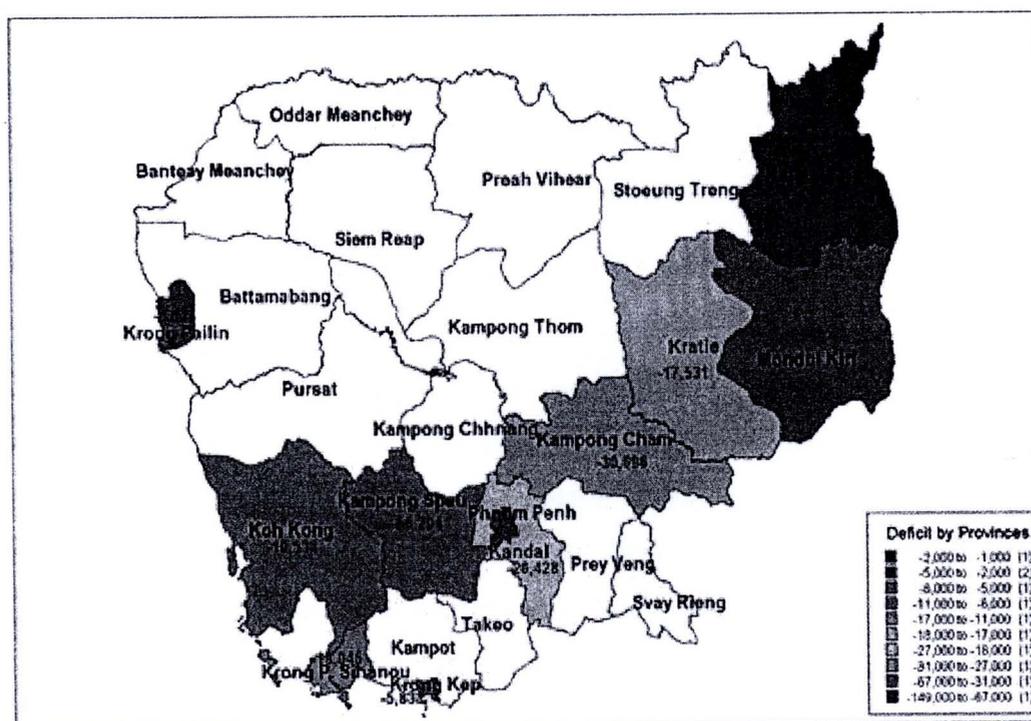
### **1.1.1. Agriculture in Cambodia**

As the dominant subsistence and income-generating activity in Cambodia's rural areas, agriculture plays an essential role in rural livelihoods. Most of Cambodia's agricultural land has historically been used for rice farming and other small-scale agricultural activities, includes raising livestock and producing grain, vegetables, and fruit crops. Based on Food and Agriculture Organization (FAO) estimations from 2007, Cambodia's total land area was 17,652,000 hectares, of which 5,455,000 hectares (69 percent) was classified as agricultural land (FAO, 2007). Yet, despite its importance, overall the agriculture sector in Cambodia remains underdeveloped due to a lack of investment and reliance on old cultivation techniques and low quality seeds.

Rice production in Cambodia utilizes 84 percent of the total cultivated land, and provides 65-75 percent of the population's staple food (World Food Programme [WFP], 2007). Throughout the country, not all provinces are rice production areas. Ministry of Agriculture, Forestry and Fishery (MAFF) data indicates that there are 11

provinces facing rice deficits (see Map 1.1). These are: Kampong Cham, Kampong Speu, Kandal, Kratie, Koh Kong, Mondulhiri, Ratanakiri, Krong Preah Sihanouk, Krong Kep, Krong Pailin, and Phnom Penh municipality. It is estimated that at the national level there are 463,000 tons of milled rice surplus (MAFF, 2005). However, at the community level people are experiencing rice deficits, particularly among very poor farm households and when faced with severe drought.

**Map 1.1. Rice Deficit by Province 2004-2005**



Source: Ministry of Agriculture, Forestry and Fishery (MAFF), 2005

The Cambodian agriculture and agro-industry sector has developed significantly in recent years and is recognized to have a high potential for investment and employment creation, and to be a major potential driver of economic growth (Agrifood and CamConsult, 2006). However, the sector is starting from a low base and suffers from fragmented and weak supply chains, low productivity and underdeveloped infrastructure. Support structures, such as extension services and market mechanism, that could enable increased yield, quality and access to markets are also deficient.

### 1.1.2. The Nature of Land Tenure in Cambodia

Land is an extremely important economic resource or asset in Cambodia. From her research on land tenure in Cambodia, Guttal (2006) expressed that land is valued as an emblem of rootedness, belonging and stability, and is widely regarded as the very basis of social organization in the country. For Cambodian people, land is a livelihood as 85 percent of the population relies on agriculture, forest, rivers, and other natural resource extraction for their primary livelihood (Ministry of Environment [MoE], 2004). The major economic uses that dominate rural land include subsistence agriculture, fisheries and foraging in surrounding forests and woodlands as a main source of food, employment and income for Cambodia's rural communities.

Land tenure in Cambodia remains insecure for many of the rural poor, and acts as a disincentive for productive investments and limits access to credit. The majority of farm producers in Cambodia do not have officially documented land titles, and therefore have diminished capacity to secure affordable lines of credit for either crop production or land improvements, for example irrigation. Generally small farmers can not access credit from formal sector lenders such as commercial banks because they do not have collateral, such as land certificates, and also feel insecure to take loans. They usually borrow money from money lenders with high interest rate<sup>2</sup> and become indebted if the crop fails. The severe shortage of agricultural credit in Cambodia reduces farmers' capacity to continue to increase productivity and output, due to their inability to adequately finance purchases of improved higher-yielding seed, fertilizer, pesticides, farm machinery, and grain storage equipment (Shean, 2010).

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<sup>2</sup> Based on interview with villagers, the interest rate of MFIs in Cambodia is 30 percent/ month and interest rate from money lenders may higher than MFIs. Farmers usually borrow money from MFI to buy plough machine or expand their business.

According to the 2004 Cambodia Socio-Economic Survey (CSES), secure land tenure in the form of a land title certificates increases land rental value by 57 percent, sale value by 38 percent, crop yields by 65 percent and household consumption by 24 percent (WFP, 2007). In other words, land titling is important not only to secure land ownership, but also to increase the value of the land and to then get access to credit and investment.

However, in Cambodia, possessing land titles alone does not always equal an absolute increase in land security; there are cases, for example, where corrupt government officials have fabricated fake land certificates that are then used by powerful people to steal land from their legal owners.<sup>3</sup> Based on Guttal's findings (2006), one of the most common ways for rural communities to lose their land is through land grabbing by wealthy and powerful individuals and private companies. Most rural families do not have legal land titles or certificates that assure them of security of tenure. Individuals and families with money and political connections are able to purchase fake and backdated land titles and certificates that "prove" their legal claims to specific plots. Often, the person making the claim is a person in authority, such as the village or commune chief, or a well connected functionary from the district or province, and is supported by the local police and courts.

Land inequality has risen in Cambodia, indicated by the fact that between 1999 and 2003-2004 the share of land held by the poorest two-fifths of the population reduced from 8.4 percent to 5.4 percent, while that of the richest one-fifth rose from 59 to 70 percent (United Nation Development Program [UNDP], 2007). Land distribution has been unequal in Cambodia since the allocation of land in 1989, which was portioned out according to the number of working family members. As a result, larger households received more land and those with a smaller labor pool, particularly female headed households, received a smaller area of land. Since then, pressures on the land have been exacerbated by population growth, leading to smaller plot sizes in

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<sup>3</sup> Interview with NGO Forum on Cambodia, July 6, 2010

densely populated areas. The Cambodia people who spend the Khmer Rouge in refugee camp along the Thai-Cambodian border also started to return in the 1980s, many of the original villages of birth looking for agricultural lands to start a new live. Furthermore, Cambodia's economy is not growing sufficiently fast enough to provide employment or self-employment opportunities for the increasing number of households that are short of land or landless to reduce their poverty and secure their livelihoods (WFP, 2007).

As a key asset for rural people, land is very important for the majority of Cambodia's population who make a living as small-holding farmers and that meet the majority of their food and income needs directly from the land. Access to land and the ability to use it effectively are of great importance for poverty reduction, economic growth and private sector investment, as well as for empowering the poor and ensuring good governance. Evidence from several countries demonstrates that access to land is effective in helping rural households generate income (De Janvry, *et al.*, 2001). At the same time, access to land is neither the only strategy out of poverty, nor is it sufficient to guarantee escaping poverty.

### **1.1.3. Contract Farming in Cambodia**

Based on the Draft Sub-decree on Contract Farming (2010), the Cambodian government defines contract farming as “the implementation framework of contract based agricultural production with the intention to strengthen, take responsibilities, build trust, and fairness between producing and purchasing party ensuring prices, purchases, and supply of agricultural crops both on quantity and quality, increasing processing and exporting of agricultural crops to contribute to national economic development and poverty reduction of the people parallel to the policies and strategies of the Royal Government”.

At present, there are a limited number of examples of contract farming in Cambodia, despite its potential for dramatically increasing farmer incomes and productivity. One example of rice contract farming in Cambodia, examined by Cai, *et al* (2008), is the case of organic rice farmers contracted by the *Angkor Kasekam Roungreung* (AKR) company, which has a rice mill located in Kandal Province. Cai *et al*'s study contrasted contract farmers and non-contract farmers to determine the factors leading to the farmers' decision to sign a contract with the company. The study then assessed their performance under the contract farming agreement. Cai *et al*'s research, however, was limited to a statistical analysis of the economic performance of contract farming. It did not study the wider changes to farmers' livelihoods or changes in land ownership as a result of contract farming.

The general perspective about contract farming in Cambodia, including amongst non-government organizations (NGOs), is that participating farmers are happy with the contract farming system.<sup>4</sup> The farmers receive high-quality rice seeds, learn new techniques from the company, and gain a higher price for their crops compared to the domestic market price. However, farmers are concerned about the safety of the pesticides that they are sometimes required to use in the contract farming, despite that the company teaches them how to use them. Yet, this assessment is based loosely on circumstantial evidence, and more systematic study is required before reaching such conclusions.

#### **1.1.4. The 2008 Food Crisis as a Driver for Investment in Contract Farming in Cambodia**

The most visible driver of recent land concessions and other agricultural investment globally was the 2008 food crisis (Grain, 2008). The main causes of the food crisis in 2008 were increased pressures on natural resources, water scarcity, export restrictions imposed by major producers when food prices were high, and high

demand for bio-fuel. Countries that depend heavily on food imports for their food security are now searching the world for cheap overseas farmland to grow food and then export it home. Governments from the Gulf States, including Kuwait and Qatar, as well as South Korea, Japan and China, for example, are looking to stabilize their food supplies by acquiring foreign land for food production in the hopes of averting domestic social unrest and political instability over food price and supply. These investments are targeted towards developing countries where production costs are much lower and where land and water are more abundant. Other factors that influence these investments include geographic proximity and climatic conditions for preferred staple crops.

Cambodia has become a major target of this global agricultural investment trend. Cambodia has land deals under negotiation with several countries, worth as much as US\$3 billion in agriculture-related foreign investment and apparently involving millions of hectares of land (Grain, 2008). The largest reported potential deal so far in Cambodia is a bilateral deal with Kuwait involving a US\$546 million loan in exchange for a 70-90 year lease covering a "large area" of rice lands in Kampong Thom province, where Kuwait will organize production for exporting rice back to Kuwait. The size of the land concession has been estimated at somewhere between 50,000 and 130,000 hectares (Goodman, 2009). Qatar has also been expressing its interest in similar deals.

Most of these deals, however, are still at the negotiation stages and provisionally appear to involve leasing rather than outright purchasing of agricultural lands, where Gulf state companies will pay rent for the land, provide inputs, and contractually agree to buy the products. However, it remains unclear if the Gulf state investment form would be purchased at a fixed future rate or prevailing market prices, and what percentage would be paid to local farmers who actually work the lands (Asia Times, 2008).

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<sup>4</sup> Pers. comm., NGO Forum on Cambodia, 2010

## 1.2. Statement of the Problem

Food importing countries that have land and water constraints but are rich in capital are interested in farmland investment through contract farming deals to guarantee food supply at a price that is good for them. This situation appears to be leading towards a new trend for investment in Cambodia by Kuwait and Qatar in rice contract farming system. Rice contract farming is not widespread in Cambodia at present, but following Kuwait and Qatar's growing interest in this investment it is anticipated to expand widely in the near future.

The expansion of rice contract farming has potential costs and benefits. Contract farming has the potential to inject much needed investment into agriculture and infrastructure in rural areas. It could also enable farmers to access credit, inputs, technical advice and marketing information directly from food processors or market intermediaries thereby reducing risk and increasing profit. Yet, the disadvantages of contract farming include loss of farmer bargaining power and a potential reduction in profit margins, increased emphasis on improving production quality, and, ultimately, less secure livelihoods (Agrifood and CamConsult, 2006).

Local governments often favor contract farming in the belief that it will produce greater spillover or linkage effects with the local economy (Setboonsarng, 2005). Governments at the national level also generally support contract farming, believing that it will attract more investment, increase GDP and reduce poverty in rural areas. However, an export-orientated rice contract farming system could also undermine local and national food security, since the food grown under export-orientated contract farming is committed for consumption overseas rather than domestically.

Taking account of the factors above, this study examines an existing organic-rice contract farming system in Cambodia and the changes that it has brought to

farmers' livelihood. The study also examines land tenure security changes that result from contract farming, and factors resulting in both participation and exclusion from contract farming.

### 1.3. Research Questions

My main research question is “Under what conditions will organic-rice contract farming be beneficial for farmers' livelihood in Cambodia?”

To investigate this question, I will look at the case of *Angkor Kasekam Roungroeung Co. Ltd.*, an organic rice export business headquartered in Kandal province and with its contract farming operations extending into surrounding provinces, including Kampong Speu province where this study's fieldwork is undertaken. I ask the following sub-questions:

1. What are the changes that occur to farmers' livelihoods security due to the adoption of contract farming systems in a community?
2. What are *Angkor Kasekam Roungroeung Co. Ltd.*'s terms and conditions for organic-rice contract farming? Who is included and excluded from organic-rice contract farming, why, and what are the social implications?
3. What changes in land tenure security occur in a community as a result of contract farming?

### 1.4. Objective of Research

1. To determine the terms and conditions of organic-rice contract farming and identify who joins and who doesn't, the reason behind why farmers choose to participate in contract farming, and to examine the social implication of exclusion from contract farming.
2. To examine the positive and negatives impacts of organic-rice contract farming system on farmers' livelihood.

3. To examine the changes in land tenure in a community because of contract farming.

### **1.5. Hypothesis**

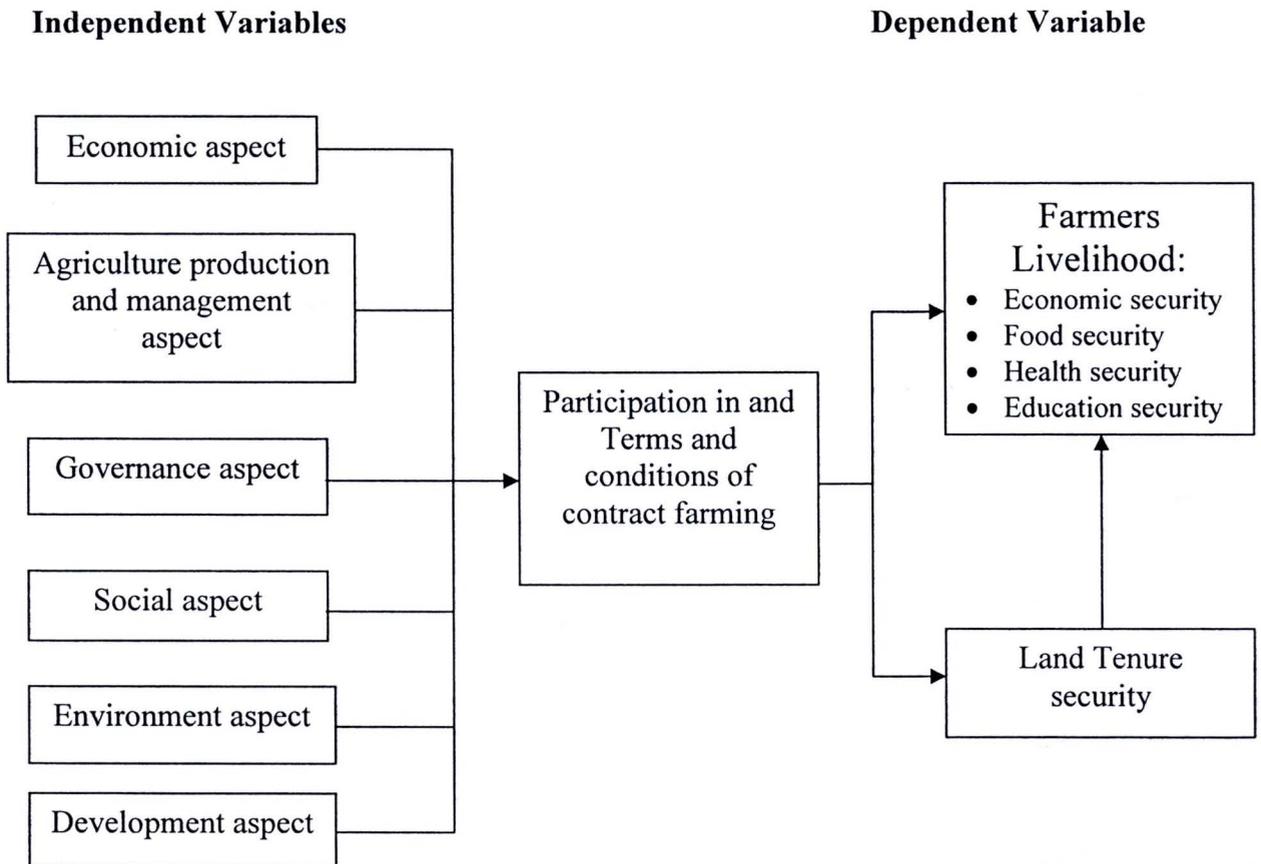
The experience of organic-rice contract farming in Cambodia to date has improved participating farmers' livelihoods (strengthened technical ability, access to markets, inputs, and access to credit and access to high yield seeds) and incomes (due to guaranteed price and increased yields). Organic-rice contract farming has also resulted in more secure land tenure system for contract farmers as the government has issued land titles to these farmers.

Organic- rice contract farming has at the same time increased inequality in the community, as it has led to the marginalization of small farmers who do not have the capital or productive assets, such as land size or family labor. This is resulting in changing land ownership, where large scale farmers are buying small farmers' land to expand their business leaving small farmers landless.

### **1.6. Conceptual Framework**

The conceptual framework below takes account of the concept of farmers' livelihood, participation in and the terms of contract farming, and land tenure (see figure 1.1). The dependent variables are farmers' livelihood and land tenure, whereas the independent variables are participation in and the terms of contract farming including: economic aspect; agricultural production and management; governance aspect; social aspect; environment aspect; and development aspect. The unit of analysis is the community level, and the research is founded on interviews with focus groups, individual farmers and key informants.

**Figure 1.1 Conceptual Framework Model for Contract Farming System,  
Farmers' Livelihood and Land Tenure**



### 1.6.1. Participation in and terms and conditions of contract farming

The existing literature on contract farming identifies several major areas where contract farming can provide benefit for farmers, but the choice to participate or not in a contract arrangement is in principle the farmer's decision. To measure participation in contract farming, I will use the framework recommended by Oxfam (2008) that assesses the positive and negative impacts of contract farming for farmers. Oxfam identify six aspects, namely: economic, social, agricultural production and management, governance, environment and development aspect.



- **Economic aspect:** *To assess whether farmers are better off or worse off in their livelihood, and to identify economic gains or losses from contract farming.*

The economic aspect examines the pricing mechanism and profit margins between farmer and buyer of the contract farming scheme, and the implications of price and profit margins on the farmers' livelihood. Another important economic aspect of contract farming is access to credit and farming inputs. Participating in contract farming will guarantee farmers access to credit and farming inputs from the company, and farmers then repay the debt after the harvest season. Access to credit and input, however, can be risky for the farmer because they will be bound to the company and if they become indebted, due to crop failure for example, then they may be required to become laborers for the company or the farmer may try and default on the loan. Moreover, how farmers' access the market under contract farming arrangements is also vital in determining farmers' income and profit. Gaining access to new markets is one of the main reasons for farmers to participate in contract farming, because farmers are in general concerned about profit and the marketing of their product. However, it is still an open question as to whether contract farming in Cambodia increases market access for the farmers or results in farmers becoming tied to a single buyer that is then leading towards agricultural monopolies in Cambodia.

- **Agricultural production and management aspect:** *To assess the agricultural production and management transition as a result of contract farming.*

This aspect includes understanding farmer empowerment, and considers both technical and managerial skills. Contract farming could be beneficial to farmers since they gain access to new technologies, learn new farming techniques and increase their farm business managerial skills. However, contract farming can also undermine farmers' power in price and profit-sharing negotiations. Farmers may also become dependant on the company for

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access to inputs, credit and the market. This aspect also accounts for changes in cropping patterns, and whether this change is beneficial for farmers or not and how this affects farmers' incomes. Contract farming usually changes the cropping patterns from traditional methods to modern ones, and farmers often need to learn about how to use fertilizers, pesticides, and other agricultural inputs. Sometimes the company does not allow farmers to plant other crops except the crop stipulated by the company, and this situation can affect farmers' food security. Another important consideration in this aspect is output quality and productivity, which is important in determining the price of the commodity on the market. Usually the company has a quality standard that the farmers are required to meet. If the farmer fails to meet this standard, the company will reduce the purchase price or will not accept the crop. This situation is difficult for farmers because on the one hand the farmers are expected to sell the crop to company, but on the other hand farmers should be ready to find another market if the company rejects their crop. During periods of agricultural transition, whether contract farming increases the quality and productivity of output compared to traditional farming needs to be critically questioned.

- **Governance aspect:** *to assess whether the contract farming mechanism is fair or not, the nature of the agreement, and the nature of the relationship between the company and contracted farmers.*

This aspect considers the transparency of the contract - especially for price determination - as it is important for farmers to know their rights and obligations under contract farming and to make sure that they have enough information about the terms and conditions of contract farming. This aspect also considers whether the company provides sufficient information on market price and access to the market. Another governance aspect is the bargaining power of the farmers under contract farming. Are farmers joining contract-farming schemes voluntarily or through coercion? How they become involved is an important question to answer to then understand contract farmers'

bargaining position, which in turn is important to determine whether farmers are being exploited by the company or not. Small farmers need to know not only that they gain financially from the contracting company, but also that they are not being cheated out of a fair share of the total profit through company manipulation. Usually contracting companies do not allow farmers to mobilize or establish farmer associations because they prefer to solve disputes individually, which at the same time disempowers farmers and weakens their bargaining position.

- **Social aspect**

Contract farming is often reported to be accompanied by undesirable social and cultural changes in the communities where it is established. These issues are linked to modifications in the patterns of employment, land ownership and social status, amongst others. This aspect therefore includes working conditions and the rights and obligations of farmers under contract farming arrangements, and asks whether contract farming exploits the farmers or not. In principle, under contract farming farmers have a better living standard and well-being because they get access to credit, inputs, and training services from the company. However, whether contract farming in all its forms and under all conditions is beneficial and increases farmers' living standards and wellbeing needs to be critically examined. For example, are small farmers with only a little land able to partake in contract farming, and if so are they more vulnerable to experiencing negative consequences as a result? In terms of employment, it is important to examine how contract farming is shaped by gender considerations and size of family. Does the company prefer to cooperate with female- or male-headed households and do they prefer families with many or few members? Another element to be considered here is land consolidation and land conflicts as a result of contract farming. The social and cultural changes in a community as a result of contract farming also need to be understood. Under this aspect, the implication of contract farming on land

tenure security is also considered, and this is discussed in more detail in section 1.6.3.

- **Environment aspect.** *Impact on the environment as a consequence of the new production patterns brought about by contract farming.*

The change from traditional farming to intensive and monocrop agriculture required by contract farming impacts the environment because often cash crop farming is a form of high input production in terms of the use of water and agrochemicals, such as fertilizer and pesticides.<sup>5</sup> Changes in agricultural cropping patterns in the long run can become a threat to the quantity and quality of fresh water, because some crops, including organic-rice, require a lot of water. Another potential environmental damage from more intensive production is declining soil fertility, soil erosion and pollution from agrochemicals.

- **Development aspect**

The development aspect amalgamates all of the above issues of contract farming and considers whether the overall implementation of contract farming is beneficial or not for the company and farmers. This aspect includes the exclusion of small farmers who only own small plots of land. Another aspect is fairness of the financial agreement between company and farmers, asking whether the terms and conditions of contract farming guarantee fairness in the financial agreement. It highlights the importance of maintaining a contract farming governance mechanism that deals with issues of transparency, fairness, effectiveness and efficiency, accountability, and participation.

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<sup>5</sup> This study focuses on organic rice contract farming, however, which by definition uses less agrochemical inputs in rice cultivation.

- **The role of farmer networks in negotiating with contract farming companies**

Contract farming is, strictly speaking, a contractual arrangement between farmers and companies. The formal relationship between individual farmers and the company in negotiating a contract farming scheme is, however, not the only relationship that effects the terms of contract farming. Farmer networking and sharing information with each other is an important factor in a farmers' decision whether to participate or not in contract farming, and can also play an important role in the success of contract farming arrangements through the power of organized group actions (Setboonsarng, 2008). Through networking, farmers can learn about the contract farming mechanism, how to bargain with the company and make sure that they are not cheated by the company. Other sources of information, for example from the media or the government, can also play an important role. Solidarity in the community and a sense of farmer empowerment is important to guarantee that contract farming arrangements do not bring negative impacts for farmers. A strong community identity can serve to generate social capital and facilitate a constructive relationship between farmers and company.

- **The Role of the State in contract farming**

Government can also play a key role in contract farming. Singh (2005) concludes that benefits from contract farming for a farming community also depend on the government's policies for agricultural development. Government can play a significant role in contract farming by providing appropriate laws of contract, and fair legal institutional mechanisms that allow local groups to organize and then be recognized as a legal entity, for example in the form of cooperatives (Vermeulen and Lorenzo Cotula, 2010). By creating a cooperative to serve as an intermediary or negotiator, the voices of farmers can be heard as a collective force that protects individual farmers since they gain more bargaining power in contract negotiation with the company.

Another positive role that the government can take is to promote fair contract farming through developing and disseminating model contracts for key crops, and by monitoring the performance of contracting companies, as well ensuring that the rights of both parties are recognized and protected under the law. The government can also provide credit support, tax benefits and other policy incentives to encourage responsible companies to engage in contract farming. Land titling for farmers engaged in contract farming would also create greater security for farmers and strengthen contract farming arrangements.

### **1.6.2. Farmers' Livelihood and Resilience**

Livelihoods in many rural areas of the world are complex and dynamic; perhaps the one constant is year to year uncertainty of survival. Marschke (2005, quoting De Haan and Zoomers, 2003) states that the concept of livelihood is about individuals, households or groups making a living, attempting to meet their various consumption and economic necessities, coping with uncertainties and responding to new opportunities. Chambers and Conway (1992) suggest that “a livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities, assets and entitlements, while not undermining the natural resource base”.

To measure the impact of contract farming on farmers' livelihood changes, in this study I use the Household Livelihood Security Approach (HHLS). According to this framework, household livelihood security is defined as “a family's or community's ability to maintain and improve its income, assets and social wellbeing from year to year” (Lindenberg, 2002). This approach was introduced by Christian Action for Research and Education (CARE), one of the world's largest international relief and development non-profit organizations, and today the approach is widely used by both Non Government Organizations (NGOs) and donor agencies.

The HHLS approach consists of five household livelihood security areas: economic security, food security, health security, education security and empowerment (Lindenberg, 2002).

- **Economic security** is important to understand the sources of household income and ownership of durable assets, which are the main indicators that reflect the wealth and socio-economic status of rural households. This aspect includes income, assets and entitlements
- **Food security** is important to understand the availability or limited or uncertain availability of nutritionally adequate and safe foods or the limited or uncertain ability to acquire acceptable foods to stay healthy and do activities. This aspect includes food and nutrition
- **Health security.** Being healthy is important for people to live because when sick people cannot work or conduct their daily activities. Providing health facilities accessible to every household can reduce health risks. This aspect includes access to clean and safe water, sanitation facilities around the house, and access to health care facilities.
- **Education security.** Education level is very important in family decision making and has significant effects on the extent to which a household is able to meet its requirements and manage family difficulties. This aspect includes the considering the level of education and access to education facilities.
- **Empowerment** refers to increasing the spiritual, political, social, or economic strength of individuals and communities. It often involves empowered people that develop confidence in their own capacities. In contract farming, empowerment is very important to strengthen the bargaining position of farmers and the wider community, where community members can participate and share their ideas and voice about current issues regarding contract farming. This aspect includes community participation and the density of civic organization.

In this study, I do not analyze each aspect deeply due to time limitations. Instead I selectively emphasize the aspects that are relevant to changes in farmers' livelihood as they participate in contract farming.

### **1.6.3. Changes in land tenure/ land ownership**

Land tenure insecurity is one of the most important factors in creating rural poverty and food insecurity and is highly related to the resilience of farmers' livelihood. **Land tenure** is the relationship, whether legally or customarily defined, among people, as individuals or groups, with respect to land (FAO, 2002). According to Maxwell and Wiebe (1999), land tenure is the system of rights and institutions, i.e., rules invented by societies to regulate behavior that govern access to and use of land and other resources. Rules of tenure define how property rights to land are to be allocated within societies. They define how access is granted to rights to use, control, and transfer land, as well as associated responsibilities and restraints. In simple terms, land tenure systems determine who can use what resources for how long, and under what conditions.

Ensuring land tenure security and issuing title deeds for cultivated land and community land can encourage farmers to invest in sustainable agricultural practices as well as to conserve and rehabilitate community land. Owning land and being secure in its tenure provides a means of livelihood to farmers, facilitates access to credit markets, leads to higher investments in children's education, and gives rural communities more voice and ability to negotiate (World Bank, 2006).

Securing land tenure has been regarded as one of the most important policies of the Cambodian government, as reflected in the 2001 Land Law. According to the policy, the government of Cambodia supports accelerating the issuance of land titles, establishing a legal framework to enforce property rights, and setting up territorial master plans and zoning rules, including a comprehensive program for the registration

and titling of land (MoE, 2004). In practice, however, the process has been contested and on occasion has resulted in conflict between communities and the government (Guttal, 2006; NGO Forum on Cambodia, 2007). According to Cambodia's 2001 Land Law, land classification and ownership rights are divided into (Sovannarith *et al.*, 2001):

- **State Property**, which includes "State Public Property" such as forests and protected areas where the state seeks to conserve these resources and does not permit them to be exploited for commercial purposes, and "State Private Property" such as land designated for economic and social development that is used for both commercial exploitation and redistribution for social purposes
- **Private Property**, which incorporates land that is permitted to be owned by individuals and communities

I use the analytical framework prepared by the Cambodia Development Resource Institute (CDRI, 2000) to understand the land ownership changes in a community. The key variables that are investigated are:

- 1) Land ownership and land consolidation: According to the 2001 Land law, land can be owned as a private property by the individual or the community, and can be either residential land or agricultural land. As noted above, land ownership is important, for example for inheritance. However, land ownership can change as a result of the introduction of a contract farming system as small farmers sell their land to large land owners and wealthier farmers.
- 2) Land tenure status: A reliable land tenure system is important to guarantee farmers access to land and use other resources. Contract farming systems sometimes encourage the government to issue land titles, strengthening land tenure security. On the other hand, if farmers do not have a land title, it threatens to increase landlessness and inequality because contract farming provides an incentive for politically powerful people to buy or occupy land through illegitimate means.

## 1.7. Research Methodology

This research uses multiple qualitative and quantitative methods to explain the impact of organic-rice contract farming on Cambodian farmers' livelihood and land ownership changes. For the quantitative methods, semi-structured questionnaire were used to interview individually 16 respondents for contract farmers and 20 respondents for non-contract farmers, as well as in interviewing key informants. For qualitative method, I use descriptive analysis of information collected through open-ended questions in focus group discussions and observation in the villages studied.

I conducted field work in Cambodia for 3 weeks in Phnom Penh and Kampong Speu Province. During the field work, I coordinated with a local NGO called the Center for Education and Development of Agriculture in Cambodia (CEDAC) to facilitate the field work and for translation. While in Kampong Speu Province, I interviewed contract farmers and non-contract farmers to collect information about the terms and condition of contract farming and the local-level impacts of the contract farming system, and interviewed key informants, including the village heads and the commune chief in the province. In Phnom Penh, I focused on gathering data about the status of contract farming in Cambodia and the current issues about rural farmers' livelihood from government officials, research centers, and non-government organizations.

Kampong Speu is a large province with abundant land for both agricultural production and industry. The total land area is about 7,017 km<sup>2</sup> with a total population is 716,517 person in 2008 (MAFF, 2008). For administrative purposes, this province is divided into 8 districts. This province is the main palm sugar and palm wine producer in Cambodia. The province also produces mangoes, watermelon, cassava and cashew nuts. Kampong Speu's total rice production in 2008-2009 was 272,621 tons, harvested from 110,751 ha of land giving an average rice yield of 2.462 ton/ha (MAFF, 2010).

### 1.7.1. Data Resources

This research uses both primary and secondary sources of information. For primary sources, I conducted in-depth interviews with key informants, organized Focus Group Discussions (FGD), and undertook individual interviews using semi-structure questionnaires. Secondary sources of information include journals, textbooks, newspapers, articles, research findings, publications, and reports. The key informants' interviews are listed in Table 1.1.

**Table 1.1: Key informant interviews**

Phnom Penh	Kampong Speu
1) Government official: Ministry of Agriculture, Forestry and Fishery (MAFF) 2) NGOs: NGO Forum on Cambodia, Center for Education and Development of Agriculture in Cambodia (CEDAC), Cambodia Economic Association (CEA), Farmer Nature Network (FNN), Social Action for Cambodia (SAC) 3) Research Center: Cambodia Development Resource Institute (CDRI), Cambodia Institute for Research and Rural Development (CIRD). 4) <i>Angkor Kasekam Rounroeung Co Ltd.</i> *	1) Government officials in Kampong Speu province 2) Village head 3) Commune council chief

\* The company declined to be interviewed

### 1.7.2. Understanding Terms of Contract Farming and Farmers Participation in Contract Farming

To understand the terms and conditions of the contract farming system in place and other aspects surrounding it (see section 1.6.1), I interviewed key informants using semi-structured questionnaires adapted from Oxfam's questionnaire

(Oxfam 2008). Key informants included the village heads and local government officers (Table 1.1). Then, I verified this information from the key informants during the FGD and individual interviews with contract farmers.

To measure farmers' participation in organic-rice contract farming and the cost and benefit of contract farming, I conduct FGD (further details on FGD guideline see Appendix C) with farmers, followed by in-depth interviews with 16 participating farmers using semi-structured questionnaires adapted from Oxfam's questionnaire (see Appendix A). I also interviewed 20 non-participating farmers with semi structured questionnaires to determine why they are not participating (see Appendix B).

### **1.7.3. Understanding changes in farmers' livelihood as a result of contract farming**

To measure the changes that occur due to organic-rice contract farming and its implications, in terms of farmers' livelihoods and long-term issues, such as farmers' health and the environment, I used the Household Security Livelihood Approach (HHLS) by Lindenberg (2002) (further details in section 1.6.2). I interviewed key informants and 16 farmers participating in contract farming using semi-structured questionnaires and observed their living condition, such as housing conditions, ownership of durable assets such as motorbikes, car, TV, livestock, furniture, and the number of family member and their occupation.

### **1.7.4. Understanding changes in land tenure**

To identify the changes in land ownership in the community due to organic-rice contract farming, I used semi-structured questionnaires adapted from CDRI's methodology (details in section 1.6.3). The questionnaires are designed to determine

the current land tenure situation in the community and changes in land access, land ownership, and land tenure status after contract farming. I conducted face to face interviews with key informants, and undertook FGDs with community members, then verified the information from the key informants and the FGD with the 16 participating farmers and 20 non-participating farmers that I interviewed individually.

### **1.8. Significance of Research**

There is a lack of research on organic-rice contract farming in Cambodia, including on the costs or benefits to farmers' livelihood and on land tenure changes resulting from organic-rice contract farming. This study, therefore, examines the experience of contract farming in Cambodia at present, in anticipation that it will become far more widespread as a result of the impending Kuwait and Qatar investments in rice contract farming that is already at an advanced stage of negotiation and possibly even underway. This study also contributes new research findings and fills a knowledge gap on farmers' livelihood and land ownership changes as a result of organic-rice contract farming, since research to date has not dealt with these issues.

As a result, this research can help the Cambodian government and others to predict the food security situation in Cambodia if Kuwait and Qatar investment in rice contract farming proceeds, and the potential changes in land ownership and the social issues that might arise. It also seeks to determine how contract farming can be undertaken in a way that is beneficial to both farmers and the companies, with the risks and benefits shared fairly. Furthermore, Cambodia is now preparing its Sub-Decree on Contract Farming and this research was undertaken to contribute more information about organic rice contract farming in Cambodia to this process.

### **1.9. Research Scope and Limitation**

The main limitation experienced in this study was the time constraints in conducting the field research. I was only able to survey contract farmers and non contract farmers of the *Angkor Kasekam Rongroeung Co. Ltd* and conduct in depth interview with key informants, although it would have been useful to widen the breadth of the research to investigate other companies and other provinces. Access to official information and the company was also a constraint; the company did not make itself available to be interviewed. Although I speak conversational Khmer, there was a language barrier in understand the farmers' ideas during the in-depth interview. Also, because the company had not given official permission to study its operations, this limited the extent of field work that could be undertaken.

### **1.10. Ethical Consideration**

Ethical considerations are an important aspect of any study. This research did not contain any risk/ potential threat or danger to the subjects of the research. The purpose of the research was explained to both the company (although I was unable to conduct a full interview with them) and the interviewees beforehand. During the field work, I asked permission from village head before doing interview in the village and received consent from all the interviewees, who joined the interview voluntarily.

I also respect the privacy of the interviewees and keep their names anonymous and confidential. All the facts, figures and documents of the government, NGOs, research institutions analyzed in this study are represented objectively. All sources of information are cited accordingly and data and quotations have not taken out of context. On completing the thesis, I will share my research findings and the report with CEDAC, who will also share it the communities with who I have worked.