

Promoting Farmer Production Group and Written Contract Farming as Key Success Factors

Evidence from NRI¹ Nam Bak Subproject



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Executive Summary

This paper provides an assessment of cross-border contract farming between Lao PDR and China using the case of pumpkins in Luang Namtha province. In recent years, Lao government policy on contract farming promotion has shifted from the simple attraction of investment and commercial-based farming scales to the development of green and smart policy.

From the key informant interviews, the paper found that some investors have a direct contract at the village level without formal approval from the local authorities, which often causes a number of problems. The focus group interviews and questionnaire survey revealed that it was difficult and took many years for farmers to shift from a verbal contract to a written one. The findings showed that there are significant improvements and more benefits to farmers when working to a written contract, such as prompt payment, clearer quality standards and better collection of harvested products, although there are still the disadvantages of low competition and price, poor domestic market and insufficient policy support.

There are many supportive policy options such as providing more information to relevant partners, better coordination among stakeholders, incentives to private sector actors and the creation of mechanisms for trust and long-run relationships between farmers and investors. The most preferred policy option is to establish farmer production groups as the key instrument to promote sustainable contract farming and rural development of Lao PDR.

1. Introduction

The agricultural sector plays an important role in the development of economy, especially in countries where a large proportion of the population engages in farming as the standard means of livelihood. This means that increasing labor productivity in this sector to ensure living standard are needed. Lao PDR is an agrarian economy, with a strong growth of 3.0% over the past decade against its decline in share of GDP. Meanwhile, seven tenth of the population is farmers, which means that most of Lao people are employed in agricultural sector (World Bank, 2014). Agrarian economy used to be seen as the lower productivity economy, which involved in the lower skill labor, lack of capital and lower income. However, to make sure that a strong growth of agricultural sector leads to a strong growth of economy, the strong fundamental development is farmers. Phomvixay (2015) points out that Lao PDR struggle in the middle of poverty especially among farmers. He suggests that land distribution reforms can ensure food security and increase higher income from agricultural products.

Farmers can increase their income toward high-value commercial agriculture. However, the shift away from subsistence agriculture is crucial for the increase of smallholder farmers' incomes especially in the case of Lao PDR. Such a shift requires, first and foremost, an establishment of Farmer Production Group (FPG), which can strengthen farmers' production capacity. FPG ensures inputs supplies, information and market accessing for their members. These aim to strengthen and create an opportunity for Lao farmers to become entrepreneurs. Second, it also requires linking small-scale farmers to agricultural value chains. One common form of such vertical integration is contract farming (CF), in which the buyer enters into an agreement with farmers for the production and supply of agricultural products frequently at a pre-determined price. CF not only provides buyers with greater control over production but it also offers farmers potentially more stable and higher incomes.

Promoting FPG and CF can emerge the improvement of farmers' livelihood especially in the countries where most farmers have limited capital. FPG is seen as a group of local farmers who share the same challenge of production such as the provision of inputs, credit, improved technology, information and access to markets. Nonetheless, there have been many reported cases where CF has resulted in negative impacts on the farmers in the CLMV (Cambodia, Lao PDR, Myanmar and Vietnam) region. Equitable risk sharing between contractors and farmers, a transparent regulatory framework and support from the government have been identified as factors that ensure both parties benefit from the contract, from which CF brings about desirable economic, social and environment impacts. CF and cross-border agribusiness between northern Lao PDR and China has been emerging since the mid-2000s (Suruga, Onphanhdala & Phonvisay, 2015). Existing studies on CF in Laos tend to look at the nature of the contracts (1+4 or 2+3)⁴ and the impacts on farmers' income.

Regarding to both positive and negative impacts of contract farming, this study aims to fill the knowledge gap on CF in Lao PDR especially in terms of the role of the farmer production group (FPG) and the local government to promote and strengthen agribusiness in Northern Lao PDR.

⁴ 1+4 model is farmers provide the labor or the land (the "1"), while the investor provides capital, technology and marketing and potentially obtains the land (the "4").

2+3 model is farmers provide the labor and land (the "2"), while the investor provides capital, technology and marketing (the "3").

2. The Agriculture Sector Development in Lao PDR

The dynamic change of agricultural sector has been showed during the past decade in the share of GDP, however, it is (including crops, livestock and forestry) one of main pillars of the Lao economy. About two-thirds of the population lives in rural areas and many are subsistence or near-subsistence farmers engaged in rice-based agriculture, the collection of forest products and livestock raising. The sector is dominated by low productivity rice production and is characterized by low level use of purchased inputs such as improved seeds, breeds and fertilizers. Farm families sell only small percentage of rice to the market, which most of this rice is consumed by family's member. Moreover, there are traditional production systems especially in the uplands, non-market orientation of production, predominantly household labor and private land holdings. These are main reasons why farmers cannot increase their income through agricultural products.

Agriculture has grown strongly, at a 3.1% annual average over 2000-2014 and, while its share of the national economy has declined from 48.5% to 24.8% over this period, production volumes continue to grow and provide inputs to value chains of processing and marketing which are partly captured in national growth statistics under other sectors. A large majority of the population depends on agriculture and the use of natural resources for its livelihood. More rapid growth in other sectors pushed the overall growth rate up to 7.3%, led by the industry sector e.g. mining and hydropower (10.8% annual growth) which expanded to 34.7% of the economy, and the service sector, e.g. retail trade (8.4% annual growth) which expanded to 40.5 % of GDP. While the high rate and rural location of poverty indicates that successful agricultural and rural growth are the foundations for further poverty reduction, it is clear that accelerating poverty reduction will depend largely on absorption of labor and job creation in other sectors, in combination with a slowing of current high population growth rates (ADB Key Indicators, 2015).

The Northern Uplands region of Lao PDR comprises the provinces of Phongsaly, Luang Namtha, Bokeo, Houaphan, Xiengkhouang, Oudomxay, Xayabury, Luang Prabang and northern Vientiane, which account for about 60% of the country's total land area and for approximately half of its rural population. They are characterized by a complex topography of mountains, hills and flatland areas, an ethnically highly diverse population, comparatively low population densities, a long history of political tension and instability, an incomplete state of public infrastructure, low levels of basic education and health care and, at least until recently, an overwhelming reliance on a range of traditional swidden agriculture systems and forest use practices.

Findings suggest that equity considerations have not been the primary consideration in policy implementation. While agriculture (upland agriculture in particular) has been the main driver in rural poverty reduction, official data demonstrate a continuous decline in public expenditure in agriculture. In addition, from an equity perspective, the government's growth-oriented agriculture investment policy directs the bulk of all public expenditure to the productive lowlands, which are seen as the vectors of the country's economic development. This creates significant disparities between lowlands and uplands conditions. In general, the better-off provinces with lower poverty headcounts and a higher human development index (HDI) appear among top recipients of agriculture public spending, with only a few upland provinces with low HDI rankings and high poverty headcounts (e.g., Luang Namtha and Bokeo) receiving some high per capita recurrent agricultural spending. More equitable agricultural public expenditure could be expected to have a positive impact on poverty reduction in those provinces where poverty levels remain the highest.

2.1. The Establishment of Farmer Production Group (FPG)

Northern Rural Infrastructure Development Sector Project (NRI) is funded by Asian Development Bank (ADB), which aims to improve the current poor situations in the project area⁵. It is required to remove two fundamental constraints of low agricultural productivity and limited market access. One of outputs of NRI project is the establishment of Water User Group (WUG) and Farmer Production Group (FPG). Due to the need of water usage for agriculture and the limited of water source in some area where there is none irrigation. Therefore, WUG was created to prevent the water usage conflict among farmers in NRI project area and to ensure that there will be efficient water for all households. On the one hand, FPG established under WUG by forming Farmer Cooperators (FCs) to be leaders of subprojects for implementing demonstration activities. FPG plays an important role creating an opportunity for farmers to manage their own production as entrepreneurs. This means that FPG facilitate inputs supplies for its own members in the same production activity, Moreover, it facilitates their members (farmers) in order to access to information and training, market and credit especially financing from Agricultural Promotion Bank (APB) in Lao PDR. FPG ensures the beneficial of assign the contract of production implementation with buyers.

Some FPG is not active in term of production management due to the subsidy of NRI project. This means that at the beginning of an establishment, these groups have depended on NRI supportive. Presently, FPGs are being managed by each management unit, headed by a FPG leader and supervised by Water User Committee. To sustain the implementation of FPGs after the end of the project, these groups are encouraged to set up a clear FPG management committee and ensure 30.0% women participation in each committee.

FPGs create a chance for farmers to become entrepreneurs. It leads farmers to have a freedom in decision making whether crop they want to produce, which base on market demand. To understand such a process, marketing is mainly significant concept farmers should acknowledge. Regarding to Vernon (2015) report, there was an initial training that gave a general introduction to marketing and value adding to farmers. The marketing development focuses on market information, market demand and market system.

In current implementation of FPGs tells us that some are doing well and some might need further support by the project in term of administration, making supply contracts, production planning, crop protection organic fertilizers production and rice/crop/tea processing. In the end of 2015, there are 42 FPGs with 1,264 household members, which have been established at 19 subprojects, among 18 FPGs are being supported by contract farming (NRI, 2016).

2.2. Private Sector Investment and CF in Northern Rural Lao PDR

Zola (2008) remarked that regional development factors have implications for Lao PDR agro-based SMEs seeking access to regional and global value chains for cereals, fruits and vegetables in the GMS. These include:

- The creation of economic development corridors that can facilitate cross-border transactions;
- The emergence of middle class consumers with changed tastes and preferences in China, Thailand and Vietnam who are likely to increase the demand for Lao processed food products;

⁵ NRI project area covered 11 districts in 4 provinces in the northern part of Lao PDR as follow: Bokeo, Luang Namtha, Oudomxay and Phongsaly province.

- Trade liberalization (Association of Southeast Asian Nations (ASEAN), GMS, ACMECS⁶/Thailand) can help relax stringent tariff rates;
- Thailand's obligation to impose SPS⁷ standards on products from neighboring countries, subject to supply audits, can have the impact of increasing the quality standards for Lao food products which thus have better chances of being accepted and
- Use of the Mekong River for trade, thus facilitating commercial relations among China, Thailand, Lao PDR and the other GMS countries.

The importance of using CF stems from its beneficial effects in increasing farmers' income. Glover and Ghee (1992) aptly described CF as one of the most promising institutional frameworks for the delivery of price incentives, technology and other agricultural inputs considered as important factors to realize agro-based small and medium-sized enterprises (SMEs) growth. The economic arguments supporting this claim may be viewed in Table 1, which displays the potential benefits and the interplay of factors favorable to the realization of agro-based SME growth.

Table 1: Extent of Foreign Private Sector Investment in Lao Agriculture

Crop	Extent	Location	Main Foreign Investors
Rubber	140,000 ha (2008) 268,800 ha (2011) ⁸	54% in the Northern provinces 18% in the Central provinces 28% in the Southern provinces	China (mainly CF in the North) Vietnam (mainly concessions in Champassak, Saravan and Attapeu Provinces)
Sugar Cane	200,000 ha (2005) (further expansion since then, but extent not known)	Northern Uplands, Centre	China (mainly CF in Phongsaly, Luang Namtha and Oudomxay Provinces) Thailand (mainly concessions and CF in Savannakhet Province)
Maize	66,000 ha (2005) (further expansion since then, but extent not known)	75% in the Northern Uplands	Thailand (mainly CF), also China and Vietnam
Cassava	Not known	CF, small concessions	China (mainly CF, Luang Namtha and Oudomxay Provinces), also Thailand and Vietnam
Jatropha	26,000 ha (2009) land allocated but limited production	Not known	Mainly Asian investors, including China, Malaysia and Korea

Source: Adapted from Baumüller and Lazarus, 2012

Empirical studies in the GMS have found CF to be an effective approach in linking small farmers to markets and to some extent as reduced poverty by way of providing increased income. The same argument is being used to support agro-based SMEs. In Lao PDR, for instance, Manorum *et al.* (2011), in a study conducted under the Phnom Penh Plan for Development Management, found that

⁶ The Ayeyawaddy-Chao Phraya-Mekong Economic Cooperation Strategy (ACMECS) unites Cambodia, Lao PDR, Myanmar, Thailand and Vietnam.

⁷ Sanitary and phytosanitary measures.

⁸ *Vientiane Times*, April 10th, 2012. The contract is under the ACMECS project.

CF practiced by small holders growing cabbage, maize and sugar cane in diverse condition was largely beneficial and an effective mechanism for tackling rural poverty. The majority (88%) of the Lao small holder farmers who were surveyed concluded that it has improved their financial situation.

On the one hand, Phomvixay (2015) argued that the salient features of CF models already available in the Northern Region Infrastructure Sector Development Project (NRI) project sites are already present and deemed them to be a type of comparative advantage (at least to facilitate agro-based SME). While, generically, the CF model can be considered to be the 2+3 form that is generally practiced in Lao PDR, the model in NRI can be considered to be a “guaranteed price contract,” at least for the four types of investors identified and studied. The investors provided the inputs and fixed the price of both inputs and outputs. The small farmers received net pay after the investors deducted all costs of inputs, including cash for land preparation. It is likely that the investors included interest charges for the cost of the inputs given to the farmers.

A close look of the salient features of CF reveals that the basic elements for a successful project include: (a) the presence of a contract, either written or verbal; (b) provision of inputs; (c) pre-determined price for outputs; (d) technical advice for growing sophisticated crops such as hybrid rice and (e) payment for output upon delivery.

3. Literature Reviews

3.1. Contract Farming and Agribusiness in General

Past studies show conflicting points of view about CF. Some of the evidence says CF brings a wide range of benefits to rural areas. Globally, there appears to be evidence that CF has successfully promoted high-value food products in developing countries (Patrick, 2004). Reardon and Berdegúe (2002) find that farmers enjoy the benefits of CF because frequent sales to supermarkets give them a more regular income. Consumers tend to see CF as a more politically acceptable form of agriculture than large concessions or estates, while investors see it as a way of overcoming land acquisition constraints. The investors also favor CF because their risks are reduced by not being directly responsible for production and because more consistent quality can be obtained than if purchases were made on the open market (Eaton & Shepherd 2001; Patrick 2004; Songsak & Aree 2008; Setboonsarng, Leung & Stefan, 2008).

A key argument in favor of CF is that it has the potential to incorporate low-income growers into modern technology through private sector-driven efforts whereby inputs are provided in exchange for specified crops. Through contracts, the buyers provide significant inputs such as credit, information, reliable markets and services. In this way, smallholders are supported and enabled to cultivate lucrative non-traditional crops. Proponents of CF argue that this brings positive multiplier effects for employment, infrastructure and market development in the local economy (Key & Runsten 1999, Sautier *et al.*, 2006).

A key issue raised by those critical of CF is that it rarely provides benefits to the poor and landless. For instance, studies of CF in supply chains in China suggest that contracting firms generally favor contracts with larger farms and tend to bypass smaller producers. Certain types of CF require relatively high levels of farm managerial skills, which farmers often lack. As a result, they are often at risk of breaking contractual agreements or of taking on the full risk of crop failure due to seasonal factors such as drought or floods (Coulter *et al.*, 1999; Guo, Jolly & Zhu, 2005). Delforge (2007) is also critical of the impact of CF on the small-scale farmer. Although farmers are motivated to join CF in order to get a more secure income, inputs and a certain market, the research reveals that small farmers can be exploited and highly controlled.

On the other hand, CF should be rather viewed in a dynamic context, influenced by the type of crops or commodities involved and market conditions in both local and highly competitive global markets. Singh (2005) states three pillars of a contract arrangement: coordination, motivation and transaction costs. Ensuring proper coordination and motivation and minimizing transaction costs in the most effective way can be achieved by observing some of these rules: (a) minimize production cost through the use of price signals; (b) minimize and/or share risks and uncertainty; (c) reduce the cost of pre- and post-contractual opportunism through contract rationing by selecting the best and good farmers; (d) encourage group action to lower costs and ensure compliance; (e) motivate long-term contract to reduce hold-up problems and (f) use transparent contracts.

In sum, the literature review suggests that CF could bring both benefits and negative impacts. Taking the positive view of CF, Setboonsarg *et al.* (2006) have summarized the potential benefits for both farmers and purchasers from CF utilization. Farmers could access to markets, credits, inputs, technology and skill development through the arrangement by CF. Moreover, CF assures an increased income and reduced risk relating to price and production. On the one hand, purchasers could control over products volume and consistency by minimizing cost and improving quality with regards to certain types of crops.

3.2. Past Studies on Contract Farming in Laos

There have been a number of studies on CF in Lao PDR. The author has identified those by target crops, investors and the location of study fields in (see Table 2). It appears that none of the past studies have focused on CF with Chinese investors in the case of pumpkins in Luang Namtha province. This study will help to fill this knowledge gap.

Table 2: Past Studies on CF in Lao PDR

Authors	Target Crops	Investors	Study Fields
Setboonsarg <i>et al.</i> (2006) Setboonsarg <i>et al.</i> (2008) Erikson (2011)	Organic Rice	Lao/Japan	Vientiane Province
Diana (2008)	5 crops	China	Luang Namtha
Zola (2008)	Cabbage, Coffee	Thailand	Champasak
Fullbrook (2007)	5 cases	China and Thailand	5 provinces;
Fullbrook (2011)	11 cases		6 provinces
Manorom <i>et al.</i> (2011)	Cabbage, Maize, Sugar Cane	China and Thailand	3 provinces
Phoumanivong and Ayuwat (2013)	Sugar Cane	Thailand	Savannakhet
Sturgeon (2013)	Rubber	China	Luang Namtha
NERI (2014)	Banana, Cassava, Maize	China and Thailand	4 provinces
Suruga <i>et al.</i> (2015)	Tobacco, Pumpkins	China	Oudomxay

Source: Authors' Review

Zola (2008) placed emphasis on how different models used can have an impact on CF outcomes. In his review of CF in the Lao PDR, he describes five modalities in the agriculture and natural resources sector, namely:

- a) the wholesale market model operating with domestic investment,
- b) plantations established on land concessions granted by the government,
- c) the concession share-croppers' model (a variation of the land concession model),
- d) the producers' association mode land.

- e) the independent farmers' group model.

Each of these is relevant to the agricultural situation in Lao PDR and will be seen in the results of this research.

3.3. Entrepreneurial Farmers

Sustainable development of agricultural land requires the development of entrepreneurial and organizational competency in farmers. The need for an entrepreneurial culture in the agricultural sector has been recognized in recent decades (Bergevoet et al., 2005; McElwee & Bosworth, 2010). There are two pertinent types farmers base on McElwee (2008) typology of individual entrepreneurial farmers. First, the farmer as farmer, who tends to engage in limited diversification and depends on push factors. His or her strategic orientation is based on cost-price reduction with little awareness of market opportunities and individualistic orientation. Second, the farmer as entrepreneur, who identifies and exploits non-farming or high-value agricultural opportunities based on the farm's resources in flexible and innovative ways. Developing entrepreneurial competency in the agricultural sector means bringing the farmer from the farmer as farmer position to the farmer as entrepreneur level through an educational process.

To become entrepreneurs, farmers need to access to finance, land, labor, information and knowledge. The most important thing is they need a motivation to produce beyond just surviving. Kahan (2012) has shown the four steps ladder of intension and reason for farming. Basically, they farm for home consumption. For each level, the percentage of producing for home consumption is falling, while farmers aim to produce for the market when their amount of product is surplus. At the forth level, which is the finally ladder, farmers are farming exclusively for the market. This means that farmers develop themselves to become entrepreneurs who run their own agribusiness. Even though, farmers have an entrepreneurial spirit, but still they are lack of an opportunity to follow their ambition. Kahan (2012) notes that the group entrepreneurship is particularly attractive among those farmers who would not be able to start an entrepreneurial business on their own. Therefore, grouping farmers to work together as entrepreneurship can solve this issue.

4. Research Methodology

4.1. Data Collection

The quantitative survey was conducted in the three villages of Num Bak, Phokham and Thad, Long District, Luang Namtha province, northern Lao PDR. The chosen villages were based on the criteria of originality of the study where there is an unavailable irrigation. Moreover, the chosen villages were based on the scale of production of the contract crop and local expert advice (i.e. from NRI).

In this study, focusing on the establishment of FPG by NRI is a fundamental community build-up scheme to support the rural development of Lao PDR. On the one hand, face-to-face interviews with household members at three villages were undertaken in early March 2015 through a structured questionnaire. A questionnaire was constructed in English by the research team at a weekend workshop held at the Mekong Institute. Questions were included in the questionnaire based on the specific needs of the project and others from previous studies. Pilot testing in each of the CLMV countries revealed that there were no significant problems with the questionnaire and so the process continued as planned. Researchers trained their enumerators to collect data in the relevant local language and to record answers in English, where it was relevant to use free text. Care was taken to

ensure that researchers would be able to communicate effectively with people from any ethnic minority group that might be encountered.

The main respondents for this study included farmers who are growing pumpkins for market sale. The sample obtained was divided into two groups: those engaging in CF (97 respondents) and the non-CF group (57 respondents) (see Table 3). The questionnaire mainly focused on assessing overall benefits for small farmers and identifying CF's contribution to improving the quality of life of those involved, through providing increased income, access to social networks, family security and so forth.

Table 3: Overview of the Surveyed Villages

Village Name	Household Size (Persons)	Surveyed Households	CF	Non-CF
Num Bak	63 (308)	44	44	0
Phokham	93 (396)	55	53	2
Thad	68 (297)	51	0	51
Total	224 (1,001)	150	97	53

Source: *Original Research*

4.2. Data Analysis Methods

For the quantitative analysis, household survey data and secondary data were synthesized and comparing between the CF group and the non-CF group, both before and after engaging in cross border contract farming (CBCF). Simple statistical techniques have been applied such as frequencies and percentages for both single and multiple choice questions.

Table 4: List of Key Informative Interviews (KIIs)

No.	Player	Persons
1	Luang Namtha Provincial Department of Agriculture and Forest	1
2	Luang Namtha Provincial Department of Industry and Commerce	1
3	Long District Agriculture and Forest Office	1
4	Long District Industry and Commerce Office	1
5	Long District Finance Office	1
6	Lao Trader	1
7	Chinese Trader	2
8	Num Bak Village Cluster Representative	2
	Total	10

Source: *Original Research*

For the qualitative analysis, the results of the (Key Informative Interview) KII and Farmer Group Discussion (FGD) were integrated with the quantitative analysis, together with additional results provided by the tools of participatory rural appraisal and field observations. For the KIIs, semi-structured questionnaires were prepared for obtaining information from farmer group leaders, CF companies (both Laotian and Chinese traders) and relevant government staff as shown in Table 4. Two focus group discussions on CF and Non-CF were conducted as noted in Table 5. Direct observation focused on basic infrastructure along the economic corridors, market and communication facilities, agricultural and natural resources (land, water resource, major crops grown, other land use) and the two borders that facilitate or hinder agricultural trade and investments (i.e. the international border at Boten-Mohan and the local border with Meuang Sing).

Table 5: List of Focus Group Interviews

Village Name	CF	Non CF	Total
Num Bak	8	2	10
Phokham	2	1	3
Thad	0	4	4
Total	10	7	17

Source: *Original Research*

5. Research Findings

5.1. Investment in the Agricultural Sector in Luang Namtha Province

Not all investment projects are registered and, therefore, there are some problems with statistics in this regard. However, the statistics do provide a general overview. In principle, large investment projects have to be registered at the central level, while medium size projects can be recorded at the provincial level and the small ones are managed at the district level. Size is determined by the investment value and the areas of land concessions involved.

According to the Provincial Agriculture and Forest Department Office (PAFO) statistics, there were 36 investment projects in 2014, of which 29 were by foreigners and 7 by domestic investors. Most of the projects are concentrated in Luang Namtha district, while there are 8 projects in Long district. The investment form does not vary much, as 53% are 1+4 and the remainders are 2+3 in nature. Rubber plantation dominates, with more than 70% of all investments, many of which were started in the mid-2000s.

Based on the report of the Long District Office of Industry and Commerce (2014), the total export of agricultural products reached 86.8 billion kip (approximately US\$10.7 million)⁹. Sugarcane ranks as the most important crop with a total of 63,886 tons produced. The export value of sugarcane is also the highest at 38.9 billion kip, which is approximately 45% of the total value. Bananas ranked second, following by cassava and watermelons. Pumpkins are the fifth most important; with total production of 8,043 tons and a value of 4.6 billion kip.

5.2. Impact of Contract Farming Arrangement under NRI Nam Bak Subproject

Table 6 shows that the only unchangeable before and after NRI project implementation is a form of investment, which maintain as 2+3. However, before NRI project implementation, most of the contract was formed as verbal contract between the contractor and village head. This was difficult to ensure the commitment between farmers and contractors. For example, without written contract the contractor might provide insufficient inputs for farmers and it would affect to product quality. On the other hand, farmers would be attracted to sell their products to other buyers who offered higher price than they were committed in the verbal contract. While a contractor could not guarantee a minimum price and sometimes delay on payment. This would lead to the uncontrolled quality and quantity when selling to the contractor. After the project, CF arrangement under NRI Nam Bak subproject can bring a significant benefit to the agriculture and rural development. It brings a quality standard of production, transportation, price, payment and so on. It seems that CF will be a great tool to support the process of turning independent farmers to become entrepreneurial farmers.

⁹ As of July 22nd, 2016: 1 \$US – 8120 Lao kip.

Table 6: Impact of Contract Farming Arrangement under NRI Nam Bak Subproject, Luang Namtha Province

Project Implementation	Before	After
Form of the Contract	Verbal	Written
Participants under the Contract	The contractor and village head	The contractor, WUA, FPG, village head, DAFA and DICO
Form of Investment	2+3	2+3
Production Standard	Unclear by the collector	Not buy under weight of 1 kg but over 1 kg.
Supply of Inputs	Sometimes insufficient	Sufficient
Harvest and Transportation	Sometimes delay	Within 10 days after harvested
Guarantee Fund	None	Reserved to farmers based on the farm size
Price	260-650 Kips/Kg base on contractor quality standard	The weight over 2.1 Kg can sell at 650 Kips/Kg
Payment	Sometimes delay	On time
Monitoring by the Local Governemnt Staff	Irregular	Regular

Source: Phomvixay (2015)

5.3. Findings from KIIs and FGDs

❖ Government Staff Representatives

It was found that Provincial Agriculture and Forest Department Office (PAFO) and District Agriculture and Forest Office (DAFO) have more significant roles than Provincial Industry and Commerce Department Office (PICO) and District Industry and Commerce Office (DICO), though both have only limited control of CF. DICO has taken responsibility for the administration of the contract between investor(s) and farmers since 2013 and renews this contract every year.

Both agencies face severe difficulties in terms of human resources, especially in terms of knowledge about business, markets and the law.

A staff member of DICO said that “We have only eight people and I am the only one who takes care of CF and trade promotion. I visited an exhibition at ITEC, Vientiane once last year. That is the only change I got. I wish to receive a lot of training in this area to improve myself.”

In recent years, under the ADB-NRI project on capacity building, both agencies have become able to play a better role in promoting CF. Capacity building activities such as training on institutional management, finance and marketing are very important but there remain difficulties in obtaining short-term effectiveness. Further strengthening of the capacity of local government staff would be a challenging issue.

❖ Trader Representatives

The trader claimed that raising the awareness of farmers to join CF is a difficult issue and it is not easy to get the project to expand. Some farmers are still worried about the capital required, especially about the burden of the initial costs, as well as production and market risks. The guarantee fund (1.3 million kip/ha) to DICO is a heavy burden for the contractor. He thought it was understandable that such a guarantee should be levied on new investors but he thought it could be waived now after a number of years of operation there and that would mean the fund could be used as credit to promote

the farming further. Up to now, very good cooperation has been received from DAFO and DICO but further trade facilitation, which might be desired, such as exempted or reduced import duties and inspections by customs officials, are considered to be critical to the costs of the contractor and this may have an impact on prices overall. Generally, the trader is satisfied with the CF here and wishes to maintain this good relationship for the long-term.

❖ **Village Cluster Representatives**

In the survey areas, there are two basic forms of contract agreement, which are the verbal contract in Thad village and the written contract in Num Bak and Phokham village. Both forms of CF agreement involve contracts between the same Chinese trader and the local farmers.

Initially, there were only six households of former Num Bak-Phokham village, including the village head family, who started to grow pumpkins in 2006 as a trial without any contract. Verbal contracts started in 2007 and have gradually expanded to more villagers year by year. The formal CF just started implementation in 2013, thanks to assistance from the NRI project. Overall, the two village representatives insisted that CF brings strong benefits to farmers. Without this CF, livelihoods could not be improved and only this contractor offers the chance for higher standards of living.

Generally, the villagers are satisfied with CF. A contractor is described as being kind and supporting the local community. For instance, the company provides a buffalo and beer for the village festival. They also donate to the village primary school in terms of sporting and cultural activities and, also, to the village temple. At present, the contract fee is managed only by DICO and villagers would like it to contribute to the village fund as well. The fund would be useful in improving the community road and village hall.

❖ **Results from CF Focus Group Discussion**

With verbal contracts, there were many problems such as delays in payment, unclear guidelines about the required quality of harvested products and irregularities in transportation. In general, the payment was received just a few weeks after the harvest period but, sometimes, the payment was delayed by a few months. Basically, the quality of the harvested pumpkins is judged by their weight but, in some cases, the contractor staff refused to accept the products due to the poor quality of the shape and skin, which were unclear criteria and varied from one staff member to another. Moreover, the arrival of the transportation for collection of the pumpkins was irregular and it was not known how many trucks would come and in which order the farmers would be visited.

Since formal written contracts have been introduced, most of these problems have dissolved. The payment must be completed within ten days of the harvest period. The quality of the product must be based on its weight. Although it is desired that the contractor would come to collect the pumpkins quickly and with a sufficient number of trucks, it was understood that this is not easy to arrange.

Apart from the low prices, the farmers were mostly satisfied with this CF project because the monopoly status provides no other choice. More competition among the contractors or the development of the domestic market might be ways to solve this problem.

❖ **Results from Non-CF Focus Group Discussion**

Major obstacles facing non-CF farmers in joining the CF project are information about dealing with the contract, lack of capital (e.g. land clearance and preparation) and lack of land. Even though the contractor would provide the seed, fertilizers and other inputs, the initial cost on land clearance and preparation is a heavy burden that some households find it difficult or impossible to overcome. Also, there is only a very limited amount of land available. Borrowing land seems not to be feasible because

the leasing cost is very high and it would not be profitable. From the survey results, it would appear that about 72% of respondents of the non-CF group do not think that independent status would be better for them and this result lends further support to the discussion here.

Similar to the FGD with the CF group, it was reported that under verbal contracts, there were many problems such as delays in payment, unclear quality criteria for the harvested products and irregularities in the collection process. It was observed that arranging formal CF would be useful in Nam Bak village but, without support from the government, people did not know how they should handle such a contract. Even without formal contracts, people felt that they were fortunate that most problems have been solved because the contractor applies the same rules to both CF and non-CF farmers.

5.4. Comparisons between CF and Non CF Households

❖ Characteristics of the Respondents and household members

For the CF group, males (57.7%) participated in the survey more than females (42.3%). By contrast, for the non-CF group, males (43.4%) were fewer in number than females (56.6%). The proportions of gender involved in the survey in both groups are relatively balanced and do not suggest the presence of concerns about gender bias. The average HH size of the CF group is 4.73 people (minimum of 2 members and a maximum of 10 members), which is slightly lower than that of the non-CF group at 4.94 people (minimum of 3 members and a maximum of 9 members). There is a similar HH labor structure in both groups. The proportion of HH members involved in farming is approximately 63% to 66%, with average number of workers being 2.84 to 3.11 persons. Most of those workers were also involved in growing pumpkins, of which about 60% take responsibility as the main worker.

The average age of the HH head in the CF group is 44 years old, with experience in growing pumpkins of around 4.6 years. The average age of the HH head in the non-CF group is 43 years old, with experience in planting pumpkins of about 2.9 years. The average ages are almost the same, which reflects a similar experience of farming, although it is clear that households formally involved with CF have longer experience in growing pumpkins. Moreover, for both groups, most farmers can be categorized as having Lao Loum ethnicity, which is the majority group in the country. Most farmers are purely farming on their own land (over 80% in both groups).

❖ Findings

Table 7 shows the land ownership of households in the surveyed areas. The average agricultural land size is relatively small at 1.93 ha for the CF group and 1.75 ha for the non-CF group. In almost every case, farmers are using their own land. It is interesting to see that the non-CF group members mostly use their own land to grow pumpkins (92.2%), while in CF households only one half of their land holdings is used for planting pumpkins.

Table 7: The Status of Land Ownership

	Agricultural Land Owned			Pumpkin Land Used		
	Average (ha)	Own Land (%)	Others (%)	Average (ha)	Own Land (%)	Others (%)
CF	1.93	93.4	6.6	1.09	72.3	27.7
Non-CF	1.75	96.1	3.9	1.73	92.2	7.8

Source: *Original Research*

Table 8 presents the yields and prices resulting from pumpkin production. The average yields are 20.6 tons/ha for the CF group and 21.4 tons/ha for the non-CF group. Productivity is not only higher in the non-CF group but it also has a lower standard deviation. However, as written in the contract, it is expected that the yield would range between 25-30 tons/ha. Consequently, the current productivity level is lower than the standard. Regarding the price, both groups enjoy the same conditions specified in the contract. Pumpkins weighing less than 1 kg do not meet the required standard and the contractor will not buy them. For products between 1-2 kg, the price is fixed at 250 kip (or 2 jiao where 1 yuan = 10 jiao) and if the weight of pumpkin is over 2 kg the price is 650 kip (or 5 jiao). If we apply the exchange rate as 1 USD = 7,420.42 kip, the price is at about 33.69 \$/ton and 87.60 \$/ton respectively.

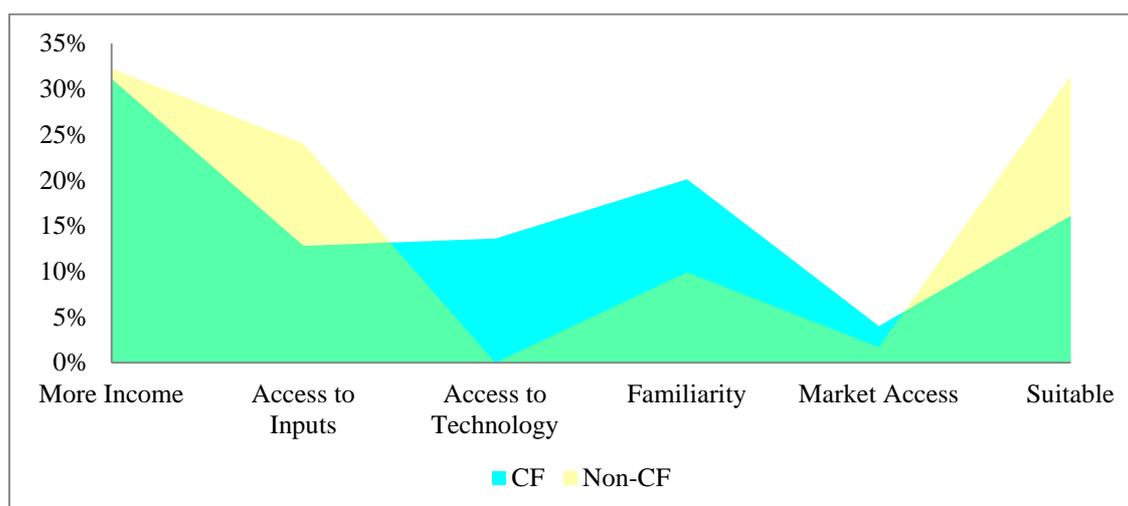
Table 8: Yields and Price of Pumpkin Production

	Yields			Price (Kip)		
	Average (Tons)	Std. Dev.	Standard	< 1 Kg	1-2 Kg	> 2 Kg
CF	20.63	10.98	25-30	-	250	650
Non CF	21.36	7.32	25-30	-	250	650

Source: *Original Research*

Figure 1 shows the reasons for growing pumpkins for both groups. Most farmers answered that more income is the most important motivation for growing pumpkins. Among farmers having formal contracts, familiarity with the crop is the most important reason, followed by suitable conditions, received technology, received inputs and so on. However, familiarity with growing pumpkins is not a significant reason for the non-CF group as they are followers. This lends support to the discussion above about different levels of farming experience between the two groups. For the non-CF group, having suitable conditions is the second largest reason. Many farmers in Thad village claimed that the land condition is very suitable as the average yield there is higher than in Num Bak and Phokham villages.

Figure 1: Reasons for Growing Pumpkins



Source: *Original Research (Note: Multiple Answers Permitted)*

While more income is the most important motivation for CF and Non-CF households to grow pumpkins. On average, income from growing pumpkins accounts for some two-fifths of the total income for the non-CF families, while it is about one-third of the total income for the CF households.

Over 70% of non-CF households earn more than a quarter of the total income from pumpkins but about one half of CF households get less than a quarter of the total income that way. Consequently, growing pumpkins has a crucial role for non-CF households and to make this contract formal would have a great impact.

There is a positive impact of CF on the living standards of farmers in both groups. Of the CF group, 98% and 100% for the non-CF group are happy with the profit they obtain from growing pumpkins for Chinese traders. All households said that they could spend more this year compared to last year. Similarly, they realize that their working lives are less difficult or at least the same. Over 90% of families think that their standard of living standard has improved.

Table 9 presents the comparison on the effects of CF on agricultural and livelihood changes. Firstly, both the CF and the non-CF groups have the same opinion that profits have increased. This appears to be due to the effect of written contracts that lead to higher prices, while the quality standard criteria are also clearer. For most other aspects, the effects of CF on agricultural and livelihood changes remain unchanged. In some cases, it is interesting to find that many non-CF households can gain more technical and marketing knowledge. Overall, it can be observed that the effects of growing pumpkins bring more positive outcomes for the non-CF group compared to the CF group.

Table 9: Effects of CF on Agricultural and Livelihood Changes

	CF				Non CF			
	1	2	3	4	1	2	3	4
Profit	94.7	5.3	0	0	95.2	2.4	2.4	0
Offered Price Compared to Market Price	4.7	90.6	4.7	0	2.4	82.9	14.6	0
Cost of Inputs	1.2	91.8	2.4	4.7	0	97.6	0	2.4
Crop Yield	0	94.7	1.3	3.9	0	93.8	6.3	0
Water Use	0	77.7	22.3	0	0	95.2	4.8	0
Fertilizer Use	0	98.7	0	1.3	0	70.7	0	29.3
Pesticide Use	0	100.0	0	0	0	70.7	0	29.3
Depending on Credit for Inputs	2.1	91.7	4.2	2.1	42.9	21.4	14.3	21.4
Depending on Cash Loans	8.2	85.7	4.1	2.0	46.2	0	38.5	15.4
Technical Knowledge	12.3	75.4	1.8	10.5	55.6	11.1	7.4	25.9
Market Knowledge	1.7	76.3	0	22.0	25.7	25.7	22.9	25.7
Volume of Sales	1.5	81.5	1.5	15.4	0	40.0	28.0	32.0
Bargaining Power	1.8	85.5	1.8	10.9	7.7	69.2	7.7	15.4
Job Availability	2.2	93.5	0	4.3	71.4	28.6	0	0
Labor Wages	7.7	86.5	0	5.8	76.9	23.1	0	0
Network	2.4	97.6	0	0	0	50.0	50.0	0
Information/Labor Exchange	0	100.0	0	0	66.7	33.3	0	0
Cultural Events	4.3	95.7	0	0	50.0	50.0	0	0
Investment in Education	4.4	95.6	0	0	55.6	44.4	0	0
Investment in Healthcare	0	95.5	0	4.5	20.0	80.0	0	0
Kinship Relationships	10.6	89.4	0	0	66.7	33.3	0	0

Source: Original Research (Note: 1 = Increased, 2 = Same, 3 = Decreased, 4 = Don't Know).

5.5. Making Improvements

❖ Knowledge about the Contract

Table 10 shows the sources of knowledge about the contract available to farmers. For the CF group, 88 out of 95 respondents said that they fully understood the contract and 7 households said they partly understood. It appears that farmers understand price conditions quite well. However, many farmers still do not know much about the penalties, risk management and detailed contractual agreements.

In addition to company representatives and government officers, farmers also have access to knowledge from the FPG as well. The establishment of a FPG in Nam Bak and Phokham villages is a useful measure to improve this matter, in Thad village, a necessity.

Table 10: Sources of Knowledge on the Contract

	N	%
Company Representatives	68	43.3
Government Officers	67	42.7
FPG Representatives	22	14.0
Total	157	100.0

Source: *Original Research (Note: Multiple Answers Permitted)*

Table 11 summarizes the implementation of the contract agreement. Most farmers are never involved with contract negotiations. Since farmers have been doing CF with this company for a long period, they do fully trust the contractor. The contractor has never failed to honor the terms of the contract and only rarely has there been any delay in payment.

Table 11: Implementing the Contract Agreement

		N	%
Contract renegotiation	Never	80	89.9
	Rarely	3	3.4
	Often	0	0.0
	Always	6	6.7
Trust the contractual company	Not at All	0	0.0
	Partly	1	1.1
	Fully	88	97.8
	Don't Know	1	1.1
Company fails to honor the terms of the contract	Never	94	100.0
	Yes, Sometimes	0	0.0
	Yes, Often	0	0.0
	Don't Know	0	0.0
Delay on payment	Never	78	83.9
	Yes, Sometimes	15	16.1
	Yes, often	0	0.0
	Don't Know	0	0.0

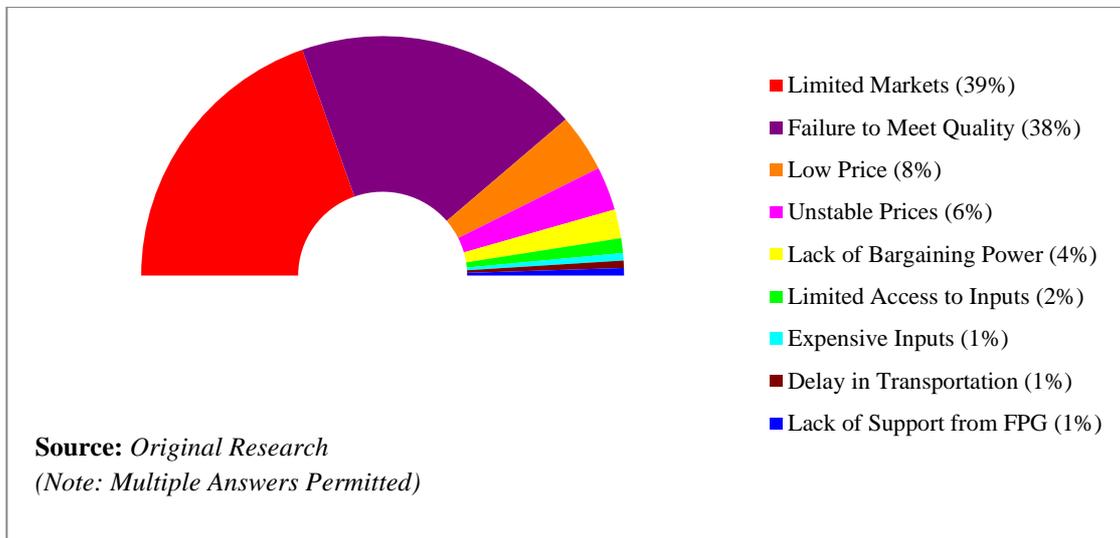
Source: *Original Research*

❖ Problems in Doing CF and Possible Solutions

Problems that farmers face in participating in CF are identified and shown in Figure 2. There are two severe constraints, which together, account for about 80% of the total. The first is inability to sell to

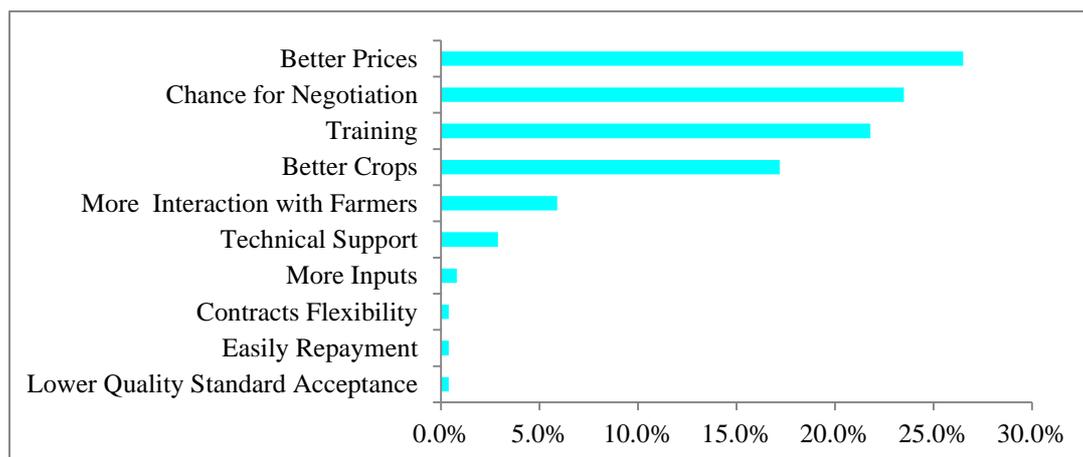
other buyers or, in other words, limited competition and this has significant effects on price and bargaining power. The second is that there are too stringent quality standards. Many farmers are not familiar with a strict quality standard, which covers not only the weight of the pumpkins but, also, their shape, color, harvesting period and transportation. Other problems stated in the table are less significant.

Figure 2: Problems Farmers Face in Participating in CF



Possible solutions to improve CF based on farmers' opinion on needs from the contractor are presented in Figure 3. There are four important factors that farmers raised, including offering better prices (26.5%), allowing room for negotiations (23.5%), providing more training (21.8%) and providing better collection of the crops (17.2%.) On the other hand, it can be said that farmers are less interested in more credit and repayment details.

Figure 3: Farmers' Opinion on Needs from the Contractor



Source: Original Research

Table 12 presents the impact of CF on sustainability. The results are somewhat mixed. In terms of technical advice and financial aspect, two-thirds of CF households consider that they could grow pumpkins without technical support from the contractor and three quarters of them could do so using their own capital. By contrast, only one-third of non-CF households can grow pumpkins without

technical support and about 28% of them may use their own capital to do CF next year. This suggests that past growing experience has gradually led to technological transfer and financial accumulation and it is expected that the non-CF group would follow this pattern in the near future.

Table 12: Impact of CF on Sustainability

	CF	Non CF
Without Technical Advice		
Yes	65.9	34.9
No	34.1	65.1
With Own Capital		
Yes	75.0	27.9
No	25.0	72.1
Finding Own Market		
Yes	16.7	14.0
No	83.3	86.0
Without External Support		
Yes	3.4	2.7
No	96.6	97.3

Source: *Original Research*

6. Conclusion

6.1. Concluding Remarks

The findings presented above tend to make comparisons between the CF and non-CF groups. Despite some differences, this study generally finds that the groups share many similarities. Although farmers in the non-CF group mainly from Thad village are now followers in the process, when they do achieve formal CF status (which may be from the next season), similar trends, conclusions and policy recommendations described below will also apply to them.

Two types of CF were noted. The first type represents a contract agreement directly between the village head and the trader. Two parties are involved and this approach was used from 2007-12. By any standard and, even on the assumption that a contract was forged between the two parties, this type of agreement was still *informal*. The second type involves three parties, namely the FPG/village head, the local government representative (DICO or DAFO) and the Chinese trader, which has been used from 2013 to the present. The FPG enters into a contract with the Chinese trader, who provides all the monetary resources needed to operate the CF project. The local government representative can play a role as facilitator and coordinator monitoring the CF project. From the KIIs, this study found that there is a Lao trader who is playing a role as the intermediary who relies solely on the Chinese financier. The intermediary gets paid for his services on a commission basis from the financier. This type, which can be described as intermediary CF, is dominant in the Nam Bak village cluster, presumably because of its proximity to the border of China.

Based on the results from the Key Informative Interviews (KIIs), this paper found that some investors do not register with and obtain approval from the provincial department of investment and planning but, instead, directly agree contracts at the village level, which leads to problems with monitoring. It has happened in some cases that investors did not implement the contracts properly when prices fluctuated in China or natural disaster occurred. Moreover, from the focus group interviews and questionnaire survey, it is apparent that it was difficult and took quite a long time for farmers to

progress from verbal to written contracts in the surveyed area. Nevertheless, there are significant improvements and more benefits to farmers to be had from having a written contract, such as prompt payment, clearer quality standards, better collection of harvested products and so on. However, there is still room for improvement with respect to issues such as competition, price level, development of the domestic market and better policy support.

6.2. Outputs

The CF activity generally produced positive outputs. The CF process initiated by the NRI project, where the local community (e.g. DAFO, village chief and FPG members) actively participated in formalizing CF activity, marked the beginning of a new process in 2013. CF experiences encountered during the 2013-14 dry season also provided meaningful insights. In the case of pumpkins in Nam Bak, the Chinese financier refused to buy pumpkins which were green. The yellow pumpkin was the preferred variety. The intermediary was of no help to those farmers who had planted green pumpkins, which was a reflection of poor agricultural extension advice that was not part of the CF activity.

The district governor plays a key role in the promotion of CF and also is important in the avoidance of some of the violations committed by either of the parties involved. The experience in Nam Bak (Long district), where the governor imposes a “one trader-one village” policy, was that side selling by the FPG to other traders was mitigated. Certainly, the district governor plays a very important role in the success of any CF activity, especially if the right regulatory policies are enforced properly. Discussion about this issue is in the following section because of its implications not only locally, but in the wider context of promoting greater competition and freer market access.

In general, the CF performance during the 2013-14 dry season opened opportunities for improving the system of implementation. There were constraints but these can be mitigated in future implementations with the right operational and administrative procedures and adjustment of the mindsets of the major stakeholders.

6.3. Policy Implications

According to the results reported upon in this paper, some policy options emerge:

- The government, especially at the local level, should provide more information to both investors and farmers and facilitate the contract arrangements among relevant stakeholders. With limited resources of land, labor and capital, receiving sufficient information is a crucial element for making the decision whether or not to sign a contract under a win-win solution for all parties. To do so, the government should consider the responsibilities of each stakeholder and who is best-placed to play the role of leading implementation and coordination unit;
- Coordination among stakeholders is truly essential to facilitate CF. Until now, coordination and cooperation among stakeholders, including not just investor and farmers but, also, the relevant local agencies including DAFO, PAFO, DICO and PICO, as well as the village cluster and each village community have not yet been properly managed. Better coordination and partnership development among these stakeholders would be very helpful for the promotion of successful CF projects;
- For the private sector, the reduction of agricultural inputs import tariff, the improvement of transportation (e.g. road conditions) and the easing of export procedures are the key factors. These supportive policies would improve the investment climate and thus increase the

profitability of firms, so that they may be able to provide more incentives to farmers to promote CF projects;

- It is necessary to build mechanisms for enhancing trust between investors and farmers for long-term shared benefits. It was observed that some investment projects seek only the short term profit of the contractor(s) and increased income of farmers, with less attention paid to building up long-term relationships with consideration of sustainable land use and environmental impact;
- The establishment of FPGs is a very important factor to improve prices and other issues of negotiation, as well as better access to government policy. Although the establishment of FPGs is not easy considering the constraints of farmers' generally low level of educational attainment, know-how and experience in organizing and operating cooperatives, FPGs can be a very important instrument in supporting farmers in terms of providing technical training and extension services, access to credit, farmer learning and market integration.

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