Building a capable farmers' organisation towards livelihood improvement

Evidence from three Thai rice farmers' organisational models

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Abstract:

This thesis has examined how a capable farmers' organisation improves farmers' livelihoods. Three cases of Thai rice farmers' organisations were purposefully selected, representing different farmers' organisation models that are producer-driven, buyer-driven and facilitator-driven models. The rice value chain framework used in this thesis emphasised three key analytical aspects. These were i) value chain governance and organisational model; ii) upgrading; and iii) distributional outcomes. This enables the analysis to narrow down to which direction the farmers' organisations would most likely achieve livelihood improvement.

It is evident from the study of the three cases that a farmers' organisation is a means to improve members' livelihoods through leveraging power and resulting in value chain upgrading. By meaning improved livelihood, the focus was on how capacity building enhancement and post-harvest infrastructure resulted in improvements in income, farm productivity, access to capitals, and market participation. An organisational model arrangement directly impacts value chain governance, the ability to upgrade, and the efficiency of distributional outcomes. All these lead to rice value chain development. Findings have identified the pattern observed from the three farmers' organisations as a process to increase capability. The pattern involves the precursor factors that lay the foundation for the determinants of organisational development. These precursor factors are commitment and trust, organisational models and behaviours, shared value, and capacity development and resource mobilisation. Consequently, the process and outcomes of a capable farmers' organisation influenced by such precursors are organisational routines, repositioning farmers in the value chain, the reconfiguration of value chain finance, and value chain upgrading. The significance of each factor may vary, but the firm foundation depends on the combination of precursors and processes. The results highlight policy recommendations that can offer a path towards sustainable livelihoods for farmers.

Chapter 1 Introduction

This chapter introduces the study and the debate on farmers' livelihoods in the context of Thailand's rice industry. It sets the scene for the study by pinning down a problem statement that is based on extant knowledge. From there, the chapter then moves to the formulation of key research questions, follow by a summary of the findings. Overall, the chapter introduces the core tenets of the thesis and the logic of how the study unfolds from one chapter to another.

1.1 Problem statement: policy interventions encourage dependency instead of freedom

Rice farming is a major source of livelihood for millions of Thai smallholder farmers. In 2016, there were about 8 million registered rice farming households, of which about half were located in the northeast region of the country (DOAE, 2016). The Northeast or Isan region is home to the world-renowned Thai jasmine rice, where farming is concentrated on the Thung Kula Ronghai plateau. The majority of rice farmers are poor smallholders with an average household farm size of just under 3 hectares (Thailand's Office of Agricultural Economics, 2019). This suggests that positive changes, e.g., production efficiency and market participation, brought to farmers could improve livelihoods and reduce poverty in Thailand at a large scale.

Although the average farm-size is small, the farmer population is large, resulting in a large volume of total rice paddy production. Rice traders and exporters enjoy the benefits of economies of scale, as Thailand is among the world's biggest rice exporters. For example, in 2017 Thailand exported about 9.5 million tons of rice, which is valued around 4.3 billion USD (1.5 trillion baht) (Thai Rice Exporter Association, 2017). Such an industrial scale of production offers, however, few benefits to the farmers who mostly sell their produce at farm gate and mostly experience diseconomies of scale in production and marketing. The rice farmers themselves are among the poorest and most heavily indebted occupational groups

in Thailand. A total debt of about 88 billion USD (2.8 trillion baht as of 2017) was carried by about 3 million rice farm households (Thailand's National Statistical Office, 2017). This suggests that the farmers are ill-positioned in the rice value chain, creating a disconnect between the success of Thai rice exports and farmers livelihoods. If so, why do farmers still farm rice if it is not financially viable? Would not they be better off cropping other high value products? Although such an argument seems obvious, it is not as simple as it sounds. With limited resources and access to markets, farmers' choices are restricted.

To ease their financial hardship, Thai law classifies rice farmers in the tax waiver occupational category (Thailand's Department of Revenue, 2001). A series of rice policies has been put in place to mitigate farmers' deprivation and livelihood vulnerability. The primary economic tool has been price intervention that is used to boost growth and reduce poverty by most Thai governments. Arguably, the rice price policy has been also used as an electoral tactic to win the votes of millions of Thai farmers. Among other policies, a rice pledging scheme has also been a popular strategy implemented by many Thai governments. For example, the rice pledging scheme that guaranteed 15,000 Baht or about 500 USD per ton of rice paddy was believed to play a role for Ms Yingluck Shinawatra to win the 2011 election. After becoming the first Thai female Prime Minister, Shinawatra's government immediately implemented the scheme to fulfil its promise to the voters. However, the controversial policy was criticised by economists, law makers and rice communities. In 2017, the Supreme Court's Criminal Division for Holders of Political Positions found Shinawatra guilty of corruption, asserting that the policy was tantamount to a "dishonest dereliction of duty" in violation of the Criminal Code and the anti-corruption law (BangkokPost, 2018). In the end, such policy interventions have done little to alleviate the root causes of poverty among Thai rice farmers.

Interventions targeting the farmgate rice price and subsidies may not enhance farmers' economic opportunities and livelihoods because they often do not deal with factors encouraging dependency and the unfavourable position of farmers in

the overall value chain. There is often a gap between policy intervention and developing factors that would encourage independence among farmers through increased human capital and new capabilities (Noorbakhsh et al., 2001; Unger et al., 2011; Ali et al., 2018). In this context, capability means the skills and knowledge enabling farmers to stay innovative, resilient and competitive in the market. What is often missing from interventions is that they do not empower farmers to become less dependent on the government and financial institutions as well as rice traders. Improvements in the terms of trade could result from, for instance, reducing high transaction costs, improving agricultural infrastructure, or supporting farmers' organisations.

Some of the problems concern farming size and time. The farm size is often too small to farm rice profitably on an individual basis, yet farming would mean the risk of the change of environmental factors such as too much or too little rain. The time means that a six-months period yields famers' major annual income, while the rest of year may not be utilised effectively, for instance, to diversify the sources of income. Without fixing such fundamental problems, the smallholder rice farmers are easily locked in as cheap labour carrying considerable risks for low returns on rice paddy. The farmers are offered an access to microfinance through an agricultural bank and agricultural co-operatives, and the smallholder status also entitles them to receive agricultural subsidies. However, the often-deprived condition of farmers suggests that the use of such interventions has not been fully effective in solving the problems. This thesis argues that farmers' livelihood improvements can be developed in a more sustainable manner where farmers become more independent. Being independent, which Amartya Sen escribed as freedom, means the freedom to choose their business activities while possessing the ability to achieve their aims (e.g., profits) (Sen, 1997). This implies that there is a need for resources and capabilities that could enhance farm management and marketing skills, based on a new way of examining the rice value chain from a value system perspective (Porter, 1997; FAO, 2010; Miller and Jones, 2010). In short, farmers should have the capacity to make informed

decisions on how to improve their livelihoods, and a capacity to carry out those decisions.

The government is seen as an institution that leverages resources to facilitate development processes. This implies that the development process is shaped by the breadth and wealth of government administrative competence in leveraging and facilitating the process through its resource allocation plans and programmes. That is, the progress of development relies largely on the government's priorities, competencies and resources. Many countries in the world are agrarian-based societies with mixed economic systems (i.e. with elements of both being centrally planned and capitalist economies). In these systems the governments have a significant role in minimising societal risks and facilitating the creation of national wealth, while also facilitating the governance of economic relationships to ensure market efficiency where markets exist within productive institutional frameworks. These can include coercive measures, subsidies and interventions by the government. At the microeconomic level, approaches to economic development policy can be effectively implemented through collective actors such as farmers' organisations (Key and Runsten, 1999; McManus et al., 2012; Poole, 2017). Therefore, while the issues studied in this thesis may seem unique to Thailand's agricultural policy, the problem is essentially about the characteristics and type of policy development in a global context. As such, the findings concerning human development may be applied to other geographies and types of policies.

1.2 The quest for improved livelihoods through a capable farmers' organisation

The discussion around improved livelihoods often involves a range of perspectives, such as income (e.g., Barrett et al., 2001; Achterbosch et al., 2014), capitals (e.g., Sen, 1997; Bebbington, 1999), resources (e.g., Leach et al., 1998) and capabilities (e.g., Chambers and Conway,1991; Scoones, 1998). In particular, Chambers and Conway's synthesis (1991) lays a foundation for sustainable rural livelihoods and development pathways by bringing together the concepts of

capability, equality and sustainability, and by implying that improved capabilities can function to achieve sustainable livelihoods. Smallholder farmers face all sorts of problems that impede their livelihoods. Livelihood conditions concern how well farmers can manage or access assets or capital endowments in way that these facilitate positive livelihood outcomes (DFID, 2001). Problems in livelihood conditions affect farm production (e.g., land issues, natural disasters, lack of finance) and ability to trade (e.g., market access and business opportunities, meeting quality standards). With respect to these, smallholder farmers could often be better off through collective actions empowering them to, for instance, achieve economies of scale and to increase access to markets.

Better access to the market can enable farmers to be better off by managing the supply for farm production and trade facilitation for their farm produce, which tends to result in positive impacts on agrarian household income and incentivize more efficient farming. To this end, farmers' organisations are widely recognised as a form collective action of farmers (Pierre and Marie-Hélène, 2001; Hazell et al., 2007; Haggblade et al., 2010; Poole, 2017). Their advantages can include achieving the economies of scale, leveraging resources more effectively, expanding agricultural infrastructure and farming capability (ibid.). For instance, trade standards often involve a range of quality requirements and specifications that demanded by institutions and urban consumers. These can become barrier for farmers to enter the market for their products, for which the farmers' organisations can offer a solution in the pursuit of better livelihood.

Yet, farmers' organisations exist in most agrarian economies suggesting that organising alone does necessarily help enhance smallholder famers' condition and that the challenge lies in the process of building capable farmers' organisations. Throughout agricultural development history, many attempts to exploit the economic and social potential of collective action have been found wanting.

Farmers' working conditions change dynamically though evolving seasons, markets, and political interventions, whereas the availability of appropriate assets, capital and resources would enable farmers to deal as well as mitigate risks. Although the farmland is immobile, human capital and resources are not; by making capital and resources more readily available can generate more value from the farmland. The farmers organisation can play an important role in accumulating capitals and in helping to make heterogeneous resources available to smallholder farmers. As a collective, farmers' organisations have an aim to create value in the way that helps farmers to be better off as compared to trading individually.

Value creation involves the exchange of goods which almost always involves transaction costs. Williamson (1981) contended that transaction costs have an intrinsic link to the organisational structure, while North (1992) argues that institutions are key in the determination of transaction costs. This suggests that economic growth and development are often shaped by institutions and organisatons. Farmers' organisations in the current context are capable of facilitating lower transaction costs. For instance, farmers are likely to achieve the economies of scale and reduce transaction costs where they collectively trade through a capable farmers' organisation. Therefore, understanding the relationship between agricultural value chains, farmers' organisations, and transaction costs could help in mapping a pathway to more a sustainable livelihood.

A value chain, as the name suggests, is made of a series of activities that are connected by transactions. Each step involves value creation in different ways such as processing raw materials, labelling and branding, transportation, marketing and retailing (Porter, 1985). In general, transaction costs are understood as those costs associated with the act of exchanging ownership rights of economic assets (Coase, 1937; Demsetz, 1968; Williamson, 1981; North, 1987; North, 1994; Ellram, 1995; Whinston, 2001; Demirbag et al., 2007). According to Coase, factors associated with transaction costs include

information, negotiation, monitoring, coordination, and enforcement of contracts. All these factors can be obstacles to development as smallholder farmers tend to have individually limited access and capabilities related to them. This can exacerbate their transaction costs in farm production and makes understanding them crucial to policy formulation.

It is important to highlight that reducing transaction costs and lowering production costs are two different things. As Williamson (1979, 1986) argued, transaction costs are to be distinguished from production costs. A decision-maker can make a choice to use a firm structure or source from the market by comparing transaction costs with internal production costs. Thus, cost is the primary determinant of such a decision. In an agrarian context, internal production can cover economic activities organised by farmers' organisations. For example, the Thai government has been promoting low cost production, which means to many farmers switching input supply such as chemical fertilizer to organic fertilizer (e.g., manure). At the same time, some farmland requires nutrient regeneration that can be only achieved by the application of supplementary chemical fertilizer during a cropping season, whereas only using compost with insufficient nutrients results in low yields. Under such circumstances, the advocated low-cost production offers no cost advantage to farmers.

To mitigate the high cost of transacting by individual firms, Coase asserted the principal role of intermediary firms to reduce transaction costs. In the agribusiness context, intermediary firms can trade in the form of individual traders (i.e. arbitrageurs or middlemen), agricultural cooperatives, contract farm companies, and farmers enterprises. These suggest that the structure and the business model of a farmers' organisation has a direct impact on their value creation including the capacity to reduce transaction costs for the individual member farmers. However, Stockbridge et al. (2003) note that farmers' organisations may also result in transaction costs that are too high to be successful. Market imperfections and transaction costs may then influence farmers' decisions to settle into a new type of venture in order to access the

markets. To this end, Poole & Donovan (2014) discuss organization-building with the aim of facilitating the participation of smallholders in the value chain. Looking from the perspective of product development and organisation building, they identify the advantages of niche markets and building cooperative capacity as potential benefits of farmers' organisation (Poole & Donovan, 2014), which can help to find a way for farmer-based organisations to become more resilient and entrepreneurial.

1.3 Research question and contribution

This thesis studies farmers' organisations as a mean for capability building, mobilising resources and creating economic opportunities for smallholder farmers in Thailand. A farmers' organisation is considered as a common ground where farmers can collectively learn, share and trade, that is, perform activities which are important building blocks for the development process. Indeed, Sen (1999) suggests that when an individual has achieved what can be termed a 'good livelihood' he or she usually has the ability to choose. To achieve better livelihoods, a typical farmers' organisation may need to upgrade itself by becoming a capable farmers' organisation. The meaning of 'capable' is that the organisation is in a position to access and mobilise resources and build capabilities in the way that empower farmers to deal with shocks and adapt to change. Such an organisation is a conduit bringing together a range of actors and coordinating economic activities collectively to achieve shared prosperity. The perspective seeks to explain how individual farmers can enhance their livelihood conditions by working together. As an organisation, farmers can gain access to resources and improve capability development in a way that is often practically impossible for individual farmers; the organisation can then serve as a skills development centre and a pool of heterogeneous resources, In the Thai context, this means that a farmer organisation can become the functional basis for rice value chain development. Understanding the development process of such organisations can advance the knowledge of the "what" and the "how" that encompass the road towards improved farmers' livelihoods.

The aim of the thesis is to identify, explore and describe the patterns, mechanisms and factors through which farmers' organisations aim to improve farmers' livelihoods. In agricultural development literature, there is limited attention on the link between the capability of farmers' organisations and value chain development. This thesis adds to the existing literature and knowledge base. The three empirical cases are purposefully selected to offer a better understanding of how and in what way farmers' organisations develop resources and capabilities to improve livelihoods. To understand this, the thesis asks the key research question: "How does farmers' organisation development improve livelihoods?" Empirically, the question emerges from the current state of the Thai farmers' deprivation – despite many government interventions and subsidies. The argument then builds on the existing body of literature on farmers' organisations, livelihoods and agricultural value chain as further discussed in Chapter 2: Literature Review.

This analysis is essential, as success of a farmers' organisation in Thailand is a rare achievement. The argument and the multidisciplinary discussion of the findings make a significant contribution to the current body of research concerning farmers' organisations, livelihoods and agricultural value chains. As indicated earlier, a farmers' organisation is a living body with a certain dynamic. The empirical cases have been purposefully selected so that they can offer an opportunity to explore and develop new knowledge through the examination of the dynamics of existing farmers' organisations. To this end, the main analytical interest lies in a farmers' organisation, its models, behaviour, and culture, that is, factors that form an organisation. Furthermore, as the argument focuses on the development of novel organisational forms among farmers, we look at the direction, attributes, and characteristics of organisations that have provided the foundation for changes that could improve farmers' livelihoods. The way organisations are formed influences their capabilities, efficiency and resilience. That is to say, the way farmers design their organisations influences the capabilities and effectiveness of their collective actions. In the context of

agricultural development, the setting for organising is somewhat different from typical business enterprises but nevertheless draws upon similar conceptual foundations.

I find that a capable farmers' organisation can develop in order to achieve the following: i) rice value chain upgrading as a process that reduces transaction costs; and ii) leveraging resources and capabilities building to improve farmers' livelihood, reflecting their freedom and security. The following are fundamental outcomes of the study:

- Farmers' organisations can be instrumental as a means to improve farmers' livelihoods. This can occur, for instance, when an organisational structure and behaviour helps farmers to develop their farm capabilities and to gain access to resources and different types of capital.
- Improving coordination and linkages between immediate actors such as farmers (rice paddy producers) and millers (rice paddy processors) can offer a way to improve farm performance. It is through improving value chain coordination and linkages that transaction costs can be managed and reduced and hence improve farm performance.
- Farmers' organisations as a means to improved livelihoods requires that a farmers' organisation becomes a capable organisation so that it can facilitate resourcing, building capabilities and allocating capitals.
- Farmers organisations, when functioning effectively, can improve rice value chains by i) achieving economies of scale; ii) attracting/accumulating heterogeneous resources; iii) leveraging power such as securing business loans and the associated business advice; and iv) enhancing human capital development.
- Farmers' organisations can become a common arena where resources and capitals become available more readily. Consequently, assets and capital accumulation and capability development can emerge to offer multiple benefits from one farmer to another.

The development literature (further discussed in chapter 2) points to a link between human capital, capabilities, and economic prosperity (Chambers and Conway,1991; Scoones, 1998; DFID, 2001; Stockbridge et al., 2003; Poole et al., 2016). From this perspective, the current study seeks to show that a farmers' organisation can actively enable shared capabilities to be transformed into value (utility). The development process of a farmers' organisation then concerns the interactions between farmers and other value chain actors toward more effective positioning in the business environment. The outcomes of such a process will determine the shared prosperity of actors in the rice value chain. In the Thai rice context, better understanding of this process could promote inclusive agribusiness leading to sustainable rice production, particularly among smallholder farmers. From the resource-based perspective, key actors, i.e. farmers and millers, can benefit by leveraging resources and capabilities. This could yield more a competitive advantage to farmers and thus make them more equitable partners in the value chain. To this end, collective organisation could strengthen the vulnerable actors while minimising business risks for the resourceful actors, which would benefit the public sector by reducing farmers' indebtedness and thus the need for publicly financed subsidies to agriculture sector.

This study employs qualitative research methods and discusses improved farmers' livelihoods as a result of a capable farmers' organisation and value chain development. Aa agricultural value chain framework is used as a theoretical basis. The findings and research outcomes can serve as building blocks toward, for instance, rice policy formation and implementation in Thailand and similar agricultural economies. Overall, the study contributes towards improving farmers' livelihoods by making a farmers' organisation a leveraging resource in empowering farmers.

1.4 Originality and contribution to the literature

This study's rice value chain framework builds on key concepts of agricultural value chain analysis focusing on improving farmers' livelihoods. Based on the assumption that this can be achieved by upgrading the rice value chain and building a capable farmers' organisation.

Finding reveals that value chain governance's dynamic communicates how value chain coordination and interaction affect or improve information symmetry. For example, a farmers' organisation with trade and milling facilities is likely to offer more transparent market information to farmer members. By contrast, millers are less likely to be more open about market information to farmers, who are not part of their business entity. Kaplinsky and Morris (2000) point out that power asymmetry is central to value chain governance. This is because the uneven distribution of information, capacities, and resources affect upgrading value chain activities. This research found that an organisational model arrangement directly impacts value chain governance, the ability to upgrade, and the efficiency of distributional outcomes. All these lead to rice value chain development.

On building a capable farmers' organisation, the discussion puts forward the pattern observed from the three farmers' organisations as a process to increase capability. It can also serve the purpose of replication. The pattern involves the precursor factors that lay the foundation for the determinants of organisational development. These precursor factors are commitment and trust, organisational models and behaviours, shared value, and capacity development and resource mobilisation. Consequently, the process and outcomes of a capable farmers' organisation influenced by such precursors are organisational routines, repositioning farmers in the value chain, the reconfiguration of value chain finance, and value chain upgrading. The significance of each factor may vary, but the firm foundation depends on the combination of precursors and processes.

The study has shown that a buyer-driven farmers' organisation model (i.e., the BSCM) can offer an excellent alternative model of interdependency for smallholder farmers instead of setting up farmers-led organisations without business experience and investment. To achieve these, farmers' organisations would need to extend their network of resources and collaboration. This again emphasises the role of resource leveraging and organisational partnership in building a capable farmers' organisation. It emphasises that relationships and chain coordination are crucial to integrating rice production and processing and organisation capability-building. This understanding is essential because, traditionally, farmers' organisations are mostly formed by independent farmer-led groups. Partnering with the business entity can enable farmers to gain market participation and narrow information asymmetry, which generally favours traders.

This research has identified that value-added was not only derived from price build-up from stage to stage but involve how well value chain governance coordinate between value activities and relationship between value actors. This emphasise the importance of both vertical (i.e., explaining how a product comes into existence and then gets traded or transferred downstream the value chain) and horizontal linkages (i.e., the relationships between actors at the same level of the chain). This implies that social capital development has impacts on value chain governance, the wider networking, yet effective coordination is likely to impact farmers in a more meaningful and sustainable way.

Chapter 2 Literature Review

This thesis aims at contributing to a knowledge gap in agricultural development with a particular focus on farmers' livelihood improvement. It builds on key literature in the theme of i) farmers' livelihood, capability and resources; ii) farmers' organisations; and iii) agricultural value chains. The research question and, more generally, the argument introduced in the previous chapter points to relevant streams of research within organisational theory that will be discussed in this chapter. It lays the foundation of this thesis's conceptual framework.

2.1 Farmers' livelihood, capability and resources

If poverty were seen as a disease, farmers would need a capable immune system to enable them fight against factors leading to poverty. Chambers and Conway (1991), Ellis (1998), Scoone (1998), Bebbington (1999), Carney (1999), Farrington et al. (1999), Sen (1999), DFID (2001), Poole and Donovan (2014) asserted that specific assets, capital and capabilities are instrumental for smallholder farmers to deal with various shocks, trends and seasonality that threaten their livelihoods. From this viewpoint, there are certain capabilities and resources that can serve as conduits to achieve sustainable rural livelihood with the ability to adapt to change. The state of livelihood should depend more on individual farmers and their respective farmers organisations, and be less at the mercy of external factors. To this end, certain capabilities and resources are key to enable farmers to achieve sustainable and independent livelihood. Chambers and Conway (1991) laid a foundation for sustainable rural livelihood in terms of capabilities, equality and sustainability. These elements could function as a mean as well as an outcome. The authors explain:

> "A livelihood comprises people, their capabilities and their means of living, including food, income and assets. Tangible assets are resources and stores, and intangible assets are claims and access. A livelihood is environmentally sustainable when it maintains or enhances the local and global assets on which livelihoods depends, and has net beneficial effects on other livelihoods. A livelihood is socially sustainable which can cope with and recover from stress and shocks, and provide for future generations"
>
> Chambers and Conway,1991: p.5

In general, individual smallholder farmers often possess limited tangible and intangible assets that enable them to trade profitably. For instance, Saqib et al. (2018) studied a group of subsistence farmers in flood-prone area of Pakistan and found that socio-economic factors, such as level of education and landholding farm size, determined the ability for subsistence farmers' access to credit. Stockbridge et al. (2003) pointed out that services provided by farmers' organisations such as access to services and resources enable better livelihoods for rural producers, otherwise limited at individual level. This suggests that sustainable livelihoods could be achieved where a farmers' organisation is employed as a mean to develop collective assets and capabilities, resulting in a process that grants farmers the ability to manage vulnerability.

2.1.1 Improving basic capacity

Against this background, it is sometimes paradoxical that poverty alleviation strategies that intend to lift the vulnerable people out of poverty might be also a trap them into deepening deprivation. For example, the Thailand's rice pledge scheme that promised to double the market price for typical rice paddy has led farmers to invest more on farm hoping to benefit from the surge of market prices. The controversial strategy ended up, however, causing damage to the industry for years as a result of making the price of Thai rice uncompetitive in the international markets, which has consequently caused deterioration to the financial situation of many Thai farmers. Such outcome had highlighted that market intervention policy may not be fully effective without farmers' capacity.

This also suggests that using a narrow perspective such as pricing alone to analyse agricultural value chains can be misleading. Also, agricultural production is not controllable in a manner similar to manufacturing, as there are many uncontrollable factors such as weather and diseases, in addition to changing markets and regulation, and government interventions. These factors have one thing in common – uncontrollability from the perspective of a smallholder farmer that leads to dependency. This suggests that improving farmer's livelihood' should involve minimising the impact from, and coping with, such uncontrollable factors and thus enable farmers to become more independent. As the UN Economic and Social Council (1998) has declared in the Statement of commitment for action to eradicate poverty, the consequences of constrained choice and opportunity are central to development:

> "[F]undamentally, poverty is a denial of choices and opportunities, it is a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means not having enough to feed and clothe a family, not having a school or a clinic to go to, not having the land on which to grow one's food or a job to earn one's living, nor having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to violence and it often implies living on marginal and fragile environments, not having access to clean water and sanitation."
>
> United Nations, 1998

The statement above concerns human development and infrastructure development as processes to build basic capacity. Amartya Sen's concept of development as freedom (1999), which is central in his works on human development, and helps to elaborate the above ideas further. According to Sen, human development involves "the accumulation of human capital and the expansion of human capability" (Sen, 1997:1959). These two perspectives refer to actual abilities that people can achieve and acquire, which implies that a development process that offers access and opportunity to build capabilities in human development can lead to – or at least are a prerequisite for - poverty reduction and improved livelihood. Without these developmental pathways, other

market interventions, such as credit and taxation, are less likely to be effective in lifting poverty in long-term.

2.1.2 Livelihood assets

Scoones (1998) offers a useful framework for evaluating sustainable rural livelihoods published as a working paper on "Sustainable Rural Livelihood – A Framework for Analysis". The paper formed a foundation for the DFID's sustainable livelihoods guidance sheets (DFID, 1999). The DFID's guidance sheets, as the name suggests, offer a practical direction on how rural livelihood can be evaluated. These are i) the vulnerability context, ii) different capitals, and iii) a livelihood strategies checklist. The framework highlights key elements of sustainable livelihoods, the vulnerability context and livelihood assets in particular. These two are crucial because understanding the vulnerability context helps to analyse vulnerability factors that come with market trends, shocks and inevitable seasonality in agricultural production. At the same time, livelihood assets help people to cope with the consequences that occur due to different vulnerability factors. Figure 2.1 shows the asset pentagon at the centre of the DFID's livelihoods framework. It highlights how various assets, or human, natural, financial, physical and social capitals improve livelihoods together when people gain better access to these assets.

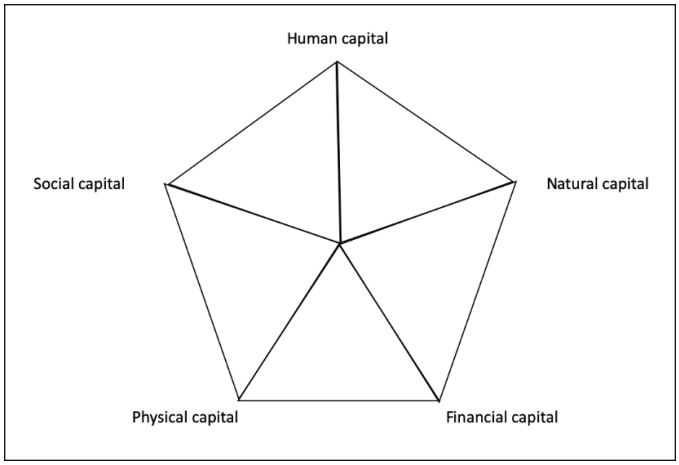

Figure 2. 1 The asset pentagon
Source: DFID, 2001

The livelihoods framework, the asset and capabilities concepts have been widely used in research, particularly in agrarian studies. Many scholars, for example, Shaffer (2001), Poole (2017) and Manlosa et al. (2019) have highlighted the importance of social and cultural assets for agricultural development. Shaffer (2001) defines vulnerability as a risk, but not necessarily poverty as such – it is "the likelihood of falling into poverty" (p. 7). Vulnerability is a risk factor that can cause physiological (i.e. income and basic human needs), social and basic human rights deprivation (ibid.). He then characterises seven forms of capital as causal variables that, if changed positively, can help improve livelihoods. These are economic, human, social, political, cultural, coercive and natural capitals. For example, Poole (2017) put forward the livelihood assets hexagon framework for agricultural development, as shown in figure 2.2. Some of the features of social assets include collective organisation, participation in information society, and access to public services. It also considers community gender, intergeneration as equity which could form the basis of value generation. The most striking feature is that of such livelihood assets components can build on existing possessions, leading to further development. Also, Manlosa et al. (2019) contend that there are associations between capitals and livelihoods. The latter suggest that farm diversification, i.e., a combination of food crops and cash crops, is crucial for improving livelihoods. All in all, many scholars see capitals in the same way as factors enabling people to improve their livelihoods.

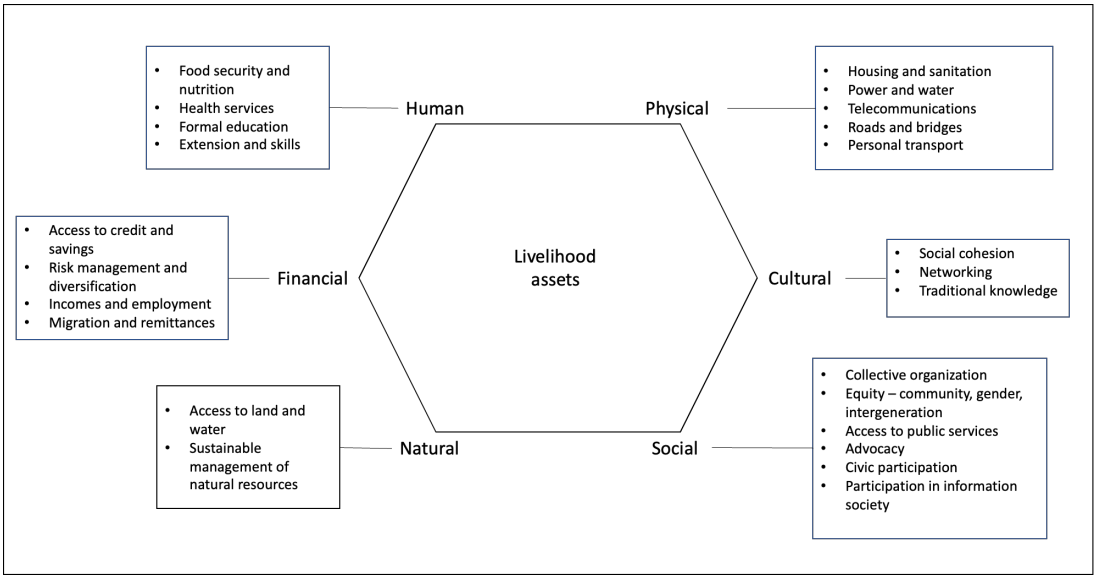

Figure 2. 2 Livelihoods assets hexagon framework for agricultural development
Source: Poole, 2017

Capitals in some way serve as a driving force of social change and in this sense the development literature refers to capitals broadly as resources or assets (terms used interchangeably) which may be utilised in the pursuit of social betterment and objectives such as rural development and farmers' livelihood (Chambers and Conway,1991; Scoones, 1998; DFID, 2001; Stockbridge et al., 2003; Poole et al., 2016).

2.1.3 Above poverty line, but below good livelihood

However, the concept of livelihood is hard to measure and the conditions can be often more complex than those simply captured by a poverty line. For example, Thailand's national poverty line is THB 1,586 (USD 48) per person per month, which is higher than the international standard of USD 1 per person per day (NESDB, 2017). At the same time, rice farmers in Thailand suffer from significant financial problems that go unnoticed if perceived narrowly from the perspective of economic poverty. Particularly, they have more access to various assets such as financial, natural and physical capitals. To this end, Alkire (2007) argue that using income as an indicator of poverty is an inadequate measure of human well-being. She also discusses the contradiction between earning more income but still having little access to health and education facilities. The author

argues that people who have access to health and education facilities can sometimes be better off than those who earn higher incomes, at least in the long run.

Farmers' livelihoods are particularly at risk when living conditions deteriorate rapidly. For example, an unmanageable debt (or poverty in this context) compromises the ability to interact with various parties not only for financial reasons but also due to the sense of shame or guilt for one's situation (Alkine, 2007; Reyles, 2007). Such a psychological obstacle can thus hinder farmers' participation and learning new skills, thus limiting farmers' opportunities to build human and social capitals over time that would help to improve livelihood. According to Coleman (1988, p. S96) social capital is a resource for a person's action: "a person's actions are shaped, redirected, constrained by the social context; norms, interpersonal trust, social networks, and social organization are important in the functioning not only of the society but also of the economy". By contrast, human capital can be considered a resource for a person's capabilities and "is created by changes in persons that bring about skills and capabilities that make them able to act in new ways" (Coleman, 1988, p, S100). This suggests that creating an organisation can serve as an engine of change enabling the creation of human capital and social capital, since an organisation can achieve much higher resource heterogeneity than individuals on average. Organisations (e.g., companies, farmers' organisations) with heterogeneous resources and capabilities can better compete in the marketplace – the more and better resources, the more likely they are to earn economic rents and be able to compete (Peteraf, 1993). By contrast, as a result of the lack of learning, new practices and ideas are often inaccessible to individual farmers, resulting in a limited chance to improve, for instance, their debt condition.

2.1.4 Means to improved livelihoods of Thai rice farmers: Organisations, resources and capabilities

Achieving and sustaining competitive advantage is the enigma of strategic management discipline (Porter, 1985; Barney, 1991; Peteraf, 1993; Teece et al., 1997; Grant, 2001) as successful businesses are driven by effective strategies. Considering the intrinsic link between value chain approach and competitive advantage demonstrated by strategy scholars, this literature review has attempted to understand how such connections can be applied to advancing poverty reduction strategy in the development studies. The depth and wealth of knowledge in strategic management can lend itself to analysing livelihood improvement in the context of Thai rice's value chains. Despite the focus of this study being on farmers' livelihoods, the organisation of the rice value chain obviously involves a variety of stakeholders including suppliers, processors, and traders. In particular, the Thai government is a significant stakeholder (an external but significant actor to rice value chains) in the Thai jasmine rice value chains. Actors act to their own business interests. This implies that with more stakeholders involved in the value chains, the more risks could be brought into the business environment. Therefore, the more vulnerable and resilient actors are well equipped, the more likely they thrive and survive in the business. As Grant (2001, p. 114) pointed out "the match an organization makes between its internal resources and skills […] and the opportunities and risks created by its external environment" is critical to its survival. Resources and capabilities are instrumental enabling actors to thrive and the businesses to stay competitive in the markets.

The availability of resources and capabilities can involve possession, accessibility and mobilisation linking to organisation performance (Hall, 1993; Bebbington, 1999; Grant, 2001; Ravichandran & Lertwongsatien, 2005). This is particularly relevant when considering rice market organisations from a value chain perspective. Taking advantage of how a firm's value chain interacts and is embedded in the overall value system, the perspective can offer opportunities for

actors and organisations to extend their resources and capabilities by partnering with new parties. Resources and capabilities can be used as a perspective to understand the process of institutional change. For example, Battilana et al. (2009) defined institutional entrepreneurs as actors who leverage resources to create new or transform existing institutions (DiMaggio,1988; Garud, Hardy, & Maquire, 2007; Maquire, Hardy & Lawrence, 2004). DiMaggio (1988) termed such actors as institutional entrepreneurs whose actions contribute to transforming existing institutions or creating new ones. They can be organizations or groups of organizations (Garud, Jain, & Kumaraswamy, 2002; Greenwood, Suddaby, & Hinings, 2002), or individuals or groups of individuals (Fligstein, 1997; Maquire et al., 2004) (p.68). The agricultural value chain approach can be a meaningful tool when it offers more insight into how resources can be managed and mobilised to strengthen actors' capabilities such as smallholder farmers and their respective associations. Linking farmers' livelihood, resources and capabilities together will help frame a conceptual framework for the further development of rice value chains.

2.2 Literature on Farmers' Organisations

The term 'organisation' has been defined by scholars from various disciplines and practices approaching organisations from many different perspectives. These represent different perspectives into how organisations are formed and developed, and in what ways they can improve and change their capabilities to become resilient and adapt to change and competition. It is worth noting that the term organisation may sometimes subconsciously result in narrowly thinking about the phenomenon in a business studies context. Thus, while the aim of this study is to contribute to knowledge related to organising, it is important to note that development studies is the key relevant literature and the target for the production of knowledge and contribution of this study.

Researchers have considered for decades how the development process can influence organisations to evolve and transform in their design, arrangement and innovation. For instance, Hayek (1945) highlights an important role of organisations in achieving efficient economic outcomes by coordinating and integrating dispersed knowledge. Gartner (1989) asserts that the creation of organisations is a factor that separates entrepreneurship from other disciplines. Kachule and Poole (2005) analysed organisational and management issues of 12 farmers' organizations in Malawi. It critically assessed management issues in relation to market participation and human and social capital empowerment. Some critical features enabling coordination and empowering farmers included careful design of governance systems, capacity building and relationship with commercial partners. Jones (2013) describes organisations beyond economic value creation by looking at them from a service perspective. He described an organisation as "…a tool people use to coordinate their actions to obtain something they desire or value – that is, to achieve their goals (p.30)." According to Jones (2013), an organisation can be understood as a value-based engagement of satisfying an interest of an organisation, highlighting that new organisations are created and old are transformed when existing organisations cannot satisfy the needs or organisational members and owners.

The above-mentioned development process will be referred to as organisational development throughout this study. The term ‘organisational development’ in this study refers to the change process of a farmers’ organisation or a partnership between groups with the aim to conduct collective actions, which concern characteristics, resources, capabilities and attributes of organisations being subject to the study. As this thesis attempts to look into the characteristics and mechanisms that initiate and facilitate value creation through organisational development, it is important to understand what defines organisational development and how it is used in this study. Beckhard (1969) define organisational development as, “[..] an effort planned, organization-wide, and managed from the top, to increase organization effectiveness and health through planned interventions in the organization's 'processes,' using behavioural-science knowledge” (p.9). The description offers overall answers to how and what to expect if such a developmental process goes as planned, in relation to organisational goals. Essentially, the definition suggests a pattern of organisational development that can proceed as follow:

effective plan ⇒ management from top-down ⇒ interventions ⇒ expected outcome

Tailor-made development programmes are often required to meet the specific nature of an organisation. This highlights that human and capital resources are significant elements that each stage of the process requires. It is noticeable that organisational development is an objective-based approach aiming at introducing change processes within an organisation. It can be instrumental and complement the use of results-based approaches widely used by development agencies such the UN agencies, OECD and the World Bank.

This study approaches farmers’ livelihoods from the perspective of resources, capabilities and competitiveness granted by the ways in which farmers organise their production and marketing. It assumes that the interventions through the development process of farmers’ organisations can enable farmers to mobilise resources and build relevant capabilities. An organisational perspective thus can

offer a significant contribution to knowledge towards improving farmers' livelihoods by drawing upon rich literature and multidisciplinary knowledge. Relevant literature to understanding the development process of farmers' organisations have been published by various disciplines including development studies (e.g., Miller & Jones, 2011; Poole & Donovan, 2014), economics (e.g., Coase, 1937; North, 1992), strategic management (e.g., Peteraf, 1993; Porter, 1998), organisational studies (e.g., Mosakowski, 1998; Handy, 1999), to name but a few. A particular focus on farmers' organisations can be found in development studies, rural development and sociology of development. However, to get a wider perspective of how organisations can be developed, the literature review is not limited to the context of farmers' organisations.

2.2.1 Farmers' organisations

To gain access to financial capital, taking a loan is a common resource among smallholder farmers for which land is often used as a collateral. If farmers cannot pay back their loans, this may result to land dispossession, making farmers become landless farm workers. Having to farm on a rental farmland makes it often uneconomic, for instance, to switch from chemical-based to organic farming, as this involves long-term investment of time and money. This suggests that there are flaws in current production systems and how markets work for the farmers. Consequently, a change in current production and market systems can lead to a way to improve farmers' livelihoods, which highlights the importance of farmers' entrepreneurial skills and capabilities as well as some financial literacy. Working collectively as a farmers' organisation can offer an opportunity to achieve economies of scale and farm skills development, suggesting that farmers could be better off at improving livelihoods when working collectively as groups or as an organisation. In Thailand, for example, agricultural development policies put emphasis on financing farmers' organisations, as shown in table 2.1. Despite government financial support and intervention, successful farmers' organisations are considered a rare achievement in Thailand. This means that learning from the few successful organisations that have survived and thrive

could offer hints on what are the determinants of successful organisational arrangement for farmers.

Table 2. 1 Integrated rice policy and subsidy measure

Year/Projects	Cash subsidy for farmers	Soft loan for farmers, farmers organisations and millers	Restructuring projects	Other integrated rice projects
2014				
Number of projects	3	4	3	N/A
Loan from BAAC (Million baht)	0	196,370	0	N/A
Fiscal budget (Million baht)	42,376	3,710	7,124	N/A
2015				
Number of projects	4	6	7	N/A
Loan from BAAC (Million baht)	0	38,063	0	N/A
Fiscal budget (Million baht)	48,996	11,286	37,539	N/A
2016				
Number of projects	4	5	11	1
Loan from BAAC (Million baht)	0	58,200	0	0
Fiscal budget (Million baht)	50,611	43,475	147,623	5,326
2017				
Number of projects	3	3	10	1
Loan from BAAC (Million baht)	19,400	80,025	0	2,047
Fiscal budget (Million baht)	4,441	2,475	22,743	83
2018				
Number of projects	3	3	14	2
Loan from BAAC (Million baht)	55,991	56,680	0	1,420
Fiscal budget (Million baht)	5,573	1,753	9,493	1,029

Source: Paopongsakorn (2019)

More generally, Miller and Jones (2011) discuss four types of organisational models of smallholder production. These are: producer-driven (association); buyer-driven; facilitator-driven; and integrated model, as shown in the table below. Understanding the role of farmers' organisations can enable more effective implementation. For example, in a business environment where traders are predominant, encouraging trade partnership may offer a channel for farmers participating into markets. However, producer-driven farmers' organisation

model is likely to benefit small farmers where their produces are on high demand and able to benefit from economy of scale. This is conceptual, yet practical as discussed by Gereffi (1999), a comparison between producer and buyer driven chains exhibit in table 2.3.

Table 2. 2 Typical organisational models of smallholder production

Model	Driver of organisation	Rationale
Producer-driven (association)	• Small-scale producers, especially when formed into groups such as associations or cooperatives • Large scale farmers	• Access to new markets • Obtain higher market price • Stabilize and secure market position
Buyer-driven	• Processors • Exporters • Retailers • Traders, wholesalers and other traditional market actors	• Assure supply • Increase supply volumes • Supply more discerning customers, and market niches and interests
Facilitator-driven	• NGOs and other support agencies • National and local governments	• 'Make markets work for the poor' • Regional and local development
Integrated	• Lead firms • Supermarkets • Multi-national corporations	• New and higher value markets • Lower prices for good quality • Market monopolies

Source: Miller & Jones, 2011 (p.28)

The recognition that there are different types of value chains is particularly relevant to this research that aims to improving farmers' organisations and farmers' livelihoods. Gereffi (1999) and Kaplinsky and Morris (2000) highlight two different types of value chains as producer-driven and buyer-driven value chains. Gereffi (1999) defines buyer and producer driven value chains as follows:

"Producer-driven commodity chains are those in which large, usually transnational, manufacturers play the central roles in coordinating production networks (including their backward and forward linkages). This is characteristic of capital and technology intensive industries such as automobiles, aircraft, computers, semiconductors, and heavy machinery."
"Buyer-driven commodity chains refer to those industries in which large retailers, marketers, and branded manufacturers play the pivotal roles in setting up decentralized production networks in a variety of exporting countries, typically located in the third world. This pattern of trade-led industrialization has become common in labor-intensive, consumer goods industries such as garments, footwear, toys, housewares, consumer electronics, and a variety of handicrafts. Production is generally carried out by tiered networks of third world contractors that make finished goods for foreign buyers. The specifications are supplied by the large retailers or marketers that order that goods."
Gereffi, 1999: p.1

Table 2. 3 Producer and buyer driven chains compared

Factors	**Producer-driven commodity chains**	**Buyer-driven commodity chains**
Drivers of global commodity chains	Industrial capital	Commercial capital
Core competencies	Research and development, production	Design, marketing
Barrier to entry	Economies of scale	Economies of scope
Economic sectors	Consumer durables Intermediate goods Capital goods	Consumer non-durables
Typical industries	Automobiles, computers, aircraft	Apparel, footwear, toys
Ownership of manufacturing firms	Transnational firms	Local firms, predominantly in developing countries
Main network links	Investment-based	Trade-based
Predominant network structure	Vertical	Horizontal

Source: Gereffi, 1999

2.2.1 How does an organisation create value?

The creation of value is the ultimate aim of an organisation, but how an organisation creates value is a complex question and relates to setting and the boundaries of the organisation. Value creation involves the exchange of goods which virtually always involves transaction costs. In general, transaction costs are understood as those costs associated with the act of exchanging ownership rights of economic assets (Coase, 1937; Demsetz, 1968; Williamson, 1981; North, 1987; North, 1994; Ellram, 1995; Whinston, 2001; Demirbag et al., 2007). Coase (1937) introduced the concept of transaction costs in The Nature of the Firm, although he used the term 'marketing costs'. According to Coase, factors associated with transaction costs include information, negotiation, monitoring, coordination, and enforcement of contracts. To mitigate the high cost of transacting by individual firms, Coase asserted the principal role of intermediary firms is to reduce these costs. Williamson (1981) contend that transaction cost economics has an intrinsic link to the study of organisations and regards "the transaction cost as the basic unit of analysis" (p. 548). In the agribusiness context, intermediary firms can trade in the form of individual traders (i.e., arbitrageurs or middlemen), agricultural cooperatives, contract farm companies, and farmers' enterprises. This suggests that the nature of a farmers' organisation (or a firm) has a direct impact on their value creation.

Value creation concerns economic organisation. In the marketplace, price is a means to coordinate value create by organising economic activities. Generally, information about market is imperfect. Consumers, or buyers, make unjustified choice due to the lack of information (Nelson, 1970). Hayek (1945) asserted that the price system can be instrumental to communicate market information, for example, signalling changes in demand and supply. Wolinsky (1983) discussed that prices served as a quality signal, the higher price signal higher quality to group of consumers of whom willing to pay. In the context of agriculture, the low supply of agricultural produce can cause a seasonal rise of the market price, which consumers may, at least partially, perceive to be related to the change of

supply. At the same time, the change in the relationship of price and supply can be caused by natural disasters, management of stocks of goods, changes in product quality and, for instance, newly available information. Such factors are typically beyond the control of small producers on the market. This is where value chain development can support more successful market participation by enabling smallholder farmers to enter markets as organisations. Creating a new model or structure of farmers' organisations can potentially offer an alternative way to reach out to the markets instead of serving intermediary middlemen. The re-allocation of capital and resources could help create a business ecosystem that benefits a farmers' organisation itself. Gathering as organisations can allow individuals to seize market opportunities from actual demand in their business environment. In addition, collective actions such as agricultural cooperatives can employ savings and investment as a means for wealth creation. Farmers' organisations can be instrumental to help individuals to benefit from savings and investments (Stockbridge et al., 2003; Adeyemo and Bamire,2005).

In rural agriculture markets in Thailand, arbitrageurs or middlemen facilitate the rice value chain to become more efficient by linking smallholder farmers and millers. Middlemen offer services to help individual farmers to trade with millers more easily and thus, in principle, reducing the cost of transacting. Services can involve, for instance, transportation and negotiating farm-gate price guarantees. However, in the situation where farmers have limited alternative choices to trade, this can also result in high transaction costs being imposed on farmers as a premium to facilitate trade. To counter such a situation, some farmers have self-organised as a farmers' organisation, where possible, to reduce transaction costs by trading through their own enterprise. However, founding a farmers' organisation is similar to setting up a company – it is a challenging task for those with limited business experience. As a result, many farmers' organisations have not been able to resolve issues of transaction costs and trade facilitation (Poole and de Frece, 2010; Poole, 2017).

Transaction costs can have a sort of domino effect on farmers' livelihoods. High transaction costs incurred by farmers result in low profit margins as small farm-sizes do not easily support economies of scale. Therefore, this can affect small producers in a way that causes production costs to be too high to farm profitably, whereas the trade environment can influence the way farmers respond to such a situation. For example, farmers may end up borrowing from multiple lenders, delay debt payback and be reluctant to invest in improving farm activities (Paopongsakorn, 2019). All these can contribute to debt accumulation that eventually becomes difficult to cope with. Basically, farmers often end up using loans as a source of cashflow. Such a situation is not new among smallholder farmers with inadequate resources to create superior products and limited market negotiation power. This suggests that improving farmers' livelihood can be realised through the association with farmers' organisations that help to reduce transaction costs, and that enhancing farm production performance would require effective use of finance together with capability development.

A trend towards high transaction costs can also attract new actors who see economic opportunities through increasing the efficiencies in the way the market is currently organised. In some cases, such new players may bring in required facilities that are scarce among farmers due to the lack of capital. For example, the Thailand's Kubota company as a new entrant used farmers' organisations as a launchpad to reach out to smallholder farmers. The lack of credit makes it difficult to lease farm machines on an individual basis, whereas leasing through farmers' organisations, the Kubota's farm machines boost farm productivity by providing more effective farming technology (SKL, 2019). This highlights a trade alliance between farmers' organisations and agricultural supply firms in a way that could benefit farmers, who otherwise may not have similar access to an important resource on an individual basis. Such an organisation may create value not only by maximising (or at least improving) profit margins but also by increasing human capital in individual farmers.

2.2.3 Entrepreneurship and resources

Several scholars have emphasised the connection between organisation, entrepreneurship and resources. For example, Gartner (1989) simply defines entrepreneurship as "the creation of organizations" (p. 47) and further describes that "…entrepreneurs create organizations, while non-entrepreneurs do not" (p. 47). Creating organizations or new ventures requires individuals to perform the role of an entrepreneur involving the management of financial, legal, marketing and technical aspects of a new firm or other type of productive arrangement (Casson, 1982; Gartner, 1989; Mosakowski,1998; Jones, 2013; Battilana et al., 2009). Jarillo (1989, p. 135) points out that the essence of entrepreneurship "is in the ability and willingness to use external resources". This is particularly important in circumstances where mobilising the use of external resources can reduce transaction costs and increase an organisation's production capacity. Jones (2013, p. 3) describes: "entrepreneurship is the term used to describe the process by which people recognize opportunities to satisfy needs and then gather and use resources to meet those needs". It is notable that scholars distinguish between entrepreneurs and entrepreneurial resources. For example, Casson (1982, p. 23) defines an entrepreneur as "someone who specializes in taking judgemental decisions about the coordination of scarce resources". The author (p. 23) further explains that the someone "is a person, not a team, or a committee, or an organization". Mosakowski (1998) asserts that entrepreneurial resources can affect a firm's efficient organisation. These entrepreneurial resources can be found at an individual level acquired by one or a few individuals as well as at a team level acquired by a team of individuals. Despite the different views between organisation and entrepreneurship in terms of individual and collective levels, a common theme across the entrepreneurial perspective is the ability to mobilise resources to achieve the interests of an organisation (or a firm). This means a successful organisation is likely to be formed by an entrepreneur who acquires entrepreneurial skills and is able to mobilise entrepreneurial resources.

2.2.4 Learning organisation

A learning organisation has become a characteristic of organisations trying to evolve in order to maintain performance and compete with business rivals (Korten, 1980; Kachule and Poole, 2005; Gavin et.al, 2008). As this thesis concerns farmers and rural development, an organisation meaning leans towards such themes. Korten (1980) pinpointed contradictions in foreign assistance programming, driven by political and bureaucratic imperatives. Such circumstances were still relevant, despite old publication, government may face similar traps on policy implementation. Some of Korten's critics included the nature of poverty-focus rural development projects were small, slow to implement, difficult to monitor and simple. While donors preferred projects that were large, easy to monitor, quick to implement and somewhat technical.

Kachule and Poole (2005) analysed organisational and management issues of 12 farmers' organizations in Malawi. It critically assessed management issues in relation to market participation and human and social capital empowerment. Some critical features enabling coordination and empowering farmers included careful design of governance systems, capacity building and relationship with commercial partners. Gavin et al. (*ibid.*) proposed three building blocks of a learning organisation, which are i) a supportive learning environment; ii) concrete learning processes and practices; iii) leadership that reinforces learning. This kind of organisational learning ideology is particularly relevant in the context of Thai rice farmers' organisations. As Gavin el al. (2008) further explain, four characteristics of a supportive learning environment include psychological safety, appreciation of differences, openness to new ideas, and time for reflection. This insight from (individual and organisational) psychology suggests that in the cases of people with emotional insecurity as a result of insecure living conditions (e.g., high debt and job loss), their emotional condition may oppose participation in such a learning environment. In other words, insecure livelihood conditions can create a psychological obstacle for an individual to become a part of a learning organisation. As organisations are established as a formation of individuals, this

suggests a domino effect: the more unmanageable debt individuals have, the less likely they are to become a part of a learning organisation that could help improve their condition and find themselves excluded from more efficient and effective enterprises.

To succeed in improving farmers' livelihood, farmers' organisations may facilitate more than the direct creation of financial value through revenues. Value creation can offer not merely financial profits but also human and social capitals. Garwin (1993) asserts that a learning organization is one important attribute contributing to the development of an organisation. The idea of a learning organisation is not new, as Garwin (p. 55) cites Charles Darwin: "It is not the strongest of the species who survive, nor the most intelligent; rather it is those most responsive to change." From this perspective, organisational effectiveness is a result of being a learning organization, which involves a learning vision and leadership committed to learning. The level and type of learning mechanisms can be complex and vary in relation to the nature of firm business and the size of an organisation. Garwin proposes that the learning organization is built on four pillars (or subsystems): organisation, people, knowledge, and technology (*ibid.*). Each subsystem supports the other in magnifying the learning as it permeates across the system.

In the context of agricultural development, farmers' organisations have been found to be instrumental to enable farmers to access and extend their resources. Development agencies and scholars such as IFAP (1992), Stockbridge et al (2003), Poole and de Freece (2010), Poole and Donovan (2014) look into farmers' organisations as instruments for agrarian development. For example, Stockbridge et al (2003) offers a theoretical discussion of farmers' organisations for market access. The International Federation of Agricultural Producers (IFAP, 1992, p.4) defines four types of farmers' organisations including: i) farmers groups and pre-cooperatives, ii) farmers' associations, federations and unions, iii) agricultural cooperatives owned and controlled by their members, and iv) chambers of agriculture having a general assembly elected by farmers. The aim

of smallholder farmers collectively to work together as a farmers' organisation is typically to generate more profits than through the traditional market-access system. The traditional market-access system is typically organised by local traders and middlemen. Collective trading through farmers' organisations is believed to empower farmers to earn more profits as compared to sole trading. However, capacity building remains challenging.

Creating profit generally results from business activities which require specific skill sets, for example, in supply chain management, product development, accounting, advertising and marketing. This may explain why many farmers' organisations often find themselves unsuccessful due to the lack of essential business management skills to trade profitably. Establishing a farmers' organisation involves various costs to set-up and to run, let alone the lack of credit history to apply for loans. In many cases, these costs can turn out to be higher than the value an organisation can create for smallholder farmers in the short term. Stockbridge et al (2003) note that farmers' organisations may also result in transaction costs that are too high to be successful. Yet, market imperfections and transaction costs may also influence farmers' decisions to settle into a new type of venture to access the markets. To this end, Poole & Donovan (2014) discuss organization-building with the aim of facilitating the participation of smallholders in the value chain. Looking from the perspective of product development and organisation building, the authors identify the advantages of niche markets and building cooperative capacity as potential benefits for farmers' organisation (Poole & Donovan, 2014). This can help to narrow down a way for farmer-based organisations to become more resilient and entrepreneurial.

The discussion in this section highlights learning through organising as a mechanism for improving smallholder farmers' livelihoods. Obviously, the specific way in which such an organisation is arranged can also affect organisational effectiveness and the ability to catalyse knowledge development by farmers as so-called reflective practitioners (Garwin 1993, p. 60). This implies

that the influencing the nature of the organisational setting can be the initial stage towards the development of organisation.

2.2.5 Organisation as the basis for growing heterogeneous resources and capabilities

A variety of factors have been shown to have an impact on the ability of organisations to acquire sustained competitive advantage including the attributes of the organisation (Barney 1986, 1991), capability development (Sen, 1997; Johannessen & Olsen, 2003; Robyns, 2005; Alkire, 2005; Ansari et al., 2012), product differentiation (Porter, 1989, Teece et al., 1997), and resources (Peteraf, 1993; Grant, 2001). For example, the attributes of organisational culture can be sources of sustained competitive advantage (Barney, 1986). Barney (1991) further elaborates four attributes of organisational resources that could potentially generate sustained competitive advantage, which are value, rareness, imitability and non-substitutability. Peteraf (1993) develops a general model of resources and firm performance with the aim to build consensus around a 'parsimonious model' (p. 180). In the article The Cornerstones of Competitive Advantage: A Resource-Based View, Peteraf (1993) describes a resource-based model that underpins competitive advantage. The study offers four conditions all of which must be met to create sustained competitive advantage. These are: i) resource heterogeneity, ii) ex post limit to competition, iii) imperfect resource mobility, and iv) ex ante limits to competition. The level of resource heterogeneity and superior productive factors have an impact on the return on investment. Peteraf (1993) indicates that breakeven can be expected by firms with marginal resources, while ones with superior resources can expect to earn rents. Rent-seeking behaviour can generate economic rents through competition and cooperation (Lado et al., 1997). This suggests that an organisation with limited internal resources, such as a farmers' organisation, can earn rents by building a cooperative network that grants access to heterogeneous and superior productive factors.

Jones (2013) asserts that sustained competitive advantage can be created through organisational design and organisational development. This suggests that the organisational development would need to result in the aforementioned resources in order to produce sustained competitive advantage. By contrast, Porter (1998) considers the source of sustained competitive advantage from a product development perspective and identifies the source of competitive advantage as product differentiation and cost competitiveness in the market. For Barney (1986, 1991) the question is viewed from an internal organisational perspective. In fact, these different views complement each other and could offer a framework to build a cooperative network. Both Porter and Barney saw that competitive advantage is at the heart of a firm's performance and that performance can become superior as a result of the quality of a firm's resources and capabilities. Against this background, by becoming a cooperative/collaborative network an organisation can mobilise more heterogeneous resources and capabilities (i.e. internal and external). In response to the need for building a cooperative network, creating shared value can offer collaboration in a more sustainable manner (Porter and Kramer, 2011).

So, how can a farmers' organisation create a basis of heterogeneous resources and capabilities? The differences between organisations and individuals include dispersed knowledge and heterogeneity of resources. When functioning well, an organisation offers a pool of diversified skills beyond what any individual can possess. This is particularly significant to smallholder farmers who normally have limited resources, knowledge and power, especially when acting as individuals. A well-functioning organisation is, in this sense, not only a physical collection of individuals and material resources but the collective of dispersed knowledge and skills that enable them to improve over their individual limitations (e.g.,, market participation, skills and access to resources). Andrews (1971) asserts that an appraisal of organisational competencies and resources are the foundation of strategy formulation. Those which are distinctive or superior relative to those of rivals, may become the basis for competitive advantage if they are matched appropriately to environmental opportunities (Andrews, 1971;

Thompson and Strickland, 1990). From this viewpoint, understanding of a firm's competitiveness and attractiveness is deemed necessary. From farmers' organisations' standpoint, an optimal perspective should involve managing vulnerability, farmers' capacity development and achieving value chain upgrading. Improving farmers livelihood would yield competitiveness, and vice versa.

2.2.6 Building organisations for value creation

I have discussed above the importance of organisational competencies, resources and networking in building organisational capability through collaboration. As explained in section 2.2.3 above, the connection between entrepreneurship, entrepreneur and organisation is a crucial linkage to consider when it comes to organisational development and change. This suggests that the connection between entrepreneurship, entrepreneur and organisation is a crucial linkage to consider when it comes to organisational development and change. This is because existing literature suggests that without the expression of entrepreneurship and the work of entrepreneurial individuals – an organisation might well be considered merely a business model. This is important to keep in mind when considering the use of knowledge for replication or scaling up local organisations such as farmers' organisations and agricultural cooperatives. This section focuses on the nature of the organisational setting, particularly among vulnerable actors such as smallholder farmers.

Handy (1999) describe factors that could influence organisational behaviour – the environment, ecology of collective interests, and behaviour. Although the factors are generally independent from one another, they also have some influence on each other. Handy (1999, p. 11) explains:

> "All behaviour takes place in an environment. To ignore the influence of the environment is implicitly to accept constraints and conditions, to take a negative decision about influence. To adjust the environment in order to remove constraints or facilitate some aspect of behaviour is indirect influence. The understanding of ecology is necessary to an understanding of behaviour. The use of ecology is a powerful means of influencing

> behaviour, or at the very least, of allowing other methods of influence to work."
> Handy, 1999: p. 11

Handy (1999) offers an interesting direction to make the most out of establishing an organisation as an instrument for value chain development. First, 'environment' can mean business environment or institutional environment that influences organisational behaviour (North, 1992). Second, 'ecology' suggests the coordinated utilisation of resource-based view on accessibility of individuals in the given business environment. Obviously, that the term ecology is not used here in the general meaning of environmental ecology, but rather as a part of figurative terminology such as political ecology and entrepreneurial ecology. Third, 'behaviour' would not exist without two factors: actors (e.g., individual, groups) and the environment. This highlights that the interaction between actors and the environment shapes behaviour. In the context of agricultural development, farmers' organisations have been used as a platform for actors to engage more thoroughly with their business environment. This suggests that quality of organisational behaviour can be built from a process whereby individual traits become embedded in an organisational culture. The success of an organisation is then intrinsically linked to the quality of its behaviour, attributes and competencies.

Overall, the extant literature highlights the need for new or developed organisational forms as the existing forms of trading and operating do not seem to serve farmers satisfactorily. Such a satisfactory performance can require organisations that can remedy information asymmetries and reduce transaction costs, and thus enable economic rent generation. Achieving these aims can mean improving resources accessibility which is a way to improve farmers' livelihoods. This suggests that a new form of organisational setting is required to access resources that can help individual farmers to manage production, and to govern relevant actors in the business environment.

2.3 Value chain approach and improved livelihood

The value chain approach is considered a powerful analytical tool for strategic planning in sustainable development and poverty reduction. It has gained popularity for its promise to help stimulate economic growth and enhance competitiveness of the agricultural sector (Kaplinksy & Morris, 2000; Miller & Silva, 2010; Jones, 2011; Stoian et al., 2012; Poole & Donovan, 2014; Donovan et al., 2015; Poole, 2017). Particularly, value added and value chain upgrading perspectives have been used to suggest improvements to the production and capture of value by actors in the agricultural sector (Gereffi, 1999; Kaplinsky & Morris, 2000; Humphrey & Schmitz, 2002; Trienekens, 2011; Poole & Donovan, 2014; Donovan et al., 2015). Over the last few decades, it has become popular among development agencies such as governments and development aid agencies. Various development agencies have produced value chain guidelines, for example, FAO, 2007; IIED, 2008; ILO, 2009; World Bank, 2010. Donovan et al (2015) looked into 11 methodological guidelines (namely: FAO, 2007; IIED, 2008; ILO, 2009; World Bank, 2010) and found gaps between the stated recommendations and how to perform a full implementation of value chain analysis. For example, the guides by FAO (2007) and IIED (2008) consider investment aspects by smallholders and other value chain actors as a potential element for making improvements through value chain development. However, according to Donovan et al. (2015), the guides fail to describe the actor-specific conditions in relation to investment (e.g.,, potential cost and benefits, investment risks). In general, value chain analysis is a strategic tool used to analyse internal firm activities aiming at increasing profit margins or simply value produced by the firm. In this section, the focus is on the benefit of value chain application on livelihood development.

2.3.1 An evolving and expanding field of value chain approach from business to development studies

The value chain concept as an analytical tool for understanding competitive advantage was created and popularised out of the strategic management discipline as early as in late 1970s by Porter (1979). Since then, the value chain approach has evolved into various versions with slightly different definitions with respect to the perspective and aims of different academic disciplines as well as in practical applications deriving from it. Trienekens (2011) asserts that four key disciplines have contributed to the building of value chain theory: Global Value Chain (GVC) analysis, supply chain management, new institutional economics, and network approaches. Although there is no universal definition for a value chain, most understandings revolve on two elements: bringing product from production to markets and, along with this, the creation of added value at each step.

Considering Google citations among value chains scholars, Michael Porter's "Competitive Advantage: Creating and Sustaining Performance" (1985) is one of the most prominent value chain reference in the field of business studies. While "A Handbook for Value Chain Research" authored by Kaplinksy and Morris (2000) is among the most influential in the field of development studies. Their works have greatly contributed to foundation and guideline of value chain methodology.

Porter (1998) defines a value chain as an instrument that represents firm's source of performance and indicates opportunities for competitive advantage. Describing a firm's business functioning, Porter (1998, p. 36) argues that "every firm is a collection of activities that are performed to design, produce, market, deliver, and support its product". Porter (1998) then introduced the value chain (p. 33) as a tool to systematically examine and analyse the sources of competitive advantage in terms of a firm's activities and performance, and how the activities are linked to each other and external parties. According to Porter (1985), value

can be harvested by i) cost advantage and ii) differentiation advantage strategies. He offers a generic value chain approach (figure 2.3) that can be amended and adapted for the specific needs of a specific business. The value chain approach highlights the importance of tangible and intangible resources enabling the firm to function effectively and competitively in the value chain in which it participates. This idea has been tested and developed extensively over time mostly by scholars and practitioners in business and economic disciplines. Porter himself has developed the value chain concept in relation to corporate social responsibility and the interests of the wider society (Porter and Kramer, 2006). Recently, the development of agricultural value chains approach has been conceptualised and used as a tool for livelihood improvement and poverty reduction. (Stoian et al., 2012; Devaux et al., 2016).

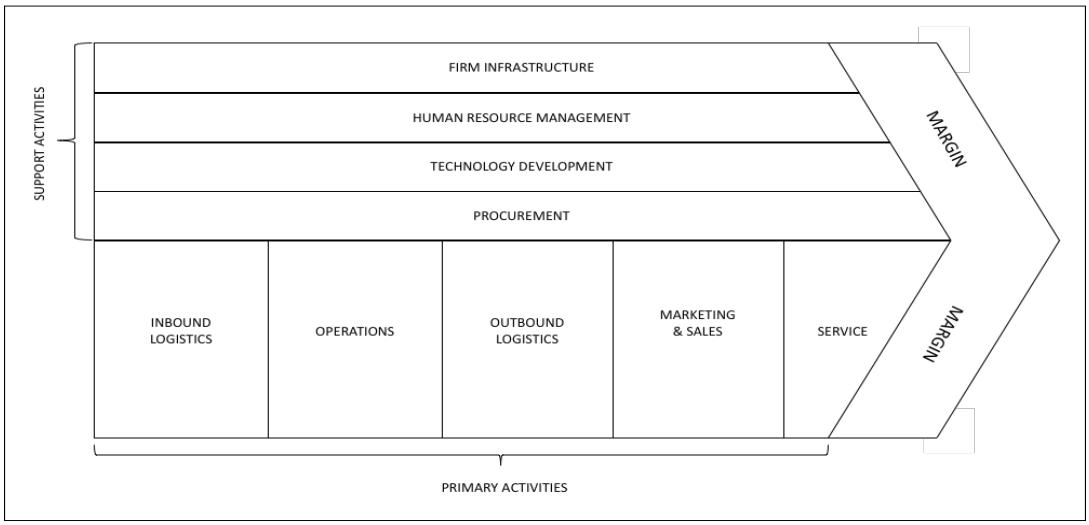

Figure 2. 3 Porter's generic value chain
Source: Porter, 1998: p.37

A value chain, as the name suggests, is made of a series of activities that are connected by transactions. Each step involves value creation in different ways such as processing raw materials, labelling and branding, transportation, marketing and retailing. Value can be created, for instance, by 1) processing material to a state in which consumers are willing to pay for the product, 2) minimising production costs while maintaining the quality of product, and 3) by differentiating the product so that it serves a specific market niche. This means

value can be created in the form of increased profits, reduced costs, and economic rents. By considering discrete activities and their configuration along a particular value chain, firms can position themselves so that they are able capture value generated in the chain. This perspective on value creation can serve as a springboard for creating new business models, or a way to improve a firm's position in a value chain.

According to Kaplinksy and Morris (2000, p. 4) "Value Chains describe the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use". Kaplinksy and Morris emphasise the role of economic rents as a way to value creation and consider a variety of forms of economic rents including technology and human resources; organisational, marketing, relational, resources, policy, infrastructural and financial rents. It is noticeable that Kaplinsky and Morris's (2000) idea of economic rents is similar to the resource-based approach (for example, Grant, 2001) suggesting that there is a close affinity between competitive advantage, economic rents, and resources in value creation. They also suggest that a value chain could be defined from two perspective: heuristic and analytical. This has led to not only the issue around the variation of definitions but also different denomination. For example, Gereffi (1994) has coined the phrase 'global commodity chain (GCC)' and argued that the GCC is distinct in that it incorporates an international dimension, that it focuses on the power of lead firms and the coordination of global activities, and that it explicitly recognises the importance of organisational learning (Gereffi, 1999).

Several prominent studies such as Horvath (2001), Taylor (2005) and Stevenson and Spring (2007have used value chain and supply chain interchangeably, yet value chain and supply chain have different definitions from one another. Value chain emphasises value creation for competitive advantage from internal firm and coordination within its business unit, whereas a supply chain perspective looks

into the whole range of supply-side movements physically (Stevenson and Spring, 2007). It is the common feature of both value chain and supply chain that they involve exchanging intermediary products resulting in value build-up. The World Bank (2006, p. 5) characterises the value chain as "price build-up from stage to stage", by which market price is used to determine a quantitative value chain analysis. From this viewpoint, it may seem obvious enough to perceive value build-up along the value chain as value-added. Other scholars offer different views, for example, Bolwig et al. (2010) and Talamini and Ferreira (2010) emphasise the vertical linkages in connection to the horizontal dimension. The relations of vertical and horizontal linkages illustrate how actors and activities are connected vertically, while managing relationships between actors at the same level of the chain (Bolwig et al. 2010). However, value chains are not just a linear sequence of activities and associated actors (Bolwig et al. 2010; Talamini and Ferreira 2010). The notion of a chain seems to suggest a linear and sequential order that is unlikely to be found in the real world. Value chain analysis has commonly focused on the vertical linkages, i.e. explaining how a product comes into existence and then gets traded or transferred downstream the value chain. While it is important to know how actors and activities are linked vertically, it also important to understand the horizontal dimension, i.e. the relationships between actors at the same level of the chain (Bolwig et al. 2010). It is noteworthy that horizontal linkages are often not included in the value chain analysis. Such linkages can offer a view on how primary and secondary actors are embedded in a value chain. This implies that healthy relationship management can contribute to value creation activities in the value chain.

To this end, it is noticeable that value chain research published during the late 2000s and early 2010s may use the term value chain and commodity chain interchangeably, which is probably due to the influence of Gereffi's research on global commodity chains. Interestingly, Gereffi (1999) further discussed four dimensions that differentiate the global commodity chains from value chain approaches (Porter, 1990).

> "The global commodity chain framework:
> 1) incorporates an explicit international dimension into the analysis;
> 2) focuses on the power exercised by the lead firms in different segments of the
> commodity chain, and it illustrates how power shifts over time;
> 3) views the coordination of the entire chain as a key source of competitive advantage that requires using networks as a strategic asset; and
> 4) looks at organizational learning as one of the critical mechanisms by which firms try to improve or consolidate their positions within the chain."
> Gereffi, 1999: p.3

Taking cue from these dimensions can help to understand how to improve value chain performance. The components 3 and 4 seem particularly helpful for value chain upgrading. Considering Gereffi's viewpoint, value chain development can benefit from leveraging assets and resources through coordination and organisational learning above the level of individual farmers. At the same time, Kaplinsky and Morris (2000) elaborate value chain governance and provide examples that help understand it in practice. The authors described three types of governance that are legislative, juridical and executive governance, as shown in Table 2.4.

Table 2. 4 Examples of legislative, judicial and executive value chain governance

Type of governance	Exercised by parties internal to a value chain	Exercised by parties external to a value chain
Legislative governance	Setting standards for suppliers in relation to on-time deliveries, frequency of deliveries and quality	Environmental standards Child labour standards
judicial governance	Monitoring the performance of suppliers in meeting these standards	Monitoring of labour standards by NGOs Specialised firms monitoring conformance to ISO standards
Executive governance	Supply chain management assisting suppliers to meet these standards Producer associations assisting members to meet these standards	Specialised service providers Government industrial policy support

Source: Kaplinsky and Morris, 2000, p.31

Legislative governance involves defining the basis of participation in value chain, which is setting the parameters governing the value chains. The example of such rules of participation can include conformance to international standards such as ISO9000 (on quality), ISO14000 (on environment), and HACCP (hazard analysis and critical control point) in food processing industry. *Juridical governance* concerns audit performance and compliance with rules that coordinate the conformance with the set parameters. *Executive governance* concerns intermediaries that provide assistance to value chain participants in meeting these rules. From smallholder farmers standpoint, these are clearly proactive forms of governance and costly to implement. To achieve these, farmers' organisations would need to extend their network of resources and collaboration. This again emphasises the role of resource leveraging and organisational partnership in building a capable farmers' organisation.

Bellu (2013) discusses the value chain approach as a functional analysis to provide a detailed profile of industry structure. These involve the sequence of manufacturing operations from production to consumption. This type of value chain analysis largely concerns the flow of physical components, namely products, services, information and finance. In international food and agriculture development contexts, value chain has become a useful analytical tool for understanding the relationships among actors in a chain and considering the potential implications for development (Kaplinsky & Morris, 2001; Humphrey & Schmitz, 2002; Stringer & Le Heron, 2008; Graef, 2014). Among recent research efforts, the value chain concept has been linked to the prevailing global challenges of malnutrition, and how agricultural and food value chains can be enhanced to improve the health of poor communities (Gelli et al., 2015; Maestre, et al., 2017; Maestre and Poole, 2018; Donovan and Gelli, 2019; Gelli, et al., 2020). The overall aim of value chain analysis is to identify ways to improve the performance of a chain such that all actors are placed in a better position (Bammann, 2007; Riisgaard et al., 2010). The position of actors in a chain may be improved through increased rewards and/or minimised exposure to risk, both

economically and in term of outcomes such as poverty, gender, labour and the environment (Riisgaard et al., 2010).

It is important to note that a firm's value chain is normally a part of a value system. A value system refers to the conglomeration of different but related value chains performing their business activities in a given business sector environment (Porter, 1989; Stabell & Fjeldstad, 1998; Möller & Rajala, 2007; Porter, 2009). Taking a systems or sectoral approach rather than focusing on an individual chain helps to give a broader focus, not least by adopting a dimension of broader inter-firm or inter-organisation horizontal relationships. Typically, a value chain is considered from the perspective of a lead firm in the analysis, by having suppliers as their trade partners. These partners have their respective value chains. Interaction with trade partners can impact profit. This means that to achieve and sustained competitive advantage, a firm must understand its trade partners in the value system.

Mitchell et al (2009) reflect the benefit of value chain analysis and development as "robust evidence-based research of the current market system". They contend that the successful value chain development can improve the stage of poverty in a practical manner. They highlight that the quality of value chain research impacts its beneficiaries - "poor quality research can result in project failure, with disastrous consequences for target beneficiaries." The role of the value chains has been considered from different perspectives by different scholars. For Porter (1998), identifying source of competitive advantage was viewed as the value chain's fundamental role. While Miller & Silva (2007) see the advantage of the value chain as the business development framework of choice in the agri-food sector. Poole & Donovan (2014) assert the value chain as a mean to improve market participation and competitiveness among smallholder farmers. Stoian et al (2012) see the benefit of value chain development as an instrument contributing to rural poverty reduction.

2.3.2 The role of value chains in rural poverty reduction

The agricultural value chain (AVC) approach can promote sustainable development and poverty reduction through its promise of enabling food security, market inclusion and resource accessibility for smallholder farmers (Miller & Silva, 2007; Coles and Mitchell, 2011; Poole, 2013; Deval, 2016; Poole, 2017). Poole (2017) asserts that the value chain concept is instrumental in achieving the UN Sustainable Development Goals because of its practicality in terms of, for instance, market participation. The perspective believed to help bringing about better productivity, agribusiness financing and eventually improve farmers' income. However, using the value chain approach as an instrument to improving farmers' livelihood is a new proposition that has been studied little to date. McMichael (2013) looks into value-chain agriculture and debt relations in the context of contract farming. He finds that downstream actors (e.g.,, traders) currently benefit from the value chain "via extraction of rents and resources from smallholders" (p. 687). The upside of this claim is that there are rents and resources that smallholders could potentially benefit from. The challenge is how the smallholders can re-position themselves so that it enables them to benefit from rents and resources. This is a key function of the agricultural value chain analysis which farmers can use for envisioning the path toward sustainable livelihood.

Existing AVC literature agrees that processed products can bring more income to farmers as compared to selling produce as primary products (e.g.,, World Bank, 2006; Miller & Silva, 2007; Bolwig et al., 2010; Poole, 2017). To be successful in this, farmers (individuals and organisations) need to possess skills in production processes, business administration, and marketing. For instance, at the moment there are often limited business and financial advisory services available to farmers, not to mention services on production processes. This is key difference when trading as individual smallholder farmers in comparison to trading as a collective. Financial institutions (i.e. banks and brokers) are one type

of AVC intermediary that usually offers professional investment services to farmers as customers.

The AVC can offer economic opportunities in many ways to value chain actors because it can capture how many different businesses are embedded in a value system. The value system is a business ecosystem comprising of interdependent agricultural value chains. The actors have their operations linked to one or another in the value chains. The nature of value chain can, however, turn into a sort of trap to vulnerable actors such as smallholder farmers and small agribusiness owners. An example is of the Indian government's current attempts to develop agricultural marketing through 'modernisation' of agribusiness, which is driven by concerns to increase the efficiency of agricultural value chains. The new policies are opposed by small farmers who see market liberalisation as a threat to their livelihoods (The Economist, 2021a; The Economist, 2021b). Such actors have limited resources (e.g.,, cash-flow, agricultural machinery, market channels) to yield a healthy business and can end up in a weak position vis-à-vis upstream and downstream actors. This highlights a potential role of farmers' intermediary organisations in value chain analysis to enhance farmers' competitiveness.

Farmers' vicious cycle of debt in Thailand (and commonly in other countries and regions of the world) is an obstacle to development and economic growth as it locks farmers into an unproductive way of harnessing their investments in farming. There can be many reasons for debt, including the lack of efficiency to exploit factors of production (i.e., land, labour and capital), market failure (e.g.,, asymmetric information and transaction costs) and dysfunctional institutions. To increase their income and capture more of the value (i.e., economic rent) in the value chains, farmers may need to upgrade their involvement in their respective value chains. There are many ways to do this. One potential way to do this is to become a crop specialist, an approach that value chain analysts would call upgrading (Gibbon, 2001; Humphrey, 2005; Coles and Mitchell, 2011).

A crop specialist is a farmer who has improved his or her farming practices and is producing goods for the market in an efficient and productive way. To this end, agricultural degrees are not usually required, but on-the-job training to improve specific crop skills are often important. For example, by using appropriate farming practices, the farmer can achieve higher rice yields and better-quality paddy rice. This may often come with other positive outcomes such as improved soil quality and, consequently, enhanced farmers' health due to lower chemical fertilizer use needed. Such upgrading can bring benefits to farmers, the traders and the buyers.

2.3.3 Value Chain Methodology

The value chain methodology consists of various components that make up a methodological framework for analysis by value chain mapping and the identification of value chain actors. Value chain mapping and value chain actors are the basis of a value chain analysis. Value chain analysis is about understanding the interconnections between business activities and actors that are involved in conducting a complex and sequenced set of activities from production to consumption (Porter, 1989; Humphrey and Navas-Alemán 2010, Stein and Barron, 2017; Poole, 2017). Stein and Barron (2017) describe the idea of a chain as a metaphor for connectedness. It enables a complex system of markets to be systematically analysed by who acts in relation to what economic activities. Such understanding forms the basis for value chain governance. Value chain mapping is a process that identifies primary and support activities associated with a firm's services and product line(s). It is a simple yet an effective tool for corporate strategy formulation in order to identify performance improvement opportunities (Springer-Heinze 2007; Stein and Barron, 2017). The most commonly known of value chain mapping is the generic value chain put forward by Porter (1985).

In Porter's value chain conception (see Figure 2.1), value activities are comprised of primary and support activities. The primary activities consist of five business activities, which are Inbound Logistics, Operations, Outbound Logistics,

Marketing and Sales, and Service. Support activities include Procurement, Human Resource Management, Technological Development and Infrastructure (Porter 1985, pp. 11-15). Porter (1979, 1985, 2001) argued that a firm's competitive advantage can be identified by systematically examining these activities, and that a firm's strategy, history and economic activities influence its current value chain and its business activities (Porter, 2001). Each of the primary activities can contribute to a firm's cost competitiveness and product differentiation, which can be a source of competitive advantage. The fundamental point about value chain analysis is that primary and support activities can contribute as well as obstruct a firm's margin generation. Also, Porter highlights that the business unit is the appropriate level to constructing a value chain, not by looking at a firm as a whole (Porter, 1985 & 2001).

Porter (1998) defined the primary value activities as Inbound Logistics, Operations, Outbound Logistics, Marketing and Sales, and Service (Porter 1985, pp. 11-15), as shown in figure 2.3. Whereas in an agricultural context, these stages can be retitled by farm inputs, production or farming, processing and storage. They may not carry exactly the same meaning but provide similar functions of value creation through product processing and improvement down to marketing. A generic model of an agricultural value chain is shown in Figure 2.4 as an example.

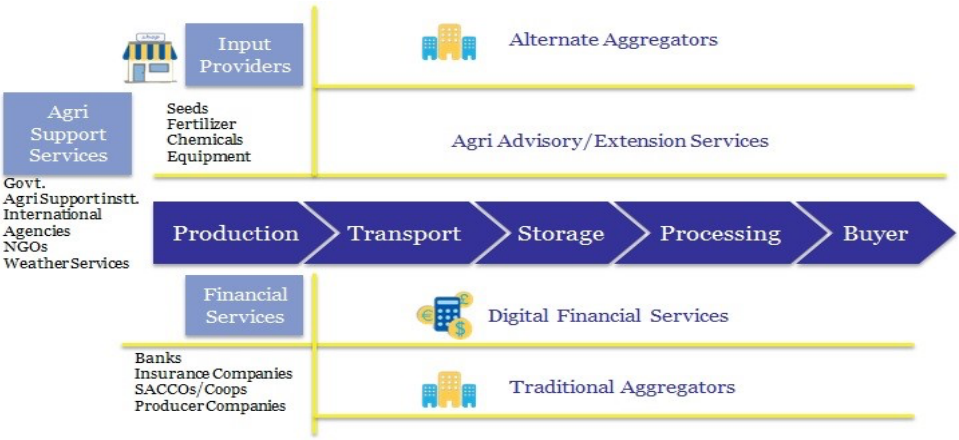

Figure 2. 4 A typical agricultural value chain
Source: ImpactInsurance, 2017

In the real business environment, a value chain is typically not a linear chain of activities leading to a product or a service. It is a complex configuration of value systems that link value chain actors, value activities, markets and interventions. At the same time, the actors retain their degree of interdependence from each other. In the context of agribusiness, value chain mapping refers to the process starting from farm production (e.g.,, farming, input supply), processing (e.g.,, milling) and storage, marketing (i.e., wholesale and retail), to selling final goods to consumers. The primary activities are farm production, processing, quality control and storage, wholesale and retailing. Transportation (logistics) takes place in between each stage. At each stage, there are value chain actors including farmers, input suppliers, creditors, farm labour (e.g.,, cultivators and harvesters); consolidators; processors and exporters (see Figure 2.4 depicting a generic agribusiness value chain). The nature of value chain framework usually calls for qualitative research techniques to compile data on the different aspects of a value chain and to analyse them holistically. Quantitative data such as price, profit and potential value added can be also used to support the analysis.

The development of the agricultural value chain approach has been conceptualised and used as a tool for livelihood improvement and poverty reduction. For example, Donovan et al. (2015) found that improving coordination and collaboration among value chain actors are significant aspects included in most existing value chain development frameworks. There are various factors contributing towards achieving more efficient coordination and collaboration. These can include "product lead times, access to infrastructure, attitudes and capabilities among chain actors, the distance between businesses, and access to different types of services (such as technical and business advisory services and financial services)" (p. 18). This highlights the limitation of a narrow 'price build-up' approach to value chain analysis. Improving factors such as coordination and collaboration among value chain actors are essential to meet sustainable development objectives but are not easy to quantify. Clearly, paying attention to such factors can enable a more powerful version of value chain development that would also strengthen farmers' resilience.

From smallholder farmers standpoint, these are clearly proactive forms of governance and costly to implement. To achieve these, farmers' organisations would need to extend their network of resources and collaboration. This again emphasises the role of resource leveraging and organisational partnership in building a capable farmers' organisation.

Chapter 3 Conceptual Framework

This chapter presents a conceptual framework to be used in this thesis. The framework uses the idea of an agricultural value chain as a theoretical basis with a view to upgrading rice value chains and building capable farmers' organisations. The main motivation is to understand how farmers' livelihoods can be improved by strengthening their position in the rice value chain. This involves minimising vulnerability and enhancing resource mobilisation and capital allocation from the perspective of the farmers.

3.1 Major concepts guiding agricultural value chain

The key constructs guiding Agricultural Value Chain Analysis (AVCA) have been continuously discussed by development specialists although there is no exact agreement about the details of the approach. Value chain research deals with dynamic systems that comprise of social, economic and environmental dimension, and the analysis is often framed differently according to individual scholars' perspectives and interests. Kaplinsky and Morris (2000) assert three key elements of value chain analysis that would need to be taken into consideration in order to transform until now a largely heuristic value chain approach into an analytical tool. These are i) barriers to entry and economic rents; ii) governance; and iii) different types of value chains. Gereffi (1999) provides important contribution concerning vertical coordination and the role of governance in value chain development. Anandajayasekeram and Gebremedhin (2009) discuss four key concepts that guide AVCA: verticality and vertical coordination, effective demand, value chain governance, and leverage and impact. Miller and Jones (2010) take the financing aspect of agricultural value chain as an avenue to rural economic development. Poole (2017) takes trade and market participation as means to fostering livelihood enhancement. Considering that the main motivation of this thesis on improving rice farmers' livelihood, the following dimensions are to be discussed as guiding the rice value chain analysis: value chain governance and organisational models; upgrading and innovation; and finance.

3.1.1 Value chain governance and models

Value chain governance is an important element of value chain analysis. It is noticeable that the emphasis on value chain governance and models (e.g., producer-driven and buyer-driven models) are common analytical elements agreed by many value chain scholars (Gibbon, 2003; Webber and Labaste, 2009; Trienekens, 2011; Lee et al., 2012; Gereffi, 2014; Donovan et al., 2014; Gereffi, 2015; Poole, 2017; Devaux et al., 2018). Research that contributes to the development of governance and organisational models in the value chain methodology can include the work of Gereffi (1999, 2005), Kaplinsky and Morris (2000), Miller & Jones (2011), Donovan et al. (2014) and Poole (2017), to name a few. Gereffi (1999) pays particular attention to vertical coordination and the role of governance. Understanding the role of value chain governance is crucial as it affects how value chain actors coordinate and interact across the links in the chains, forming value activities in the chains as illustrated in Figure 3.1 as an example. Such interaction is a key factor in terms of understanding of opportunities for upgrading activities through process and product development. To this end, Kaplinsky and Morris (2000) point out that value chain coordination and governance are not necessarily the same thing. The authors also argue that power asymmetry is central to value chain governance. This is because the uneven distribution of information, capacities and resources affect the opportunities for upgrading value chain activities.

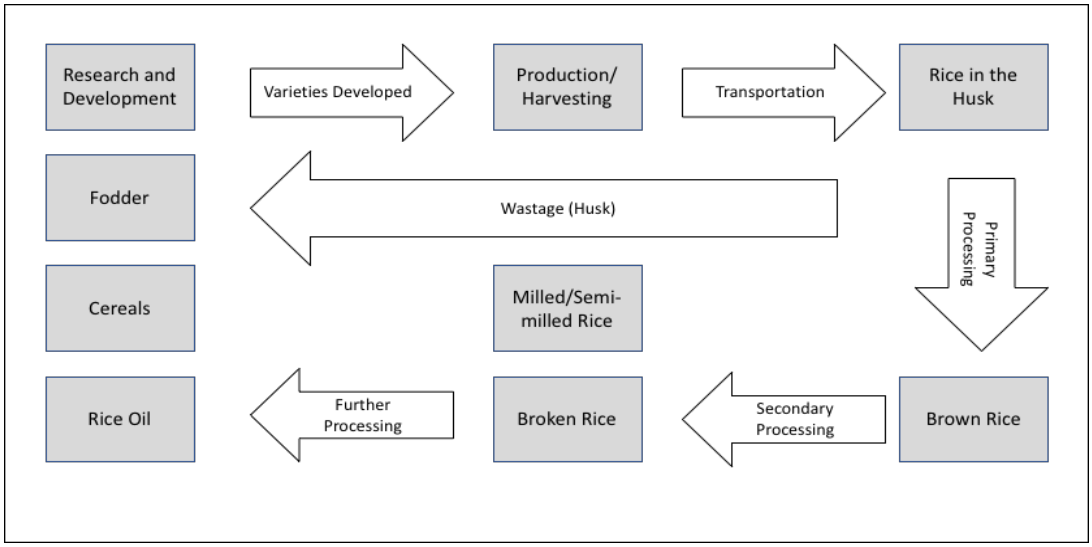

Figure 3. 1 Rice value chain process (map)
Source: Trade Development Authority of Pakistan, 2016 (p.16)

Some value chain scholars highlighted intrinsically link between organisational models and value chain models (Kaplinsky and Morris, 2000; Miller and Jones, 2011). For example, Miller and Jones (2011) refer to organisational models of smallholders and value chain business models interchangeably. They discussed four types of organisational models of smallholder production. These are producer-driven (association); buyer-driven; facilitator-driven; and an integrated model, as discussed in literature review. From smallholder farmers standpoint, these are clearly proactive forms of governance and costly to implement. To achieve these, farmers' organisations would need to extend their network of resources and collaboration. This again emphasises the role of resource leveraging and organisational partnership in building a capable farmers' organisation.

Value chain mapping is the core activity of value chain analysis, which helps to represent value chain governance. Its simplicity supports planners and managers to make connections between what are the activities and how actors link to each other in value creation process. Value chain maps can be categorised into basic maps and detailed maps (USAID, 2018). USAID (2018) suggests that basic map is drawn by answering the following questions: i) What is being done in the value

chain? ii) Who are the key players that are doing it? iii) How is the product/service reaching end market? and iv) What market channels are available to reach those end markets? The detailed map is then an extension of the basic map by adding more information and statistical data gathered during the data collection phase. A detailed map can involve i) supporting markets, ii) value chain governance, and iii) data overlays. Supporting markets are individuals or firms that provide products or services to the main actors such as input supplies, capital and technical assistance. Value chain governance concerns power relations among value chain actors in the business environment. Data overlays are quantitative information acquired from data sources. For example, they can include input costs, number of farmers, farm size, unit price and profit margin.

3.1.2 Agricultural value chain upgrading and innovation

Value creation or, more specifically, increased value creation is the ultimate outcome of successful value chain upgrading. Agricultural value chain upgrading, as the name suggests, can involve the development of new products and processes that meet the increasing level of regulations of domestic and international quality standards and food safety measures (Bolwig et al, 2011; Lee et al, 2012). The upgrading process is intrinsically associated with innovation and the governance of the value chain. It also suggests that upgrading is a requirement for strengthening buyer-driven and facilitator-driven value chains. Such mechanisms emphasise the necessity of promoting partnerships among actors and heterogeneous resources enabling capacity building, human development and eventually improved livelihoods and rural economic development. In the context of this thesis, the upgrading is particularly meaningful in terms of policy guidelines and implementation. This is necessary because Thailand's rice policy has repeatedly employed narrow price intervention strategies, which are both highly politicised and attract criticism for serving political interest, rather than promoting value chain development to improve farmers' livelihoods.

According to Kaplinsky and Morris (2000), value chain upgrading concerns the acquisition of technological capabilities and market linkages enabling firms to improve their competitiveness and capture higher value. Four objectives of upgrading are discussed by Kaplinsky and Morris (2000: p. 38):

> "**Process upgrading**: increasing the efficiency of internal processes such that these are significantly better than those of rivals, both within individual links in the chain, and between the links in the chain.
> **Product upgrading**: introducing new products or improving old products faster than rivals. This involves changing new product development processes both within individual links in the value chain and in the relationship between different chain links.
> **Functional upgrading**: increasing value added by changing the mix of activities con- ducted within the firm or moving the locus of activities to different links in the value chain.
> **Chain upgrading**: moving to a new chain, for example, Taiwanese firms moved from the manufacture of transistors radios to calculators, to TVs, to computer monitors, to laptops and now to WAP phones."
>
> Kaplinsky and Morris, 2000: p. 38

Trienekens (2011) suggests three elements that are influential to upgrading of developing country value chains. These are i) addressing markets that offer opportunities for increased value added; ii) innovation in products, including marketing activities, and processes; and iii) vertical and horizontal organizational arrangements that enable chains to capture value from markets for various chain actors. The upgrading perspective of value chain development is thus not only introducing improvements, but also doing so in a more sustainable manner.

3.1.3 Agricultural value chain finance

Agricultural financing has long been facing challenges making it complex and difficult to implement successfully (Galarza et al., 2009). The levels of business risk and lower profitability of agriculture appear to be less attractive to most commercial financial institutions which are reluctant to invest in agricultural financing. To cope with financial credit scarcity among smallholder farmers, governments are the most common institution providing financing. Agricultural financial institutions such as agricultural banks and cooperatives are the most

highly regarded for agricultural financing. Products and services are often provided in the form of microfinance covering agricultural loans, small sized business loans, personal loans and savings. Many of the microfinance products do not require collateral but rather employ social instruments such as a group lending system of Bangladesh's Grameen Bank and Thailand's Bank for Agriculture and Agricultural Cooperatives (Siamwala et al., 1990; Coleman, 1999; Muhammad, 2006; Ahlin, 2019).

In a rural context, the most common form of value chain finance is often trade-related financing (Miller and Jones, 2020), which can take place, for instance, in the form of advance payments and advance credit. Advance payments are given by buyers who purchase farm outputs, whereas advance credit refers to producers taking input supplies (e.g., seeds and fertilizer) but paying later based on agreed conditions. Overall, insufficient financial investment is an obstacle to improving the quality of, and expanding, cultivable land, resulting in low yields that make it hard to break even and make profit. Therefore, agricultural value chain finance plays a vital role in improving agribusiness and enhancing farmers' livelihood.

The value chain financing can be considered from internal and external perspectives (Miller and Jones, 2010). Internal finance occurs within the value chain, while external finance involves relationships and mechanisms without the value chain. For example, farmers invest their own resources by using profit earned from the previous cropping season (internal), while advance credit can be arranged with a miller based on farmers' promise to delivery rice paddy (external). This points out that value chain relationships and mechanisms can have a direct influence on financing. The question is how such a relationship can effect a positive change in farmers' organisations.

Poole (2017) discusses financial innovations for farming. Some supply of financial services can empower farmers' participation in the markets, such as value chain links, social capital development and private-sector contractual finance (ibid.). Although these financial products will not be discussed individual

in detail in this section. It is important to highlight that one thing they have in common is using leverage power.

Table 3.1 briefly describes 16 agricultural value chain finance instruments that are implemented in the agribusiness markets. What is important for this study is the way an agricultural value chain approach can build on and improve farmers' livelihoods. As discussed earlier, the development of value chain can result in upgrading that enables farmers to become profitable. The right types of financial products and services can then accelerate rural development. Therefore, the thesis analyses the processes of building a capable farmers' organisation as an instrument to improved farmers' livelihoods. Understanding the types of financial instruments is crucial to make a connection between farmers' organisations, value chain business models and the available financial instruments. For example, warehouse receipts as a financial instrument could be used to better serve farmers' organisations, more than in its current use as a certified warehouse receipt. When carefully designed and implemented, such receipts could potentially be put forward as a loan guarantee when partnering with suitable farmers' organisations or millers. This is an example of where a capable farmers' organisation can harness existing financial instruments better for the purpose of upgrading the value chain and tackling existing financial challenges.

Table 3. 1 Description of agricultural value chain finance instruments

Instrument	Description
A. Product financing	
1.Trader credit	Traders advance funds to producers to be repaid, usually in kind, at harvest time. This allows traders to procure products and provides a farmer with needed cash (for farm or livelihood usage) as well as a guaranteed sale of outputs. Less commonly, trader finance can also be used 'upward' in the chain whereby the trader delivers products to buyers with delayed payments.
2.Input supplier credit	An input supplier advances agricultural inputs to farmers (or others in the value chain) for repayment at harvest or other agreed time. The cost of credit (interest) is generally embedded into the price. Input supplier credit enables farmers to access needed inputs while increasing sales of suppliers.
3. Marketing company credit	A marketing company, processor or other company provides credit in cash or in kind to farmers, local traders or other value chain enterprises. Repayment is most often in kind. Upstream buyers are able to procure outputs and lock in purchase prices and in exchange farmers and others in the value chain receive access to credit and supplies and secure a market for selling their products.
4. Lead firm financing	A lead firm either provides direct finance to value chain enterprises including farmers, or guaranteed sales agreements enabling access to finance from third party institutions. Lead firm financing, often in the form of contract farming with a buy-back clause, provides farmers with finance, technical assistance and market access, and ensures quality and timely products to the lead firm.
B. Receivables financing	
5. Trade receivables finance	A bank or other financier advances working capital to agribusiness (supplier, processor, marketing and export) companies against accounts receivable or confirmed orders to producers. Receivables financing takes into account the strength of the buyer's purchase and repayment history.
6.Factoring	Factoring is a financial transaction whereby a business sells its accounts receivable or contracts of sales of goods at a discount to a specialized agency, called a factor, who pays the business minus a factor discount and collects the receivables when due. Factoring speeds working capital turnover, credit risk protection, accounts receivable bookkeeping and bill collection services. It is useful for advancing financing for inputs or sales of processed and raw outputs that are sold to reliable buyers.

Instrument	Description
7. Forfaiting	A specialised forfeiter agency purchases an exporter's receivables of freely-negotiable instruments (such as unconditionally-guaranteed letters of credit and 'to order' bills of exchange) at a discount, improving exporter cash-flow, and takes on all the risks involved with the receivables.
C. Physical asset collateralization	
8.Warrehouse receipts	Farmers or other value chain enterprises receive a receipt from a certified warehouse that can be used as collateral to access a loan from third party financial institutions against the security of goods in an independently controlled warehouse. Such systems ensure quality of inventory, and enable sellers to retain outputs and have opportunity to sell for a higher price during the off-season or other later date.
9.Purchase agreements (repos)	A buyer receives securities as collateral and agrees to repurchase those at a later date. Commodities are stored with accredited collateral managers who issue receipts with agreed conditions for repurchase. Repurchase agreements provide a buy-back obligation on sales, and are therefore employed by trading firms to obtain access to more and cheaper funding due to that security.
10. Financial lease (lease-purchase)	A purchase on credit which is designed as a lease with an agreement of sale and ownership transfer once full payment is made (usually in instalments with interest). The financier maintains ownership of said goods until full payment is made making it easy to recover goods if payment is not made, while allowing agribusinesses and farmers to use and purchase machinery, vehicles and other large ticket items, without requiring the collateral otherwise needed for such a purchase.
D. Risk mitigation products	
11.Insurance	Insurance products are used to reduce risks by pooling regular payments of clients and paying out to those affected by disasters. Payment schedules are set according to statistical data of loss occurrence and mitigate the effects of loss to farmers and others in the value chain from natural disasters and other calamities.
12.Forward contract	A forward contract is a sales agreement between two parties to buy/sell an asset at a set price and at a specific point of time in the future, both variables agreed to at the time of sale. Forward contracts allow price hedging of risk and can also be used as collateral for obtaining credit.

Instrument	Description
13. Futures	Futures are forward contracts (see definition above) that are standardized to be traded in futures exchanges. Standardization facilitates ready trading through commodity exchanges. Futures provide price hedging, allowing trade companies to offset price risk of forward purchases with counterbalancing of futures sales.
E. Financial enhancements	
14.Securitization instruments	Cash-flow producing financial assets are pooled and repackaged into securities that are sold to investors. This provides financing that might not be available to smaller or shorter-term assets and includes instruments such as collateralized debt obligations, while reducing the cost of financing on medium and longer term assets.
15. Loan guarantees	Agricultural loan guarantees are offered by 3rd parties (private or public) to enhance the attractiveness of finance by reducing lending risks. Guarantees are normally used in conjunction with other financial instruments, and can be offered by private or public sources to support increased lending to the agricultural sector.
16. Joint venture finance	Joint venture finance is a form of shared owner equity finance between private and/or public partners or shareholders. Joint venture finance creates opportunities for shared ownership, returns and risks, partners often have complementary technical, natural, financial and market access resources.

Source: Miller and Jones, 2010, p.56-57

3.2 Value chain research methodology

When it comes to methodology, value chain analysis has been flexible to accommodate different methods. At its simplest definition, the value chain analysis involves the flow of products and services along the value chain from production to marketing (Porter, 1985; Kaplinsky and Morris, 2000; Miller & Jones, 2008; Gereffi, 2015; Poole, 2017). However, the analytical framework allows its application to be design-specific and suitable for purposes of selected value chains. Many value chain scholars agree that the world of production is complex and heterogeneous. The value chain dynamics often require a specific design to suit a particular study and contingent circumstances (Kaplinsky and Morris, 2000; Donovan et al., 2014; Poole and Donovan, 2014; Rohit and Bhavani, 2018). Although such a statement makes sense in the context of dynamic agricultural development, it is nevertheless important to have some established methodological guidelines, at least for the start. Kaplinsky and Morris (2000) define eight issues to be covered as broad guideline of how to conduct value chain research:

- The point of entry for value chain analysis
- Mapping value chains
- Product segments and critical success factor's in final markets
- How producers access final markets
- Benchmarking production efficiency
- Governance of value chains
- Upgrading in value chains
- Distributional issues

Many of these issues were introduced already in the previous sections. However, it is noticeable that the issues listed above tend require a different degree of attention in a particular analysis due to the nature of studied value chains. For example, a farmers' organisation that sells rice paddy to a miller may not need to pay as much attention on distributional issues as those who process and sell to wholesalers and retail markets. Meanwhile, a farmers' organisation that produces

and packages rice for a retail company may not need to concern how the products reach consumers on the market.

In the agricultural context, much of the literature has concentrated on the value added from increased productivity, lower production costs and improved processing efficiency (as discussed in Chapter 2). Rice markets are, however, often unpredictable from the perspective of farmers and can easily erase the benefits of successful process improvements. Evidence shows that smallholder farmers hold limited market negotiation power. Therefore, the focus of this thesis is on how capacity development, resources and capitals enable farmers to reposition themselves and upgrading in a value chain. Value chain is thus used as a descriptive analytical tool and a qualitative research method that is gaining popularity in the field. Most commonly, value chain study starts with a desk analysis of literature and secondary data. Primary data collection is then typically conducted using qualitative methods. Participant observation, semi-structured interviews, focus group meetings and questionnaires are among the most commonly used data collection methods for value chain research (Hellin and Meijer, 2006 Nang'ole et al.,2011; Donovan et al., 2014). For example, Bhavani and Rohit (2018) use a desk analysis of literature and secondary data to examine food distribution value chains under the integrated child development services in India, prior to collecting primary data. The role of desk analysis is to help researchers to map the value chain and define stakeholders which are important elements for conducting a field study.

Value chain approach has been applied to different levels of analysis from household, business, value chain, market and organisational level. There is a range of methods that are employed to conducting and analysing value chains. In general, data collection techniques are used to gather information from primary and secondary data sources. Secondary data sources are utilised by reviewing extant documents and a desk analysis. Qualitative techniques can include interviews, focus group discussions, and participatory observations (Stein and Barron, 2017). At the same time, surveys and questionnaires can be used to

extract quantitative data. Document analysis can yield both types of data, depending on the data sources to be analysed. This is often done prior to conducting primary data collection as it can improve the quality of collected empirical data. Many studies favour the use of combination of qualitative and quantitative methods such as Poole and Donovan (2014) and Rohit and Bhavani (2018). The desk analysis of secondary sources of information has been widely used as an initial step to support data collection. For example, Rohit and Bhavani (2018) performed a desk analysis to establish the value chains of two fortified foods manufactured by private sector businesses in India. Poole and Donovan (2014) employ a combination of quantitative and qualitative data collection in the study focussing on building cooperative capacity of coffee sector in Nicaragua. Rohit and Bhavani (2018) conduct qualitative and quantitative assessment surveys in the study focussing on nutrition and agri-food value chains. Much of the rice value chain analyses published after 2010 urge the usefulness of the tool (Poole and Donovan, 2014; Trade Development Authority of Pakistan, 2016; Poole, 2017; Rohit and Bhavani, 2018). On the other hand, value chain analysis has also sparked questions on research methodology and methods to appropriately conduct the studies. The fact that value chain analysis is perceived to be a tailor-made approach means that research design can be adapted to fit a specific setting. The flexible nature of the methodology can help solve specific problems in business enterprise of the value chain. By contrast, these can bring confusion for practitioners and managers who may not familiar with the value chain analytical methods.

With a careful design, the analysis of the value chain can offer insights into production, and governance relations between actors through value-creating activities. This is significant to understanding why production and market systems work the way they do, and how they can be improved to benefit smallholder farmers. Organisation setting plays a crucial role in mobilising resources to its members (i.e. farmers). Considered this way, the organisation can impact farmers' economic activities and performance, behaviour and capabilities.

These can have implication towards entrepreneurial skills, social and human capitals, which can lead to improved livelihood and poverty reduction.

3.2.1 Rice value chain framework for improved livelihoods

The rice value chain framework used in this study builds on key concepts of agricultural value chain analysis as discussed earlier. The main objective is to improving farmers' livelihoods, based on the assumption that this can be achieved by upgrading the rice value chain and building a capable farmers' organisation. This sets farmers' organisation as the unit of analysis and a respective rice value chain to draw a system boundary. The study looks from the perspective that improved livelihoods build on human and infrastructure development becoming a capable farmers' organisation. Farmers' organisational competency can be substantiated through their business performance and livelihood improvement. The conceptual framework serves as a guide for this study, giving an outline for the analytical sequence, as show in figure 3.2 and 3.3.

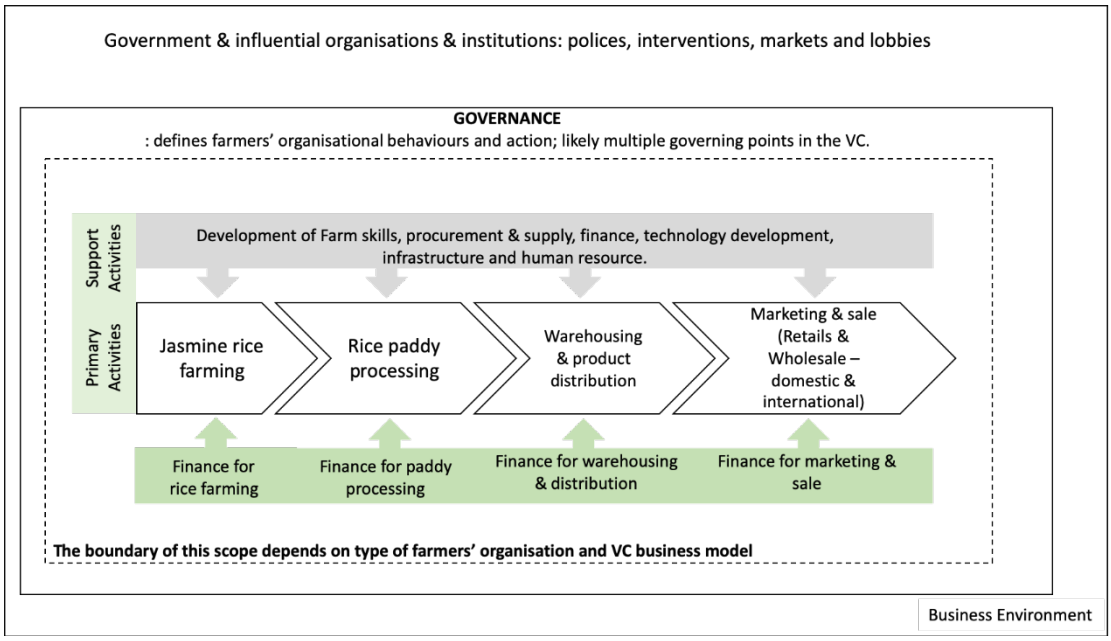

Figure 3. 2 Rice value chain framework
Source: Own elaboration.

Figure 3.1 shows the rice value chain framework for this research. It draws on value chain governance and models, in search of upgrading, enhanced innovation and improved finance. All arrows represent dynamic of value chain governance on value chain actors' coordination and interaction across value activities. Relationships and interaction between chain actors of primary activities can influence value added, transaction costs and leveraging resources. Each stage of primary activities require finance to operate its value activities, although products and services might be different. For example, the types of financial products and services for smallholder rice farmers at rice farming stage is clearly different from that of the processing stage.

Value chain structure involves identifying value activities and their actors. It defines relationships and how actors influence value activities in terms of the movement and quality of supplies, and finance as shown in Figure 3.1. The core rice value chain builds on four stages: i) jasmine rice farming; ii) rice paddy processing; iii) warehousing and product distribution; and iv) marketing and sales. Identifying value chain activities and actors is the first stage of constructing a value chain analysis. The objective of identifying value activities is to capture important value-added activities that enhance the value by supporting profit earning and rent generation along the value chain. This approach highlights how value chain analysis can be used in an impactful way to inform policymaking. Value activities involve primary and support activities.

Primary activities include business actions that directly create products. In other words, value cannot be created without performing these activities. In the rice value chain, these typically include rice farming, processing, and marketing. Support activities are identification provision tasks that helps to facilitate and enhance the effectiveness of primary activities. These activities can include an array such as procurement, product and technology development, human resource management, and organisation infrastructure. Clearly, a range of support activities depends on company structure, finance, capabilities and missions.

In this framework, the vulnerability evaluation is set as a primary study to understand current livelihood status of farmers. There are two factors to consider: trade capability and vulnerability context. First, trade capability will consider the breakeven price of rice. It helps to understand farmers' situation and point to the right direction for what different factors mean for farmers' livelihood. For example, if rice farming can barely reach breakeven, and in some cases even cause the accumulation of more debt, why do farmers still farm rice? Is it due to some political intervention? Or, is it the only income-generating activity available to smallholder farmers in the area? These are some examples of issues that could rise after knowing the breakeven point of rice farming. In addition, the analysis helps to form questions to be used for interviews. Second, the vulnerability context concerns the stages of livelihood that could be altered by shocks, trends and seasonality. The DFID's sustainable livelihoods guidance sheets (2001) defines vulnerability context as follows:

> "The *Vulnerability Context* frames the external environment in which people exist. People's livelihoods and the wider availability of assets are fundamentally affected by critical **trends** as well as by **shocks** and **seasonality** – over which they have limited or no control."
> DFID, 2001 (p.15)

The vulnerability context is made up of factors that "have direct impact upon people's asset status and the options that are open to them in pursuit of beneficial livelihood outcomes" (DFID, 2001:15). To this end, it is sensible to ask: How is the vulnerability context relevant to value chain analysis and, resource mobilisation and capital allocation? Answering this question would help understand a relevant context that impacts farmers' participation in the rice value chain, which is the main means for generating income for farmers. Changes to economic activities involving farmers that could directly alter value chain performance are farm inputs, production and processing (if farmers process their rice paddy). The majority of farmers are involved in input and, obviously, production stages. Understanding the vulnerability context would help practitioners and planners to make adjustments that could lead to improvement in the foreseeable future. For example, it should be possible to better plan how to

manage high demand for harvest machinery and finance during harvesting season.

The evaluation of the vulnerability context can provide hints about how various institutions and/or organisations can help farmers to cope with different demands placed on them. This could help to narrow down the type of interventions needed to better manage resources and capabilities. The following excerpt from DFID's sustainable livelihoods guidance sheets (2001:15) describes shocks, trends and seasonality:

> "**Shocks** can destroy assets directly (in the case of floods, storms, civil conflict, etc.) They can also force people to abandon their home areas and dispose of assets (such as land) prematurely as part of coping strategies, recent events have highlighted the impact that international economic shocks, including rapid changes in exchange rates and terms of trade, can have on the very poor. **Trends** may (or may not) be more benign, though they are more predictable. They have a particularly important influence on rates of return (economic or otherwise) to chosen livelihoods strategies. **Seasonality** shifts in prices, employment opportunities and food availability are one of the greatest and most enduring sources of hardship for poor people in developing countries."
>
> DFID, 2001: p.15

It is important to note that the vulnerability context could influence rice value chain performance especially at certain periods of time. For example, the success of a cropping season during the year depends on factors such as geography, political intervention and the like, which can have direct impact on the value chain performance. In addition, the context will inform what resources and capitals would need to be mobilised and allocated in order to help improve farmers' livelihood. Better access to resources and capitals is likely to improve farmers' vulnerability. In practice, these are the parts which need to be updated in a timely manner. In the current study, the analysis can only be present at one point in time of data collection. This can demonstrate an importance of timely evaluation between the vulnerability context and value chain analysis. The following are examples of what is meant by timely matters that are relevant to

rice value chains and farmers' livelihoods. For example, some farmers' organisations have a dryer that helps improve the quality of rice paddy, resulting in a higher selling price and extended storage life. At the same, some farmers' organisations have purchased a drying machine model that is too expensive to run (e.g., fuel and maintenance costs). Therefore, farmers may not benefit from using the dryer as a value-added infrastructure. Another classic example is a seemingly good cropping season, which is ruined by a rainstorm just days before harvest.

Results from vulnerability context evaluation would allow an organisation to know its business positioning and potential factors that could enhance its value creation. Such knowledge would also allow a farmers' organisation to frame its strategy based on its existing resources and potential resource expansion from their allies in the business environment. With this new perspective, the value chain analysis is expected to offer a more rigorous outcome on produce/process and how it can generate value added and economic rents. It is anticipated that the framework will allow insights into capturing added value from economic rents. This emphasises the role of organisation capital in value creation.

3.2.2 Rice value chain analysis

The aim of value chain analysis is to understand the current performance of value-creating activities and how they can be upgraded. More specifically, this means looking into activities that are generating profits, economic rents and product differentiation in the value chain. The description of an overall value system helps to define the scope of the selected value chain analysis, and guides the identification of relevant stakeholders. The aim is to identify and map connections between actors and agents that are directly and indirectly involved in the chain. Mapping value chain brings forward issues in value chain governance and key relationships between actors related to these. This helps to understand the roles, interrelationships and outcomes of each actor and activity resulting in an overall picture of how the rice value chain is organised and

governed. This is a stage where process/product differentiation can be pinpointed for upgrading. Knowing what is the product/process to be upgraded can then make salient, for instance, the routine task changes that would support an enterprise's competitiveness.

The interaction between value chain actors and their agribusiness activities plays an important role and influences the way they relate to other actors. For example, some co-operatives may offer a wide range of services including supply, lending and saving, and aggregating paddy rice as a trader. Therefore, they tend to reduce the interaction role between individual farmers and individual services providers as mentioned above. By contrast, without effective farmers' organisation, farmers are likely to deal with service providers directly on an individual basis. The implication of the two practices is that they likely offer different livelihoods to smallholder farmers. Differentiation through upgrading the right factors can enable a farmers' organisation to become successful. It can also highlight opportunities for a possible replication by other organisations both in term of organisational and value chain models. However, it is likely that a farmers' organisation may not own all necessary resources to upgrade their activities and therefore this is the point where resource mobilisation and new capital allocation would make the difference.

The dynamic of value chain governance will also communicate how value chain coordination and interaction can affect or improve information symmetry. For example, a farmers' organisation with trade and milling facility is likely to offer a more transparent market information to farmer members. By contrast, millers are less likely to be more open to market information to farmers, who are not part of their business entity. This type of dynamic of value chain governance can help guide data collection and analysis.

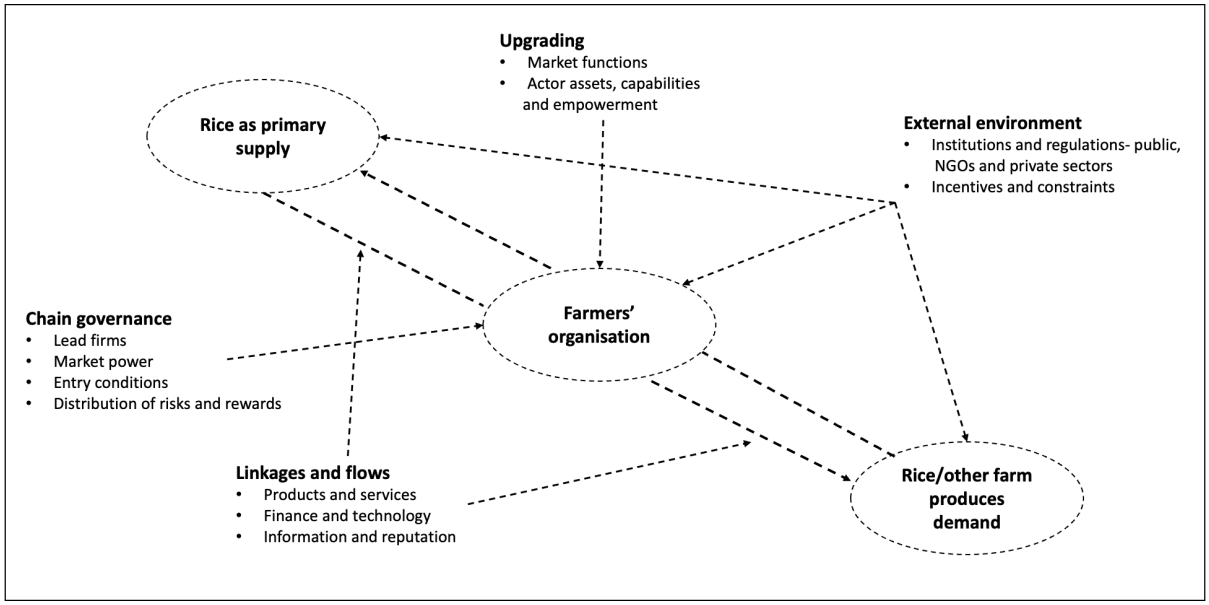

Figure 3. 3 An analytical approach for rice value chains
Source: Adapted from Poole, 2017

Figure 3.3 shows an analytical approach guiding rice value chains in this research. A farmers' organisation is an entry point as well as a unit of analysis. It is a centre of value chain activities by which its success enhances farmers' livelihood, and vice versa. As the figure shows, a farmers' organisation can represent individual farmers to participate in the markets. These can bring many benefits through economy of scale such as access to rice market and other farmer produces on market demand. With better product and service linkages and flows of finance and information, a farmers' organisation is likely to improve its business performance. The capability to deliver such success is significant. Such development process and dynamic are what this thesis called, a capable farmers' organisation.

Using such analytical approach, the case study analyses vulnerability context of the farmers' organisations. This is an important step to help narrow down factors that alter farmers' livelihood and ability to gain access to markets. Then, rice value chain is analysed with the emphasis on the interaction between farmers and millers/farmers' organisations. At last, the results from previous analysis can enable value chain development such as value chain upgrading and improve policy implementation.

Analysing the rice value chain concerns the key aspects achieving value creation and, by implication, improving farmers' livelihoods. Value creation is core to value chain analysis. In a rice value chain, this means investigating both the direct and indirect aspects of value creation. Direct aspect can include improved quality and increased productivity (quantity). Such direct improvements to value creation can be expected to be achieved by strategies such as farm skills development, farm mechanisation, improved post-harvest facilities, and disaster preparedness. For instance, natural disasters (e.g., in the event of flood and drought) are an element that can eliminate the development progress that has been already achieved. This is the reason why the livelihood context is set to be assessed as a preliminary evaluation. Indirect aspects can mean development of farm skills that help to increase quality and productivity. It is important to note that value creation is not fixed, due to the dynamic nature of value chain and markets (World Bank, 2012). In other words, profits in one year may not be achieved in the following year due to changes, for instance, to livelihood conditions.

It is important to note that the aim of the analysis is not to present value in the form of an absolute figure. The emphasis is on the way farmers can make the most of rice value chain by understanding and adapting to their business environment. This view reflects a highly dynamic and uncertain nature of farming activities and agribusiness. For example, this study aims to understand how farmers organisation could reconfigure rice value chain finance, instead of how much farmers earn per unit. In addition, the analysis demonstrates how value chain analysis could be used as to understand new organisational models and behaviours such as creating shared value partnerships. In particular, the analysis looks to business activities that enable farmers to make profit, build capabilities and to access capitals. As Kaplinsky and Morris (2000, p. 29) emphasis, "power asymmetry is central to value chain governance" and that it is important to distinguish value chain governance from the co-ordination of activities. The term 'interaction' has a broad meaning that allows value chain researcher to move from a bigger picture to a narrower view on specific issues. It reflects the nature of

marketplace that is not only about exchanging goods typical of capital markets, but also involves some element of cronyism, culturalism and nationalism.

Chapter 4 Methodology

This chapter discusses the methodology and methods used for data collection and analysis in the study. The chapter consists of three parts: case study research design, data collection, and data analysis. These are built to match the conceptual framework discussed in Chapter 3 aiming at analysing the relationship between rice value chain development and farmers' livelihoods. The actual empirical evidence is produced by three case studies that are constructed to support the analysis. Together, the cases reveal how a capable farmers' organisation enables farmers to minimise their vulnerability at an individual level and to improve rice value chain performance at an organisation level.

4.1 Case study research design

Choosing the right research methods plays a crucial role in understanding the ways in which a farmers' organisation is influenced by internal (e.g., farmers' attitudes, behaviour, capabilities) and external (e.g., price policy, government incentives, production costs) factors. From this perspective, case study research is a suitable approach to explaining current social phenomena such as the one studied here (Yin, 2014), and has been shown to be an applicable research design for value chain analyses (Webber and Labaste, 2009; Miller and Jones, 2010; Trienekens, 2011; Donovan and Poole, 2013; Rohit and Bhavani, 2018; Poole, 2018). In particular, the case study research design can help explain how type questions such as: how do farmers' organisations develop rice value chains and improve farmers' livelihoods? To elaborate, remember that the current study seeks to understand the mechanisms involved in the development of farmers' organisations and rice value chains, and assess how well such development mechanisms impact farmers' livelihoods. Each individual rice value chain selected for the study has a farmers' organisation as an entry point as well as a centre of the study.

The unit of analysis is thus defined as a farmers' organisation. This can offer a holistic picture of the following: i) the rice value chain activities, governance and its relationship with actors and other stakeholders within and between the primary activities; ii) factors that strengthen the farmers' organisation to become a more capable one, iii) the causal relationship between a farmers' organisation and the development of the rice value chain, and iv) the process of improving farmers' livelihoods.

Three cases of farmers' organisations were purposefully selected, representing different farmers' organisation models that are producer-driven, buyer-driven and facilitator-driven models. As discussed in the literature review chapter on farmers' organisation and value chain models, studying these different models will help to explain farmers' behaviour and capability development by allowing comparison between the models. Constructing them as a multiple case study offers robust analytical opportunities particularly on the development mechanisms of farmers' organisation and on rice value chains contributing to farmers' livelihoods. As such, the multiple case study approach can offer rich insights into the business environment where the population of selected farmers' organisations is based. The models represent different types of organisations that together involve a large number of Thai rice farmers.

Knowing that social phenomena are dynamic and sensitive to external factors (e.g., natural disasters, political interventions), identifying and monitoring relevant contextual factors can be a challenge. Various economic, social, environmental and political background factors are separate issues from the focal phenomenon, yet they have impact on the subjects of the research enterprise. To manage these, the business environment of the cases was considered as the boundary within which to apply the rice value chains framework. Against this background, the multiple case study design can help to understand the dynamics of different cases. The comparative analysis of multiple cases can offer new insights through the juxtaposition of different farmers' enterprises in the given business environment. Table 4.1 shows a list of categories used to compare the cases. Examples of associated factors of each category are also listed. For example, the models include producer-driven, buyer-driven and facilitator-driven

farmers' organisations. Each model, then, influences farmers' behaviour in specific ways and contributes to the processes of capability development. The categorisation is particularly useful when organising and analysing qualitative data that will be explained in the following sections.

Table 4. 1 The list of categories to be compared between cases

Categories	**Examples of associated factors**
Model of a farmers' organisation/ value chain	Producer-driven, buyer-driven, and facilitator-driven model; farmers' behaviour and capability development
Financial instruments, products and services	Trader credit, input supplier credit, farm insurance, loan guarantees, savings
Primary activities	Rice farming, rice processing, warehousing, marketing and sales
Support activities	Development of farm skills, procurement and supply, finance, technology development, infrastructure and human resource
Rice varieties	Non-glutinous Khaw Dok Mali 105 and RD 15 rice varieties
End products	Rice paddy, milled rice
Market systems	Intermediary and middlemen
Land rights	Government's land allocation for agriculture
Value chain governance	Legislative, judicial and executive governance
Products/activities that create value	End products, improved quality, value chain upgrading, processing, storage, packaging and modern supermarket trade
Organisational value added	New types of financial instruments, branding, networking, resources
Partnerships with other organisations, both formal and informal setting	Collaboration with other trade actors, research collaboration with universities/research institutions
Government intervention	Collaboration, policy intervention, trade agreements
Organisational processes	Managerial processes, leadership, farmer-leadership, organisational learning

Source: Own elaboration.

The same data collection methods were applied in each of the cases with some variation to adapt to the specifics of each case setting. This reflects the nature of the value chains analysis that can be structured and systematic yet provide

flexibility with respect to individual cases. Kaplinsky and Morris (2000) describe the nature of value chain methodology as "there is no mechanistic way of applying value chain methodology" (p. 49). This can be a challenge for practitioners and managers who have limited experience of value chain analysis particularly in an agrarian context. A more systematic framework could enable analysts to develop more thorough insights into the rice value chain. Value chain analysis, as a descriptive analytical tool, calls for qualitative research techniques, but should not be necessarily limited to them.

The primary data collection was conducted through semi-structured interviews, life-history interviews, participant observation and primary documents, whereas secondary data were used to examine farm and organisational performance. It is important to note that the essence of an interview is to ask with curiosity and listen to understand, particularly when interviewing farmers. A good flow of conversation that fully engaged with respondents was more important than to follow bluntly with prepared questions.

4.1.1 Case selection

This section discusses the case selection process including reasons why each case was initially chosen, an eventual change in the site selection, and problems faced during fieldwork. We begin by describing the selected cases, including a discussion of a few other cases that were initially selected but dropped from the analysis. The three selected cases are farmers' organisations located in Sisaket Province. Sisaket is located in the Northeast region of Thailand covering a part of Tung-kula-ronghai plateau. Tung (means plateau) - Kula (the indigenous tribe) - Ronghai (means, cry) – the Thai name derived from an old myth illustrating that the land was so extremely arid that it made even the toughest Kula people cry miserably. However, it is the extremely arid conditions that impose stresses on jasmine rice cultivation that enables the region to produce some of the best natural aroma and texture (Thailand's Rice Department, 2017).

Why three farmers' organisations? The three most common farmers' organisation models are producer-, buyer-, and facilitator-driven models (Gereffi, 1999; Miller

& Jones, 2011). Each of the cases follows a different organisation model commonly found among farmers' organisations, which lead to different value chain models, farmers' behaviour, capability building and financial instruments. Distinctively, the cases are located in the same geography offering comparative advantages in terms of physical similarity and the same overall human culture and business environment. As this study seeks to understand the development mechanisms of farmers' organisations and rice value chains, and their impacts on farmers' livelihoods, the setting offers controlled variation to observe and evaluate the impact social phenomena on farmers' livelihoods.

According to the National Statistics Office – Sisaket provincial office (2016), there are only 4 rice varieties grown in Sisaket province. The majority of farmers grow the non-glutinous Khaw Dok Mali 105 and RD 15 rice varieties that yield jasmine rice. These account for approximately 91 percent or 1.2 million tons of jasmine rice paddy and are mainly grown for commercial purposes (NSO - Sisaket, 2016). The province also grew RD 6 and RD 10 which are glutinous rice varieties mainly for household consumption and local commercial purposes. Glutinous or sticky rice is the main staple for Sisaket people and, more generally, in the northeast and north regions of Thailand.

Only 11 percent of Sisaket's rice farms are situated within irrigation networks (411,491 rai or about 65,838 hectares). 3,151,856 rai or around 504,296 hectares are rain-fed rice due to the location of most farms outside the irrigation network. In 2015, Sisaket saw 1,455,285 tons of rice paddy produced of which 91 percent was jasmine rice varieties (Sisaket NSO, 2016).

Figure 4.1 shows a map of Thailand and Sisaket province from satellite images acquired from the Thailand's Geo-Informatics and Space Technology Development Agency (2018). The red square in the left-hand side figure is where the Sisaket province is situated. This particular geopolitical region of Thailand, Cambodia and Vietnam is known for its rice production that provides the basic means for people's livelihood including both food security and income. As such, rice and its production can be used as a focal matter for international cooperation

improving the stage of sustainable development and poverty reduction in the region.

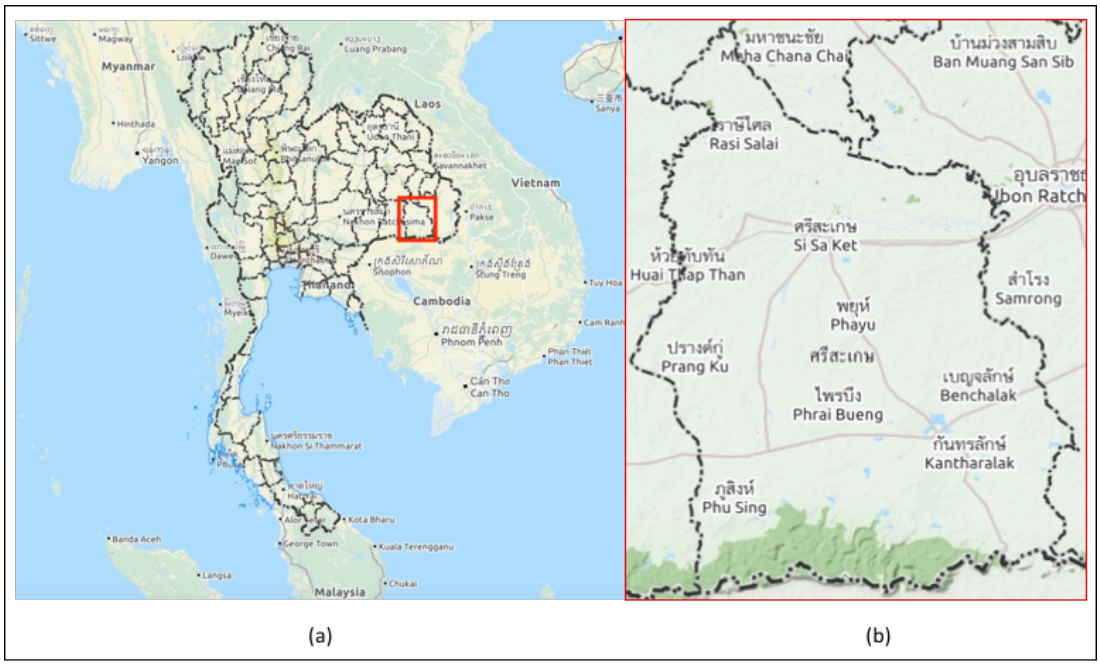

Figure 4. 1 Map of Thailand (a) and map of Sisaket province (b)
Source: GISDA, 2018

Case 1: The Baan Um Sang Organic Rice Community Enterprise

The Baan Um Sang Organic Rice Community Enterprise, so-called the Um Sang, is a producer-driven farmers' organisation established by a collective group of smallholder farmers of Du sub-district, Rasi Salai district, Srisaket province, led by Uncle Boonmee Surakot. Highly respected by the members, "Uncle Boonmee" is used as the enterprise's tradename and logo. The trade name has economic value for its reputation for premium quality certified organic jasmine rice. The rice from the community enterprise is a milled product that has been granted the Thailand's five-star provincial award for 'one tumbol (district) one product' (OTOP). The aims of organic rice farming are to reduce farm production costs, improve market quality and improve the low returns from selling mere rice paddy to millers. The mission of the organisation is to produce certified organic products (e.g.,, packaged milled rice and rice noodles) instead of selling as low value added rice paddy.

The enterprise has about 1,200 members who farm on individual small plots that cover the total of approximately 3,200 hectares of certified organic farmland. The annual production of certified organic rice paddy is around 10,000 tons of jasmine rice paddy. Each individual farmer is responsible for their own farm credit, with help from the enterprise to source organic grade input supplies. The enterprise regularly organises farm training activities and social activities for members to get together and learn from each other. Therefore, its value chain covers all four stages of Inbound Logistics, Operations, Outbound Logistics and Marketing and Sales. In addition to higher than the common farm-gate prices, its members receive an additional 15 percent dividend from the collective enterprise. Approximately 80 percent of the enterprise certified organic rice is exported.

Case 2: The Bangsue Chia Meng and rice farmers dibbling partnership

The Chia Meng and rice farmers dibbling partnership is a buyer-driven farmers' organisation setting through a lead firm. It is created by the Bangsue Chia Meng Rice Mill Co., Ltd. (BSCM) or known as the Chia Meng to help farmers tackle the problems of low-quality jasmine rice paddy and low returns from the farm, improvements to which would obviously also benefit the mill. The BSCM is the leading Thai rice exporter under the Golden Phoenix tradename. It has an annual production capacity of 400,000 tons of rice paddy and exports jasmine rice worldwide.

The original idea came from Mr Vallop Manathanya, the BSCM Chairperson, who was been inspired by the development work of the late King Bhumibhol for mitigating farmers' vulnerability. Initially, the focus was on improving farmers' income and the quality of their rice paddy by using purified jasmine rice seed (Khaw Dok Mali 105) and the dibbling method of rice planting. Since then, the partnership has evolved to offer more supports to member farmers due to the practical problems faced through cropping seasons forcing many members to quit. At the current stage, the BSCM engages more closely with its members from financing input supplies (e.g., seed, fertilizers and machineries) with no interest to giving price incentives for those who successfully farm and sell their paddy to the Chia Meng. In the 2016/17 crop year, out of 465 Sisaket farmers participated

in the partnership programme with the total farmland of 1,065 hectares – only 318 farmers remained in the programme. The value chain of case 2 also covers all four stages of Inbound Logistics, Operations, Outbound Logistics and Marketing and Sales.

Case 3: The Sisaket's Agricultural Cooperatives for Marketing

The Agricultural Cooperatives for Marketing Sisaket Ltd. (ACM) is a facilitator-driven farmers' organisation aiming to increase access to markets for farmers. The ACM receives financial and marketing support from the Bank for Agriculture and Agricultural Cooperatives (BAAC). The focus is on the marketing of rice product. By contrast to two other cases, the activities of the cooperative span from Operations to Marketing and Sales in the value chain. The ACM mission is to offer rice paddy at a higher price than local millers to help farmers improve their income. The ACM has a milling facility and packs 100 percent Jasmine rice, with 40 tons of rice paddy daily production capacity and shelves its rice products at BAAC branches nationwide and at many modern shops. As of 2013, the AMC has 220,000 members, who are BAAC's customers located in all districts of Sisaket province.

4.1.2 Challenges in case selection: fieldwork, logistics and parenting

It is important to note that the case selection evolved from an initial research design based on a desk analysis. At the early stages of the fieldwork, I concentrated on the rice value chains in the central region of Ayuthaya, Suphanburi, Nakhonprathom and Chachoengsao provinces. I chose the central region due to high value-added products and more manageable fieldwork logistics. The plan was to construct cases in Thailand's central region for two reasons. First, the central region has the most extensive irrigation network, which allows farmers to produce up to three crops a year, yet it is there that farmers have the highest debt per household. Second, the region seemed logistically manageable for commuting to the research sites on daily basis. The initial fieldwork period allowed me to understand the factors that affect farmers'

circumstances and thus to assess the appropriateness of specific cases for the kind of comparisons that the study would require.

For example, some farmers' organisations I visited did not represent the business conditions as described in the documents assessed in the desk study. This was learning that could have not been achieved by desk analysis. Besides, there were factors present that might have complicated the analysis within the available time and budget. First, the farmers in the areas used a wide selection of rice varieties which may require different treatment and vary in terms of the cost of rice production even though these would be classified in the same market category as non-glutinous rice. Second, farmers in the central region tend to farm larger size plots compared to those of the north and northeast regions. Also, land rights can vary from family-owned land, to a combination of owned and rented land, and to wholly rented land, which shapes the circumstances of individual farmers substantially. Third, the cases were scattered in different provinces, which seems to result in somewhat different socio-economic contexts. I visited farmers' organisations in Suphanburi, Ayutthaya and Chachoengsao. These were some of the farmers' organisations that offered well-known successful examples of helping their members to mitigate debt. However, the cases were often disconnected when looked at from the perspective of their business environment, which would complicate the analysis when considering, for instance, resourcing issues. Therefore, the cases were not included as key material for analysis, even though they offered significant background insights into the rice industry and rice production, and helped to refine the appropriate case selection.

In addition, in the early stages of the work the study focused on market price and value-added activities in the rice value chains, meaning that value was understood predominantly as economic value. As a result, the perspective pushed the analysis to focus heavily on product development to maximise the profit of farmers' organisation, while paying less attention on other aspects that could improve individual farmers capabilities. Many farmers' organisations I have visited were based on the market-driven model and mostly led by a small team of founders. Some of their rice products were lucrative, but benefited only small group of core members, instead of all members of the farmers' organisation. The main objective

in many of these cases was to earn more income than by trading traditionally with millers. The organisation members would only get involved in the trading part, but ignore other aspects such as farm skill development and shared business risk bearing, which arguably are necessary for long-term organisational sustainability. This was how I came to realise that my comparative case selection lacked the organisational model aspect, which eventually turned out to be the influential factor towards improving farmers' livelihoods.

Another problem specific to the study was the importance of not treating 'rice' as an heterogenous product. It was important to take into account the variety of rice produced by the original set of organizations and their members. In the central region of Thailand, farmers grow a wide selection of rice varieties such as rice berry, Prathumthani, Saohai and provincial Jasmine rice[1]. This turned out to be problematic for case comparisons, because different rice varieties are likely to require different factors that make comparisons questionable such as the life cycle of crops, farming techniques, production costs and market demand, support from the government, etc.

Also, the research questions evolved through study period. At the early stage, my research inquiry emphasised farmers' debt. The statistic shows that the provinces in the central region are among the highest in terms of productivity, but farmers also tend to carry high household debt (Thailand's National Statistics Office, 2011). The high productivity derives from a relatively good access to input supply, credit, natural water sources and irrigation systems. Therefore, although many farmers have high debt, they actually manage to maintain a decent level of farmer livelihood due to the productivity of their farming operations. Among other things, many households have brand-new cars, smart phones, children have higher education, and so forth. Although the vicious circle of debt was to some extent visible, the farming in these areas also seemed to involve sometimes high degrees of financial mismanagement and personal spending behaviour. So, I

[1] In the context of Thai rice market, non-glutenous Khaw Dok Mali 105 and RD 15 rice varieties that grow outside designated Jasmine rice farming area would be called provincial jasmine rice. It has lower market value although hold similar chemical composition to jasmine rice.

decided to look further in search of for more appropriate cases to explain the relationship between rice value chain development and livelihood improvement that is of central interest to this study. From this perspective, the Sisaket province offers a fitting context to observe social phenomena in a relatively homogeneous business environment. There are three farmers' organisational models situated in the area that provide a relatively similar context to each case. However, the decision to choose Sisaket for the case selection was not made lightly. Major obstacles were logistics, parenting and costs, knowing that I had already spent a large part of my fieldwork budget in the central region fieldwork.

Logistics problems involve getting to the relatively remote region from Bangkok where I was based and around the actual study sites in the region. Sisaket is about 340 miles from Bangkok from where it can be reached by road and airplane. The closest airport is Ubon Ratchathani International Airport, which is about 60 miles or about 1.30 hours' drive to Sisaket's center city. The combination of cost, time and childcare issues was key to planning the data collection. Each trip covered a period of 34 hours for a round trip night bus and 12 hours of interview appointments. I did a total of 6 trips.

4.2 Data collection

Researchers generally agree that interviewing is a relatively straightforward and often an effective way to obtain information from others (Silverman, 1998; Harmanns, 2004; Schmidt, 2004; Cloke et al., 2007; Longhurst, 2012). In social science research, semi-structured interview is one of the most common and effective methods for collecting qualitative data (ibid.). It has the advantage that the interviews can take place in an informal setting, allow time to negotiate and clarify information between parties, and are relatively cheap to conduct (ibid.). In particular, interviewing has been successfully used to study value chain development in previous studies (e.g., Donovan and Poole, 2013; Rohit and Bahvani, 2018).

Stakeholder interviews and documents are the key empirical evidence collected for this study. The purpose of data collection was to harvest relevant data and

information in order to answer the research question. To keep focus on what kind of data would the most relevant, a farmers' organisation is taken as an entry point and the nexus of data collection and analysis for each case. The categories in Table 4.1 were used to guide the data collection and the interviews in particular. Overall, the study combines interviewing, participant observation and secondary data gathering techniques as the primary means to extracting rich material on the farmers' organisations that consequently shape their behaviour and livelihood. Also, the study further uses relevant rice statistics such as production, market prices and farmers' debt to depict the business environment in which the farmers operate. Such data were available from reliable institutional sources and statistics published by government agencies. Many of the relevant documents could be located through Google searches, yet some documents were not posted online or were outdated. These documents were obtained by contacting the respective organization directly. The main sources of documents for analysis include the Ministry of Agriculture and Cooperatives, the National Statistical Office and Thai Rice Exporters Association. Examples of these data include monthly price data (national average price) from Thai Rice Mills Association and Thai Rice Exporters Association and, farmers' debt and debt relief from Ministry of Agriculture and Cooperatives. In the event some statistics were not made available from an official source but appeared to be published in media such as newspapers. Triangulation of data sources was used to facilitate validation of data by cross-verifying them from two or more sources. All in all, data collection was aligned with the analytical methods to be discussed in the next section.

4.2.1 Preliminary value chain mapping

Drawing a value chain map visualises interconnections between actors, organisations and activities within a value chain as shown in Figure 4.2. It identifies relevant actors and their business activities in value chains. The function of the map is to illuminate how each value chain is organised and governed. It also helps identify those actors and business activities that can influence and benefit the chain. This identification can then guide how to improve bottlenecks in value chain performance such as farmers' skill development (e.g., farming and financial management) and remedying the lack of capitals and

limited accessibility to resources. The essence of the value chain concerns the flows of products, services, information and finance; accordingly, the following questions guide the mapping of agricultural value chains in the study.

- What are the core processes in the value chain that each farmers' organisation participates?
- How is the value chain organised?
- Who are the key actors of the core processes?
- Who are key partners to these actors?
- How do products, finance, services and information flow through the chain?
- What internal and external influences affect the value chain?

These questions and the schematic value chain map helped to form a list of stakeholders as shown in Table 4.2. A simplified value chain mapping was the first step helping to draw a system boundary for the data collection and analysis. In this study, the initial value chain map (pre-fieldwork) was done based on document analysis of the Thai rice industry. This helped to map who to be contacted for what type of data to be extracted. It also highlights how a purposive sampling method is particularly suitable for conducting a value chain analysis. In this initial stage, secondary data were obtained from official documents, company documents and from media coverage. The media content included various sources of knowledge and televised programmes such as farmers' best practices documentaries and agricultural extension programs that are produced to boost farmers' capabilities. These are produced by Thai National Television Companies, Governmental bodies and NGOs. It is worth noting that the televised agricultural documentaries are generally short and cover only general information that is easy to digest by general audiences. Therefore, this could not replace primary data collection by which researchers have the opportunity to explore the phenomena in detail and observe participants and their own circumstances.

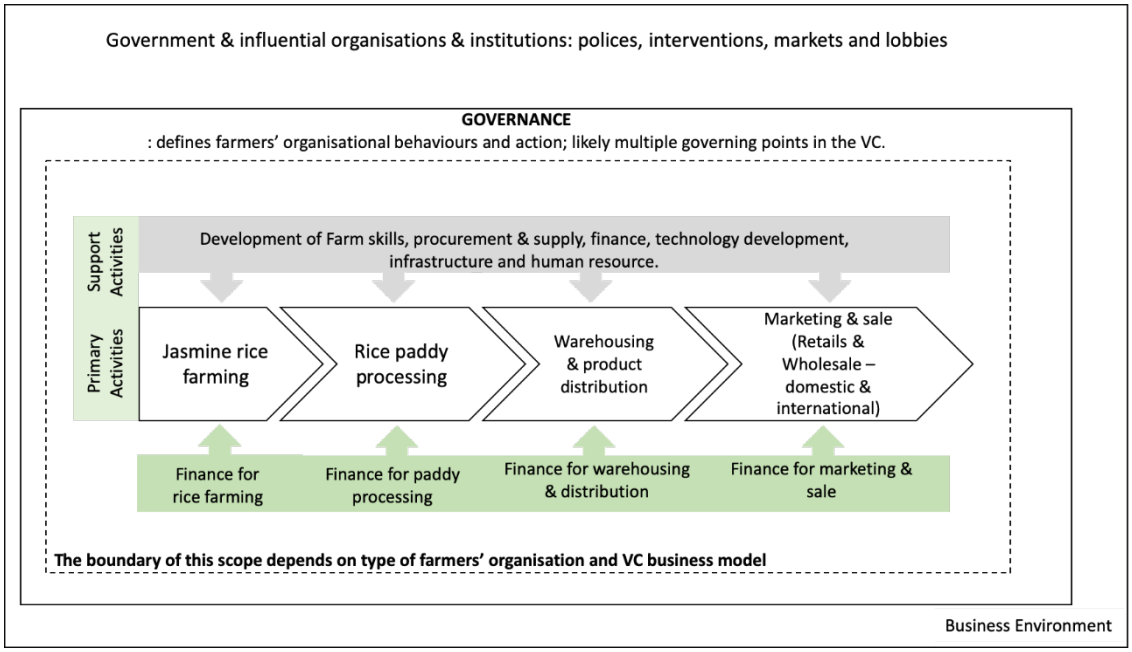

Figure 4. 2 Rice value chain framework
Source: Own elaboration.

Upon embarking on the field research, the understanding from real world problems in the Thai rice industry helped to focus the research questions. In addition, I found that the best way was to keep analysing data and not to wait until the completion of the field research. Documents, notes and interview transcripts were often initially analysed already on the same day, which helped to shape interview questions and improve the quality of data collection methods for the later appointments.

Table 4. 2 Interviewed stakeholders' affiliations (interviewed)

Affiliation	**Number of informants**
Sisaket province business environment	**66**
The Baan Um Sang Organic Rice Community Enterprise - Leadership team	3
The Baan Um Sang Organic Rice Community Enterprise - Farmers	15
The Bangsue Chia Meng Rice Mill Co., Ltd. (BSCM) - Leadership team	3
The Bangsue Chia Meng Rice Mill Co., Ltd. (BSCM) - Farmers	5
The Sisaket's Agricultural Cooperatives for Marketing - Leadership team	0
The Sisaket's Agricultural Cooperatives for Marketing - Farmers	10
Bank for Agriculture and Agricultural Cooperatives – Sisaket provincial branch	2
Agricultural Cooperatives - Sisaket	1
Ministry of Commerce Sisaket provincial office	1
A local miller in Sisaket province	2
Local agricultural suppliers	3
Rice paddy middlemen	4
Farm Women Group Association	4
Sole traders in morning market	12
Ubon Ratchathani Rice Research Center	1
Relevant stakeholders involve in selected rice value chains	**24**
Bank for Agriculture and Agricultural Cooperatives – Headquarter	4
Department of Rice, Ministry of Agriculture and Cooperatives	1
Kasertsart university	3
Thai Rice Exporters Association	3
The Land Bank Administration Institute (Public Organization)	1
Department of Land Development, Ministry of Agriculture and Cooperatives	2
Siam Kubota Corporation Co., Ltd.	1
Shipping broker companies – rice exporting logistics	2
Agricultural machineries	2

International rice merchandise based in London and Birmingham, UK	2
International rice merchandise based in Helsinki, Finland	1
International rice merchandise based in Philadelphia, USA	1
Interviewed but excluded in the three cases	**38**
Khaokwan Foundation	1
Rice Community Enterprise in Suphanburi province - Leadership team	3
Rice Community Enterprise in Suphanburi province - Farmers	6
Rice Community Enterprise in Ayuthaya province - Leadership team	3
Rice Community Enterprise in Ayuthaya province - Farmers	4
Rice Community Enterprise in Chachoengsao province - Leadership team	3
Rice Community Enterprise in Chachoengsao province - Farmers	5
Local miller in Suphanburi province	1
Local miller in Chachoengsao province	1
Agricultural Cooperatives - Suphanburi	1
Agricultural Cooperatives - Chachoengsao	1
Bank for Agriculture and Agricultural Cooperatives – Suphanburi provincial branch	2
Bank for Agriculture and Agricultural Cooperatives – Chachoengsao provincial branch	2
Farm Women Group Association	4
Rice Science Center(RSC), Rice Gene Discovery Unit (RGDU), Kasetsart University, Kamphaengsaen	1

Source: Own elaboration.

4.2.2 Stakeholder Interviews

Stakeholder interviews were used as the main data collection strategy. It involved semi-structured interviews, life histories, and participant observation of which semi-structured interview was the main conversational method. The semi-structured interviews were framed and conducted with the help of a set of pre-planned questions. I conducted interviews with 128 informants, of which 90 respondents were used for the three selected cases in the end. Table 4.2 shows

the list of interviewed stakeholders. Informants were categorised into three groups.

The first group consists of rice value chain actors who are directly involved with the three selected cases in Sisaket province business environment. This group consist of 66 interviewed informants. These included the leadership team and individual farmers of each case, local millers, farm suppliers and middlemen rice traders. Sole traders in a morning market turned out to be an interesting addition to the study (Photo 4.2). Table 4.2 also shows interviews undertaken but not used in case analysis. That was because the initial case selection was planned differently as mentioned earlier.

Some further interesting, serendipitous findings were made at informal gatherings at morning markets that are a centre for local shopping and transit, and by visiting a women's silk weaving network. Many of the participants at the morning market and the network were rice farmers or members of a farm household. These places offered farmers an opportunity to earn additional income on top of rice farming. Some farmers sold milled rice, some drove a motorbike taxi, some sold 'grab and go' food. Observing these activities provided further insights into how farmer households generated additional income and managed their cash flow throughout the year. For instance, I met an elderly lady who skilfully wove silk at home as a hobby (see Photo 4.3), and told about an informal women's silk weaving network. The network was primarily about knowing each other in the villages and less for trading purposes.

These informal workforce activities can generate substantial income for farmers' households. The 'informal' refers here particularly to the lack of access to formal financial loans, while women were often dominant in these informal activities. The positive side is that these women can continuously exercise their entrepreneurial skills through daily trade, mastering networking skills and building resilience through informal markets. The down-side is that such business activities are not recognized, for instance, by financial institutions. As a result, the access to credit, for instance, is limited and therefore many of these actors turn to local informal creditors. Some use the microfinance services from co-op

or BAAC. Although the size of microfinance is small, it is sufficient for small subsistent farming purpose.

Photo 4. 1 Women sell (left) milled rice and (right) operate a local coffee counter at a morning market, Meung district, Sisaket
Source: Fieldwork, 2017

Photo 4. 2 Silk making process (top left and right); an elderly woman weaves on a traditional loom (down left and right)
Source: Fieldwork, 2017

Interview appointments were arranged through respective organisations as listed in Table 4.2. The table lists only informants' affiliation but not name or a specific position to protect the anonymity of the informants. Official letters with SOAS letterhead were used to make the appointments with informants. Most organisations accepted the letter to be sent electronically in a PDF format, while a few organisations also requested a hard copy to be sent to them in mail. In all interview appointments, I had the letter printed and ready to be presented if required. Interviews were conducted in Thai language and recorded with informants' consent. Most of the informants were comfortable with recording. However, there were two informants who asked not to be recorded. Recording allowed a good flow of conversation, while note-taking was done alongside to capture key information and to help to locate where to look for these in the recording. Selected interviews, such as the heads of farmers' organisations, were transcribed verbatim.

Organisational leadership and individual farmers were the main respondents in each case about a farmers' organisation; the appointments had to be made through the respective farmers' organisation. The organisation then arranged the interview setting, which caused difficulties in ensuring that the data collection would yield rich evidence about the farmers' livelihoods. I could not always immediately interview the farmers as I had requested. For example, I asked to interview both male and female farmers that represent age range between 20 to 65 (see table 4.4 d). The main condition was to get access to those who have experience of heavy indebtedness but successfully improved after joining the farmers' organisation. However, those who turned up in an interview meeting were usually in their fifties or sixties as the younger need to work in farm and were busy with household chores. Consequently, I planned to visit farmers individually at their home, which also turned out to entail unexpected difficulties. For example, some farmers forgot their appointment, or some other, more important things came up. Once, I waited for an informant for two hours and still could not reach the person on phone. The respondent's mother who lived in the same household suggested me to wait. I waited, not only that I wanted to have information for my thesis but also the village was not easily accessible, which

made waiting a more sensible decision than to rescheduling the interview. This is to illustrate some of the difficulties I had to overcome during the fieldwork.

Many informants especially in senior positions in their organisations expressed that they were surprised by the fact that my research concerned the most pressing political problem on Thailand's agricultural development agenda. They thought that this could be a type of research that could benefit government policy making process. The fact that my research was not sponsored by the Royal Thai Government Scholarship made the informants often wonder why I should care about these matters. This usually opened an opportunity for me to explain my research objectives in depth and at some length and the informants' subsequent reflections turned out to be particularly valuable in helping me frame my research questions and improve the methods used. Many informants had years of experience in the rice industry and the majority of them expressed interest in value chain development knowledge. They indicated that learning value chain analysis could benefit them but were unsure how to undertake such an analysis in practice. Handling the analytical framework was among the key problems they felt when considering conducting a value chain analysis, and the conversations helped me to improve the understanding of value chain analysis from different perspectives.

Finally, having limited funds meant that I had to use existing resources in most efficient way possible. For example, I made several contacts to stakeholders via telephone and email before the actual fieldwork. This helped to establish relationships and minimise costs by carefully planning the fieldwork activities in advance. To my surprise, many key informants felt special as I approached them from the other side of the world showing determination to conduct the study. Also, many respondents offered informal follow-up conversations to update information as the time progressed through the thesis project.

Table 4. 3 Actors/informants mapped to key analytical categories

Categories	**Example of associated factors**	**Actors/Informants**
Models of a farmers' organisation/a value chain	Producer-driven; buyer-driven; and facilitator-driven	Leadership and farmers of farmers' organisations
Financial instruments, products and services	Trader credit, input supplier credit, farm insurance, loan guarantees, saving	Bankers, co-op administrator, farmers, millers and suppliers
Primary activities	Rice farming, rice processing, warehousing, marketing and sale	Leaders and farmers of farmers' organisations, rice exporters, rice merchandises, agricultural machinery companies, export brokers
Rice varieties	Non-glutinous Khaw Dok Mali 105 and RD 15 rice varieties	Leaders and farmers of farmers' organisations, rice exporters, rice merchandises, governmental agricultural officers, middlemen
End products	Rice paddy, milled rice	Leaders and farmers of farmers' organisations, rice exporters, rice merchandises, agricultural machinery companies, export brokers
Market systems	Intermediaries and middlemen, future price	Leaders and farmers of farmers' organisations, rice exporters, rice merchandises, export brokers, governmental commerce officer
Land rights	Governmental land allocation for agriculture	Leaders and farmers of farmers' organisations, governmental land development officers, land bank officer
Value chain governance	Legislative, judicial and executive governance	Leaders farmers' organisations, governmental commerce officer, rice traders, export brokers
Products/activities that create value	End product, improved quality, value chain upgrading	Leaders farmers' organisations, governmental agricultural officers, governmental commerce officer, rice traders, export brokers millers,
Organisational value added	New type of financial instrument, branding, networking, resources	Leaders of farmers' organisations, millers, rice traders

Categories	Example of associated factors	Actors/Informants
Partnership with other organisations, both formal and informal setting	Collaboration with other trade actors, Research collaboration with universities/research institutions	Leaders and farmers of farmers' organisations, rice exporters, rice institute researcher and university professor, agricultural machinery company
Government intervention	Collaboration, policy intervention, trade agreement	Leaders and farmers of farmers' organisations, governmental agricultural officer, bankers, rice exporters
Organisational process	Managerial process, leadership, farmers-led, organisational learning	Leaders and farmers of farmers' organisations

Note: This table elaborates from Table 4.1

Table 4.4(a), 4.4(b), 4.4(c) and 4.4(d) show examples of templates that guided what information would be required from rice farmers. In particular, Table 4.4(a) shows examples of data acquired and organised in a way that elaborates from Table 4.1, 4.2 and 4.3. Table 4.4 (b) and 4.4(c) show examples of how information from farmers' organisations and farmers were organised and prepared for analysis.

Table 4. 4a Example of data organisation from interview transcriptions, case 1
Category: Model of a farmers' organisation/a value chain

Associated factors	Actors/Informants	Type of information to be acquired	Details
Producer-driven	Case1_01 to Case1_18	Rice farming activities such as input supply, farm skills, financial instruments	- Dibbling technique - SME business loan - post-harvest facilities - Value added by improved rice quality (farm) - Value added by processing - value added through research and product development

Note: This table elaborates from Table 4.3

Table 4.4 a An example of a format for data organisation from interview and documents for full costing of rice production

Items required (kg/hectare)	**Production cost ($/hectare) for farmers as members of a farmers' organisation**	**Production cost ($/hectare) for farmers as sole traders and not as members of a farmers' organisation**
Certified organic Hom Mali 105 seed, 62.5 kg		
Hom Mali 105 seed, 156.25 kg		
Organic fertilizer		
Chemical fertilizer		
Chemical herbicide		
Labour and machine rent		
Harvest machine rent		
Farm insurance		
TOTAL		

Source: Own elaboration.

Table 4.4 b An example of data organisation from interviews and documents on farm performance

Farm performance	**Value ($/weight)**
% of harvested area/total farm area	
Production cost ($/hectare)	
Rice yield (ton paddy/hectare)	
Farm gate price ($/ton paddy)	
Profit ($/ton paddy)	
Other crop(s)	

Source: Own elaboration.

Table 4.4 c An example of data organisation from interviews and documents on farmers personal details

Information	**Elaborate questions**
Age range (years)	-10-19 -20-29 -30-39 -40-49 -50-59 -60-69 - 70 and more
Gender	- Male - Female - Prefer not to say
Level of formal education	- Never attend school - pratom 1-4 -pratom 1-6 - matthayom 1-3 - matthayom 1-6 - vocational education - university - other
On-the-job training	- Farmers' school - Learn from other farmers - Trained by agricultural extension workers - Others
Household responsibility	- share housework e.g., laundry, cooking - share childcare duty
Take home income	- < 9,000 Baht - 9,000 – 15,000 Baht - _____ Baht - I work with husband and count towards his income - Other
Type of business models:	- Contract farming - farmer owned (stand-alone) - farmer owned (join community enterprise)
Farm size	- 1-5 rai - 6-10 rai - 11-15 rai - 16-20 rai - please specify, ___ rai
Farm size (own)	- 1-5 rai - 6-10 rai - 11-15 rai - 16-20 rai - please specify, ___ rai
Farm size (rent)- how long is the rental contract?	- How long is the rental contract? - How much does it cost annually? - How much is the sharecropping proportion?
Labour	wage and number of hours - Self, working hours _____ - Family members' labour, working hours _____ - Hire labour, working hours _____
Source of financial investment	- Profit from previous cropping season - Saving from other source of income - Borrow from formal financial institution - Borrow from cooperative - Borrow from local creditor - Borrow from relative (interest-free)

Source: Own elaboration.

During the fieldwork, it turned out that some of the prepared questions would not yield useful data and could even cause some tension among informants. For example, a question about the level of formal education sometimes made farmers feel that they were inferior. Besides, the level of formal education may not have causal relation to an individual farmer's livelihood. For example, some old farmers of case 1 (in their fifties or sixties) indicated that they lived a comfortable life (i.e. a debt-free lifestyle while children sent money home), as they were no longer responsible for the expenses of their adult children. Instead, they received a monthly allowance from their children – it is a Thai norm for adult children give back to their parents as a way to show gratitude. Interestingly, there were also some young graduate professionals who had relocated from Bangkok to Sisaket province to work locally. They indicated that learning to farm proved to be a hardship for them as it required a new skill set considerably different from what they learned in college. Nevertheless, they felt farming allowed them to have additional sources of income (i.e. by having an office job and doing farming) and to live locally with their families.

4.2.3 Some limitations of the data collection

Besides logistics and budget already discussed earlier, gaining access to some of the relevant documents and informants was considerably hard. There were logistical issues in managing the fieldwork and building trust and collaboration required to access the data. Value chain analysis requires business-specific information from a focal organisation which can be sensitive to disclose. Although the study was for academic purposes and not conducted for commercial reasons, the results are expected to be published. This made access to certain organisational information difficult. More generally, these difficulties highlight the importance of the value chain framework in ways that is important to managers to understand when doing self-conducted value chain analysis. Domestic traveling costs were high, because the public transportation network did not cover major parts of rural area of Thailand. Most of my fieldwork required me to hire a car from local drivers who knew the area.

4.2.4 Qualitative data analysis

The aim of data analysis is to explain how farmers' organisations improve their position in rice value chains and, consequently, farmers' livelihoods, based on empirical data. To help filtering data, farmers' livelihood means human development and financial-related improvement such as higher productivity, higher and more stable income and access to capacity building. It involves the mapping and analysis of rice value chains using qualitative data. Qualitative data analysis can be understood generally as a process of organising, filtering and analysing information. As documents and interviews are the key data sources, the methods of data analysis focus on document and interview transcript analysis techniques. A systematic data organisation is critical because the materials involve a large amount of text from interview transcripts and documents. Without systematic organisation, important information may be unintentionally excluded from the analysis. Well-organised qualitative data analysis can support systematic vulnerability evaluation, value chain governance, upgrading and finance.

The analytical strategy of this study is relatively straightforward, stemming from the exploratory nature of the research. The approach is to extract and identify key constructs and ideas from what the farmers say about rice farming, farmers' organisations and their livelihoods. This involves careful transcription, coding, sorting and sifting of collected data. Detailed fieldwork notes were used to recover informants' non-linguistic expressions along with their body language to reinforce the quality of analysis. The analyses were carried out in several steps involving listening to the interview tapes; transcribing interviews; reading the transcripts several times; connecting relevant codes across respondents; translating selected quotations from Thai to English; and writing it up in conjunction with value chain analysis (Strauss and Corbin, 1997). The selected quotations were then translated to English. The labelling system of stakeholder interviews runs by group and respondent order, as show in Table 4.5.

Table 4. 5 Stakeholder interview labelling system

Stakeholders' affiliations	Number of informants	Labels
Micro level - Sisaket province business environment	**47**	
The Baan Um Sang Organic Rice Community Enterprise - Leadership team	3	Case1_01 to Case1_03
The Baan Um Sang Organic Rice Community Enterprise - Farmers	15	Case1_04 to Case1_18
The Bangsue Chia Meng Rice Mill Co., Ltd. (BSCM) - Leadership team	3	Case2_01 to Case2_03
The Bangsue Chia Meng Rice Mill Co., Ltd. (BSCM) - Farmers	5	Case2_04 to Case2_08
The Sisaket's Agricultural Cooperatives for Marketing - Leadership team	0	Case3_01
The Sisaket's Agricultural Cooperatives for Marketing - Farmers	10	Case3_02 to Case3_11
Bank for Agriculture and Agricultural Cooperatives – Sisaket provincial branch	2	Sisaket_BAAC_01 to Sisaket_BAAC_02
Agricultural Cooperatives - Sisaket	1	Sisaket_AC_03
Ministry of Commerce Sisaket provincial office	1	Sisaket_Commerce_04
Local millers in Sisaket province	2	Sisaket_miller_05 Sisaket_miller_06
Local agricultural suppliers	3	Sisaket_supplier_07 to Sisaket_supplier_09
Local extension worker	1	Sisaket_extension_01
Rice paddy middlemen	4	Sisaket_middleman_10 Sisaket_middleman_13
Farm Women Group Association	4	Sisaket_Women_14 to Sisaket_Women_17
Sole traders in morning market	11	Sisaket_morning_18 to Sisaket_morning_29
Ubon Ratchathani Rice Research Center	1	Sisaket_riceseed_30
Macro level	**19**	
Bank for Agriculture and Agricultural Cooperatives – Headquarter	4	Macro_BAAC_01 to Macro_BAAC_04

Stakeholders' affiliations	Number of informants	Labels
Department of Rice, Ministry of Agriculture and Cooperatives	1	Macro_Rice_05
Kasertsart university	3	Macro_Kaset_06 to Macro_Kaset_08
Thai Rice Exporters Association	3	Macro_RiceEx_09 to Macro_RiceEx_11
The Land Bank Administration Institute (Public Organization)	1	Macro_LandBank_12
Department of Land Development, Ministry of Agriculture and Cooperatives	2	Macro_LandDev_13 to Macro_LandDev_14
Siam Kubota Corporation Co., Ltd.	1	Affiliate_01
Shipping broker companies – rice exporting logistics	2	Affiliate_02 to Affiliate_03
Agricultural machineries	2	Affiliate_04 to Affiliate_05

Source: Own elaboration.

Interview recording and transcription are simple yet powerful tools to preserve the originality of evidence. The transcripts can be cross-referenced to other interviews or data retrieved from government documents. It also helps to elaborate analysis when new ideas or recommendations have emerged. For example, upon receiving comments from my PhD supervisor and feedback from the PhD examiners, I was able to go back and retrieve additional insights from the rich data even if was not possible to do further data collection. I found that I have already had plenty of additional relevant data that had not been incorporated into the earlier version of the analysis. For these reasons, recording and transcribing were effective tools to maintain data quality, and supported revisiting data, so that I could elaborate my research on the basis of the feedback.

Selected interviews were transcribed verbatim. Despite being a time-consuming process, the work allowed me to absorb and develop a rich understanding of the way respondents feel about issues through their verbal expressions, pauses and emotional cues during the conversations. For instance, a simple answer like "rice farming can be profitable" (interview code: Macro_RiceEx_09) can carry much more rich implications that its literal English meaning.

Incorporating non-linguistic expressions into the analysis helped interpreting whether the respondent really thought what they said or, for instance, whether the informant was actually hesitating or ambivalent about his or her own views. Macro_RiceEx_09 was a person of a senior position, assigned by an organisation to be interviewed. An unexpected joint interview by another rice exporter (code: Macro_RiceEx_10) had introduced a nuance into the conversation. From what is mentioned above, the new person said,

> **Macro_RiceEx_10:** "I don't think it [rice farming] is profitable to be honest and government should not do this [market price intervention] to gain popularity. You know, and I know and everyone knows, why they [the government] are doing it [price intervention]. If they want to do something useful, they should expand irrigation network and make farming into large scale. Let me tell something honestly [...] small farmers will never be better off no matter how high price government tried to intervene because their farms are too small to achieve economy of scale and that [...] you tell me, how can they [farmers] win traders? I know I am outspoken, you are doing this for your PhD thesis, right? So, I will be frank."

Scholars have introduced various ways to systemically analyse interview transcripts. For example, Burnard (1991) proposes a 14-stage guide for analysing interview transcripts, including coding which is one of the most common qualitative analytical tools found across different types of qualitative analysis. The process involves defining the list of categories, sub-headings and codes (Saldaña, 2015; Fletcher, 2017), which are then used to aggregate the material into similar and different chunks or excerpts. In this study, a coding technique was used to identify and categorise thematic keywords from the interviews. It is important to note that a code in this study refers to a categorised word or short phrase describing the material excerpt (and not a programming language). As Saldaña (2015) described as:

> "A code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data. The data can consist of interview transcripts, participant observation field notes, journals, documents, drawings, artifacts, photographs, video, Internet sites, e-mail correspondence, literature, and so on."
>
> Saldaña, 2015 (p. 3)

In this study, the coding process is driven by the categorisation introduced earlier; the rice value chain framework was used as a guide to define the categories and codes. For example, Table 4.1 offers a list of categories to be used for cross-case analysis. From there, each category and associated factors were elaborated throughout data collection and analysis. This approach helps analysis to remain rigorous as the focus narrows on the core issues in a more specific way, reflecting Table 4.3 and 4.4. In practice, simple coloured highlighter pens are among the most popular tool to distinguish and allocated categories and sub-headings in printed evidence (Burnard, 1991; Gibbs, 2007; Blair, 2015). After this phase, I transferred the coloured categories and codes into tables as shown in Table 4.4(a), 4.4(b) and 4.4(c) to help organise findings.

Examples of thematic keywords include the models of farmers' organisations, financial instruments, rice varieties, to name but a few. It is important to note that there are many ways to analyse data by using coding techniques. For example, Onwuegbuzie et al. (2009) used a matrix technique to capture the frequencies of the number of thematic keywords expressed by the participants. While such a technique might be effective in some studies, it was not useful in my analysis due to different personal styles and verbal expression ability of the informants. For example, some respondents repeatedly talked about the same things yielding a large number of similar thematic keywords expressed in their speech. However, when considered together with the fieldwork notes and notes about informants' non-linguistic expressions, it become clear that differences in keyword frequencies occurred often due to the personal style of the informant rather than the intensity of the issue expressed. This suggested that such a technique based on counting frequencies might not be suitable to assess the farmers' livelihoods in the context of value chain analysis. The challenge of the study was then to find the right balance of between specific data analysis techniques and holistic judgement. Judgment in this context concerns personal experience from the field and resulting ability to filter informant emotions and facts, and thus the ability to deeply analyse what is seen and heard in the collected empirical evidence. While doing this this, the categorisation, coding and table templates were helpful in guiding data analysis by maintaining academic rigor and allowing a systematic engagement with the material.

Computational software for qualitative analysis such as NVivo was considered as a potential tool for the analysis. The decision to code my interview transcripts manually instead of using computer software, like NVivo, resulted mainly from concerns over linguistic issues. Thai language is not supported with NVivo transcription (QSR International, 2021). On a personal level, I felt most efficient working through documents and transcriptions on paper. This method allowed me to easily go back and forth on physical materials and recollect my memories, giving tangible quality to my analysis. This proved to be particularly helpful when I had to revisit my materials at different occasions such as working on the thesis examiners recommendations.

Value chain analysis

Data used for rice value chain analysis obtained from qualitative analysis in the previous section as discussed with some examples are shown in Table 4.4. Then, the value chain analysis carries on using the framework discussed in Chapter 3 Conceptual Framework on how the three value chains of farmers' organisations improved farmers' livelihoods. Key considerations were primary and support activities, value chain governance, upgrading and innovation, and finance. Collected information was organised into their categories (Figure 4.3) and analytical interaction (Figure 4.4). Figure 4.3 shows a template for qualitative data analysis which is adapted from Porter's generic value chain. It shows the overview of the value chain. This template would help collect data to organise what is relevant to the value chain analysis. The total product value or selling price can be calculated from the total cost of production cost, profits and economic rents. Figure 4.4 shows an example of analysis of each stage of value chain. This analytical template drills down at each stage allowing a close assessment of the interaction between primary and support activities at selected stages of the value chain.

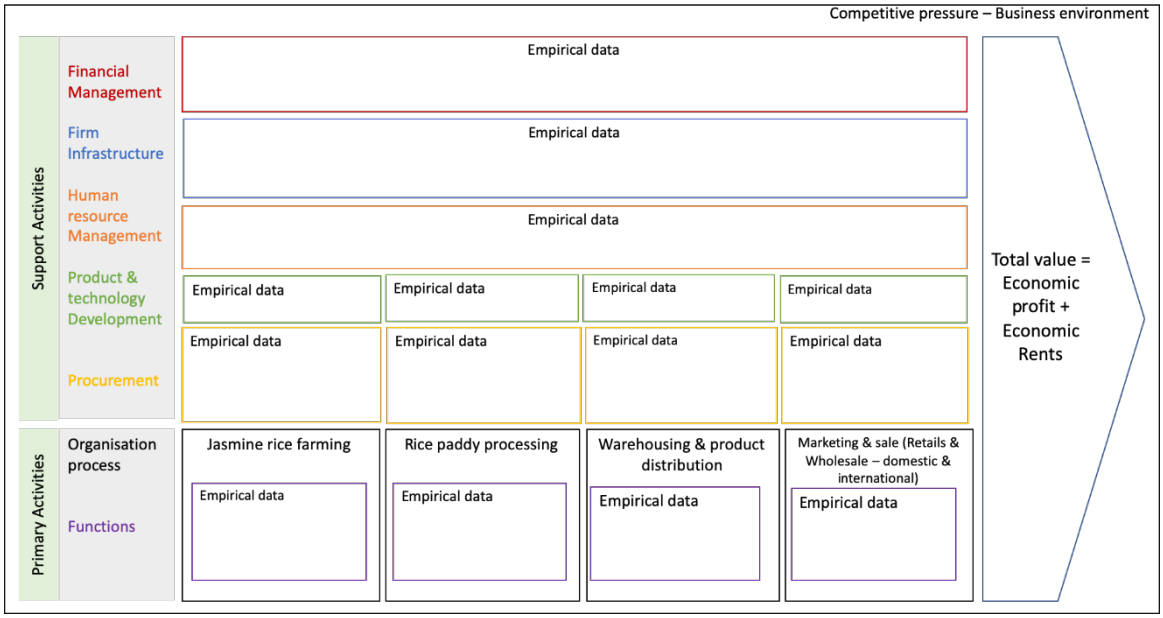

Figure 4. 3 Template for data analysis, adapted version of Porter's generic value chain with additional to economic rents
Source: Adapted from Porter (1991)

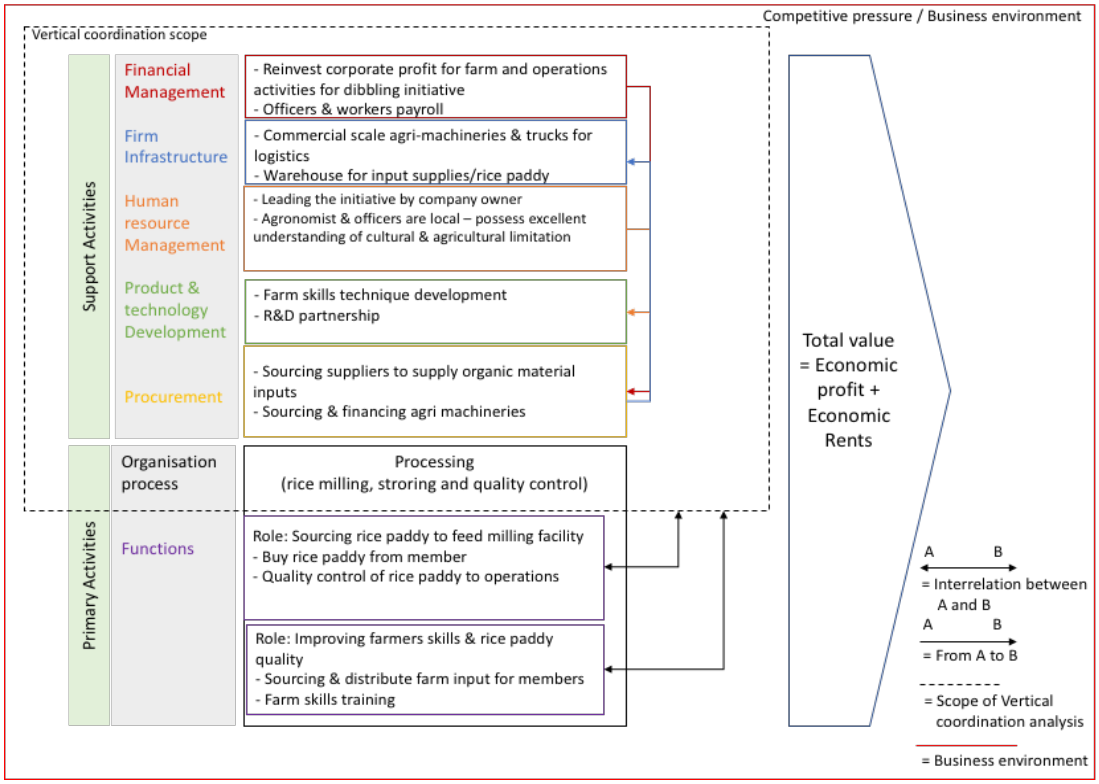

Figure 4. 4 Example of analysis at each stage of value chain
Source: Own elaboration.

Evaluations from previous stages would offer informed understanding of an organisation positioning. This stage is about enabling an organisation to mobilise

resources and capitals in order to develop product differentiation as well as organisational development. The approach is to build a causal pathway that can improve products or services of the value chain. A more detailed analytical discussion will be shown in the empirical chapters 6-8.

Chapter 5 Case Context

In this chapter, a vulnerability evaluation sets the stage of the overall analysis to understand the current livelihood status of farmers, as discussed in Chapter 3 (conceptual framework). The aim is to understand farmers' vulnerabilities and their current level of competitiveness in the rice trade. The DFID's vulnerability assessment is used as a general guide for the evaluation, while a breakeven analysis is used to set the reference point for farmers' rice trade competitiveness. The findings in this chapter offer a preliminary idea about the direction where rice value chain development could provide better opportunities for farmers through collective organising.

5.1 Farmers' settings

The Thailand's northeast region (so-called I-san region) produces about 85 per cent of Hom Mali rice of total annual jasmine rice production in Thailand as shown in Table 5.1 (Thailand's Office of Agricultural Economics, 2018), where the Sisaket province accounts for around 10 per cent of the total Thailand's jasmine rice paddy production. The average jasmine rice paddy productivity in Thailand at 15 per cent moisture is about 2.35 tons paddy per hectare, whereas Sisaket province averages at 2.26 tons paddy per hectare (ibid.). The market price of jasmine rice paddy is usually about 80–100 per cent higher than non-glutinous rice paddy. Yet, non-glutinous rice paddy yields about 50 per cent more output than jasmine rice paddy when grown under the same farming conditions (OAE, 2018). This highlights that to grow jasmine rice commercially, Sisaket province has followed a successful path in growing exclusively jasmine rice. Earning more from jasmine rice can be achieved by i) increasing productivity; ii) lowering production costs, and iii) gaining higher a farm-gate price. Gaining ahigher farm-gate price is probably the most difficult part to achieve by individual farmers as it relies on many external factors (e.g., millers, international markets) that farmers have little control over, which weakens their negotiating power.

An average household farm-size in the Sisaket province is about 3.04 hectares (19 rai) (Sisaket's NSO, 2017). Importantly, the majority of farmers own their

farmland, which means that most farmers have control over the use of land in terms of what crops to grow and an opportunity to use it as a collateral for farm loans. At the same time, they have traditionally had limited access to other important factors of production such as high-quality input supply and water source. Rice farmers farm rain-fed rice for about 6 months per year and earn from other crops or non-farm employment during the dry season. Their income pattern thus comprises one major payment from the rice crop, together with other smaller, uneven sources of income throughout the year.

Table 5. 1 The production of 4 major rice varieties in the crop year of 2017/18

Region/Province	Farm area, hectare (rai)	Harvested area, hectare (rai)	Productivity at 15 per cent moisture (ton paddy)	Average productivity at 15 per cent moisture per area, ton paddy/hectare (ton/rai)
Thailand				
Total	9,475,331 (59,220,823)	8,794,042 (54,962,767)	24,934,349	2.83 (0.45)
Thai Hom Mali rice paddy	4,173,855 (26,086,594)	3,855,308 (24,095,678)	9,063,876	2.35 (0.37)
Prathumthani 1 (non-glutinous)	181,402 (1,133,768)	176,337 (1,102,111)	758,289	4.3 (0.68)
Other variety of Non-glutinous rice	2,518,975 (15,743,598)	2,388,832 (14,930,201)	9,181,158	3.84 (0.61)
Glutinous rice paddy	2,601,098 (16,256,863)	2,373,564 (14,834,777)	5,931,026	2.49 (0.39)
Northeast region (Isan)				
Total	5,861,842 (36,636,516)	5,358,849 (33,492,810)	12,189,325	2.27 (0.36)
Thai Hom Mali rice paddy	3,565,001 (22,281,259)	3,286,532 (20,540,826)	7,405,184	2.25 (0.36)
Prathumthani 1 (non-glutinous)	2,795 (17,470)	2,616 (16,353)	8,535	3.26 (0.52)
Other variety of Non-glutinous rice	154,549 (965,932)	142,992 (893,705)	393,400	2.75 (0.44)
Glutinous rice paddy	2,139,496 (13,371,855)	1,926,708 (12,041,926)	4,382,206	2.27 (0.36)
Sisaket				
Total	480,120 (3,000,750)	445,000 (2,781,252)	1,016,850	2.28 (0.36)
Thai Hom Mali rice paddy	433,193 (2,707,457)	401,664 (2,510,402)	908,990	2.26 (0.36)

Prathumthani 1 (non-glutinous)	0	0	0	0
Other variety of Non-glutinous rice	7,429 (46,434)	6,723 (42,021)	16,855	2.50 (0.40)
Glutinous rice paddy	39,497 (246,859)	36,612 (228,829)	91,005	2.48 (0.39)

Source: Thailand's Office of Agricultural Economics, 2018
Note: Unit conversion factor 1 hectare = 6.25 rai

Non-glutinous rice is the dominant type of rice in Thailand. Domestic market classifies rice into four categories that are i) Hom mali rice or Jasmine rice (non-glutinous), ii) Prathumthani 1 (non-glutinous); iii) other non-glutinous rice varieties, and iv) glutinous rice, as show in Table 5.1. Hom mali or Jasmine rice, ข้าวหอมมะลิ, is rice that is grown out of Khaw Dok Mali 105 seed. To market the produce as Thai Hom Mali rice, the products are required to have the Thai Hom Mali trade mark as show in Figure 5.1.

Figure 5. 1 The trademark of the Thai Hom Mali Rice endorsed by the Thailand's Department of Foreign Trade
Source: Department of Foreign Trade (2013)

The Thai Hom Mali rice can be only traded and priced as Hom mali rice when all requirements set at the national level are met. For example, 42 grams of rice paddy is used as reference weight to determine farm-gate price. The full weight (i.e. 42 grams in the form of rice paddy) will give a high proportion of head rice, which is the most valued part of the rice seed after the rice has been milled. Rice weight is important as it reflects the quality of farm management including the use of appropriate farming techniques and farming inputs application. Qualified rice products will then receive a Thai Hom Mali rice logo as shown in Figure 5.1. The percentage of amylose and moisture content are used in particular to

determine the selling price. According to Hom Mali rice standard by the National Bureau of Agricultural Commodity and Food Standards, Ministry of Agriculture and Cooperatives (2003), standard quality at is 13–18 percent of amylose starch of white rice at 14 percent moisture content. This can be difficult for individual smallholder farmers to achieve without post-harvest facilities such as a dryer and a commercial grade milling machine.

Thailand's Foreign Trade department has tried to rebrand Thai jasmine rice as Thai Hom Mali rice hoping to make the name and labelling to distinguish it from foreign Jasmine rice products. This has, however, a new problem. Thai Jasmine rice has been awarded several times the best rice in the world from several competitions, and rice consumers globally know its characteristics as top quality in terms of taste, texture and aroma. Abandoning the Jasmine rice name can mean losing some of the advantage of these perceived qualities that are typically associated with the name, to other rivals in global markets. It is likely that a new trade name as Thai Hom Mali rice will require several years to become established among consumers as a similar brand and a standard of quality.

Milling process and production

Rice milling is a vital value-added activity that means processing rice paddy into milled rice that is a ready-to-cook product. A key objective of rice milling is to produce the maximum amount of head rice or rice kernel (i.e. white and brown) which is the part that is most preferred by consumers, but there are also other by-products from the milling process. Maximising the amount of head rice can be achieved by using high quality rice seed and manufacturing grade milling facility (Agricultural Research Development Agency, 2015). Figure 5.2 shows the typical output of rice milling from non-glutinous rice paddy (Agricultural Research Development Agency, 2015). On average, the process should yield the following fractions from a ton of paddy: 42 percent head rice (423.17 kg rice kernel), 17 percent (173.21 kg) broken-milled rice A1, 7 percent (66.68 kg) broken-milled rice C1 and C3, 7 percent (72.84 kg) fine rice bran, 3 percent (29.04 kg) coarse rice bran, and 24 percent (235.06 kg) husk and impurities including moisture (ibid.). Put simply, farmers and millers would be

commercially better off if they could increase proportion of head rice and respectively reduce the other parts that attract lower price as listed in Table 5.2.

The total price miller earns is 42,480 Baht ($1,416) per ton of milled rice before costs. Suppose that a miller or a farmers' organisation pays 38,173 Baht ($1,272) for the price of 2.36 ton paddy, which is expected to yield one ton of milled rice (rice kernel). Therefore, the miller can earn 4,307 Baht ($143) for every ton of milled rice before other costs such as transaction costs (e.g., middleman and banks), transportation, marketing and so on (Figure 5.3). In practice, rice millers earn by selling large volumes of milled rice that generate only slim profits per unit. Figure 5.3 shows the market value of rice composition. To produce 1 kg of milled rice requires an average of about 2.36 kg rice paddy as raw material, depending on the quality of the rice paddy and processing efficiency. In general, rice millers consider an ideal rice paddy quantity input would be 2 kg rice paddy for producing 1 kg milled rice, but that is hard to achieve. Around 80 per cent market value of milled rice can be achieved with the combination of 100 per cent jasmine rice head rice, broken rice A1, and broken rice C1, C3 (Figure 5.3), whereas increasing the relative amount of head rice is a feasible approach to elevating profits. This would require increasing the quality of rice paddy that is sent into milling, which could be achieved by using high quality rice seed and leveraging farm resources better by the farmers.

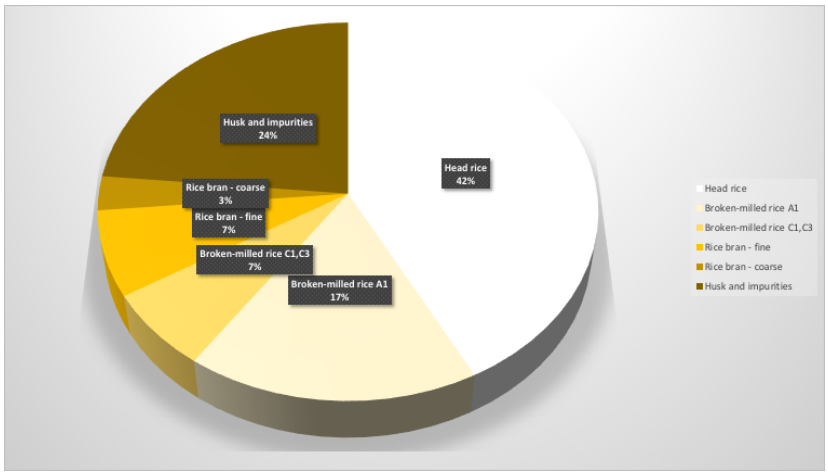

Figure 5. 2 Typical output composition of rice milling of non-glutinous rice paddy. Source: Agricultural Research Development Agency, 2015

Table 5. 2 Production cost (supply cost only) of processing one ton of milled rice
Condition: 2.36 ton rice paddy is needed to produce 1 ton of milled rice (rice kernel), costs $1,272.4 (38,173 Baht)*

Rice composition	Weight (kg)	Selling price by millers (Baht/ton produce)	Market price (Miller earns)
Head rice (rice kernel)	423.17	$1,116.7 (33,500 Baht)	33,500
Broken-milled rice A1	173.21	$426.7 (12,800 Baht)	5,120
Broken-milled rice C1 and C3	66.68	$366.7 (11,000 Baht)	1,731
Rice bran – fine	72.84	$333.4 (10,000 Baht)	1,719
Rice bran – coarse	29.04	$200.0 (6,000 Baht)	410
Husk and impurities including moisture	235.06		N/A
Total			$1,416 (42,480 Baht*)

Source: Thai Rice Mills Association, November 2017

* The cost of rice paddy supply. Rice paddy price is normally set at 15 percent moisture. There is a price reduction for each per cent moisture increase (or in rice market terms as 'point'). For example, farmers may sell newly harvested rice paddy without drying, which entail moisture content at approximately 22 percent. That is 7 percentage point or 7 points higher than 15 percent moisture market price reference. Suppose that a miller gets 225 Baht ($7.5) reduction for each percentage point moisture exceeded. In this case, total reduction will be 1,575 Baht. Therefore, miller will pay 16,175 Baht ($539) per ton paddy instead of 17,750 Baht ($591) of 15 percent moisture price.

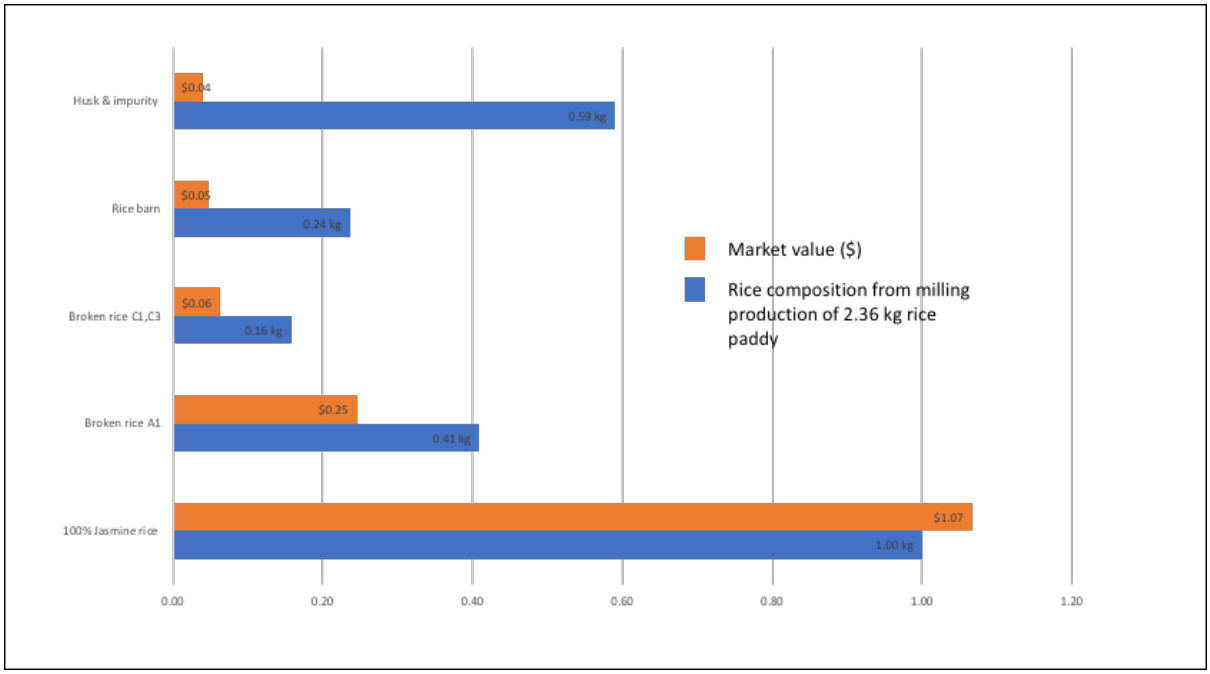

Figure 5. 3 Market value ($) of rice composed of 2.36 kg rice paddy or 1 kg milled rice
Source: Own elaboration.

5.2 Vulnerability evaluation

Vulnerability context consists of shocks, trends and seasonality that can affect farmers' ability to perform farm business activities, resulting to the change of their livelihoods (DFID, 2001). The understanding of their vulnerability context can consequently help farmers to prepare for shocks, trends and seasonality – the factors may impact their assets and capabilities, and thus make positive or negative impact on their livelihoods. The focus here is thus on how resources, capitals and assets help preventing damage from such factors. The vulnerability context is analysed in this section across the three cases because the farmers share largely similar geographical conditions and government intervention programmes. The data used to analyse the vulnerability context is extracted from interviews and secondary data on local rice market and weather forecast information. This understanding will then help to explore how and in what ways value chain development can offer positive impact to farmers' livelihood, which will discuss in the following chapters.

Natural shocks

In Sisaket province, the most frequent natural shocks are floods and drought (Thailand Meteorological Department, 2020). Repeated water-related disasters cause serious livelihood disruption among rice farmers due to damage to farm activities and the resulting loss of income. Improving such water-related problems could mean improving farmers' livelihoods. Interviews with local farmers (e.g., Case1_06, Case2_05, Case3_02) allowed me to understand the situation that the farmers faced, which is briefly summarised in Table 5.3. Rice is generally a water intensive crop but requires different amounts of water at different stages of plantation. In general, rice requires a good amount of water, as is typical for a rainfed crop, during germination stage (the early stage of plantation). If drought occurs at the beginning of a cropping season, rice may not germinate and grow properly. By contrast, rice fields do not require a lot of water during the time when rice produces grain. As described by the local farmers, the worst situation is having drought at the early stage of rice plantation and then flooding towards harvesting. The interviewed farmers had faced such situation many times during their farming careers.

Additional data from news archival can be used to assess some impacts from rainstorm disasters at some level, as shown in Photo 5.1, 5.2 and 5.3. Floods often occur due to rainstorms. Figure 5.2 shows a weather forecast map of Thailand's provincial area at risk of heavy to severe rainstorm on 15 October 2020 and 28 October 2020. The level of rainstorm severity had elevated from heavy to severe during two weeks' time of the forecast, which is an example of how rainstorms can intensify in a short period of time. The result of such severe rainstorm as forecasted shown in Photo 5.1. can be severely flooded rice field in Sisaket province, which leaves little for affected farmers to harvest. A rainstorm season usually takes place between June to October. October is particularly a critical time as it is the peak period of jasmine rice production, which is then usually ready to be harvested by early November. During this time, any amount of rain heavier than slight shower could bring down the rice grain.

Table 5. 3 A brief vulnerability evaluation focusing drought and rainstorm

Asset that can be directly damaged by shocks	Asset required to reduce vulnerability	Examples how a farmers' organisation can help cope with the needs
Drought		
-Rice production -Soil quality -Land value	1.Farm skills and knowledge 2.Water source	Dibbing technique requires less amount of water which has proved to help farmers particularly in the area prone to drought
Rainstorm		
-Rice paddy production on farmland -Flooded rice field	1.Harvest machine: A harvesting would help farmers to harvest as much as they can, instead of losing all rice to the storm. 2.Water pumping machine and a reservoir/water way to release water. If water stands for a long period of time (e.g., 2 weeks), rice field can start to be fermented and create methane gas. This is not good for soil quality and likely to yield negative result for the later cropping season.	Farmers organisations can stand a better position to ease harvest machinery scarcity in two ways. i) Leasing/financing harvest machines when having their own harvest machineries is a practical solution to deal with such situation. ii) Arranging a group machine hire is a practical back-up plan. Contractors are likely to be willing to come for a large-scale hire, as compared to individual small farm plots.

Source: Fieldwork, 2017 and 2018

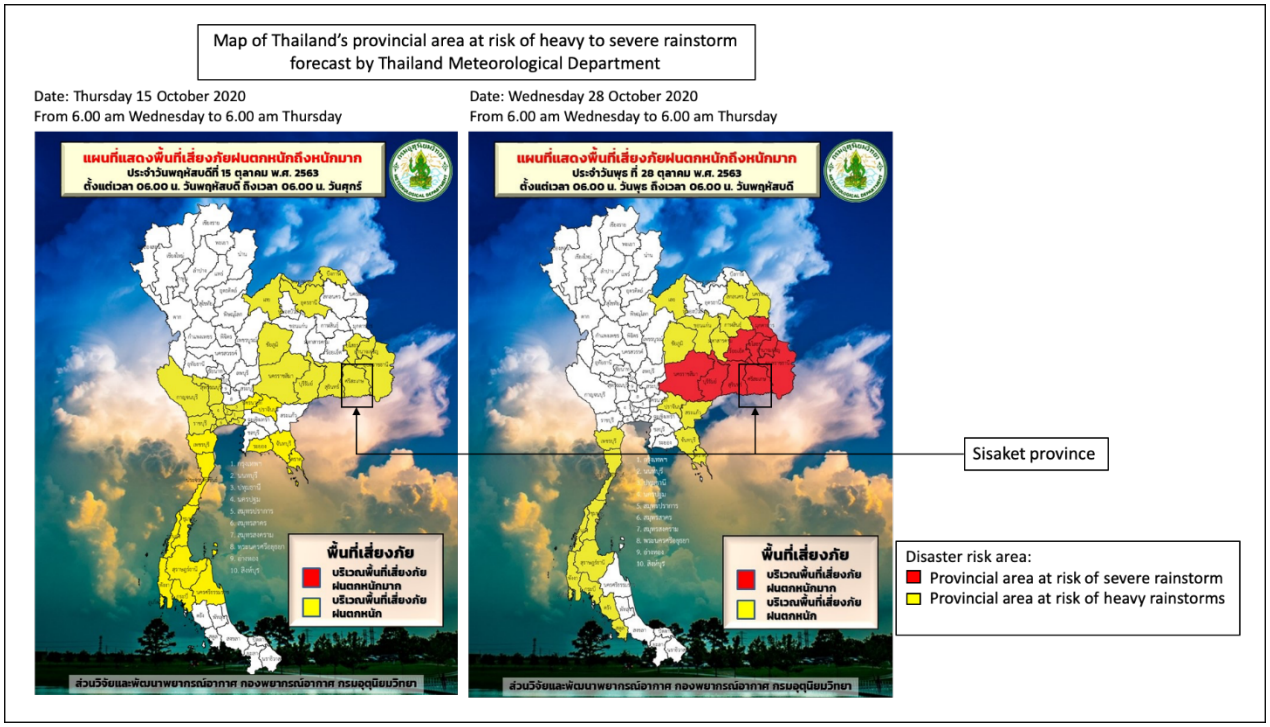

Figure 5. 4 A weather forecast map of Thailand's provincial area at risk of heavy to severe rainstorm on 15 October 2020 (left) and on 28 October 2020 (right)
Source: Thailand Meteorological Department, 2020

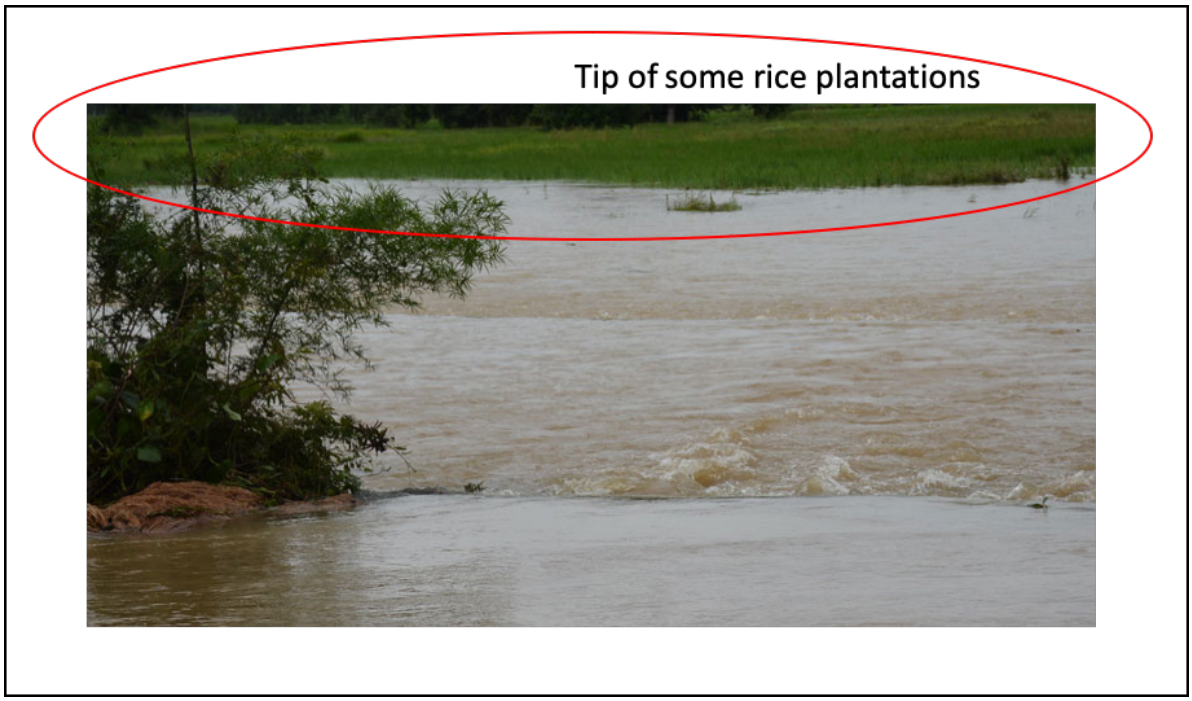

Photo 5. 1 Flooded rice field after a rainstorms in Sisaket province
Source: Thailand's Independent News Network, 19 October 2020

Thailand's Ministry of Agriculture and Agricultural Cooperatives, and the Ministry of Finance have implemented a disaster financial assistance program with the aim of easing smallholder farmers from natural disasters. According to the 2019 disaster financial assistance guideline, a rice farmer can claim the amount of $231 per hectare (1,113 Baht/rai) for no more than 4.8 hectare per household (National News Bureau of Thailand, Sisaket branch, 2019). A claim procedure involves a disaster assessment done by assessors. These assessors include village heads and agricultural officers who assess the damages and sign the disaster financial assistance claims. Farmers indicated that the process has been helpful, albeit slow, when the disaster has been severe, such as the flooding shown in Photo 5.1. However, some natural shocks may not leave similar evidence as flooding but are powerful enough to substantially damage much of the farmland. For example, rainstorms may leave a temporary flood only 30 cm above ground, whereas the rice yields are greatly damaged by associated strong winds as shown in Photo 5.2. This is an example of a situation in which farmers are less likely to be able to claim disaster financial assistance as indicated by respondents Case2_05 and Case3_02. Also, the stage of rice farming cycle is related to the level of potential farm damage. For example, strong winds cause the most damage when they happen during the harvest season in November.

In general, some government agencies such as the provincial branches of the Department of Disaster Prevention and Mitigation can provide assistance for releasing excess water deposits from farm as shown in Photo 5.3. The photo shows the Department of Disaster Prevention and Mitigation, Sisaket branch helping to release water from 32 hectares of flooded rice field (ONB News 2020) as an emergency measure. However, given its limited resources, the agency may not cope with all requests in a timely manner and thus meet the needs of wider farmer population. This particular problem requires extensive resources and partnership as a Thai government shown to have limited resources to prepare and mitigate risks. Local businesses are among those whose resources could further help minimise natural disaster damages.

Photo 5. 2 Collapsed rice field due to strong winds
Source: INN News, 14 November 2014

Photo 5. 3 The Department of Disaster Prevention and Mitigation releasing water from flooded rice field after heavy rain storms in Sisaket province
Source: ONB News, 23 August 2020

Besides water-related disasters, pests and plant diseases are some of the most common shocks farmers face. According to the interviewed farmers, crop health issues such as brown grasshopper attacks have been dealt well over the years. Agricultural extension workers have been fast at acting and communicating through farmers' organisations and co-operatives to advise farmers. Some farmers (Case3_07, Case3_08, Case3_09) expressed that they were intrigued by how extension workers raised an assessment of the brown grasshopper situation in India and Myanmar to warn local Thai farmers. At first, such warnings sounded irrelevant to the interviewed farmers, but it eventually turned out that due to these warnings the farmers managed to prevent damage very well in that year.

Economic and political shocks

Also, price and market interventions have been expressed as a factor creating economic and political shocks. These can have consequences on the farmers' livelihood by making them earn less than expected, as briefly discussed in Table 5.4. Most farmers expressed that having a stable market price and system is the best way to help them achieve a better livelihood. Speaking from their own farming experiences, higher selling price of rice paddy often comes with higher costs of production factors such as farm inputs, machinery and interest rates. By contrast, a stable price means that farmers can plan their investments better for the longer term.

Table 5. 4 A brief vulnerability evaluation from the perspective of economic and political shocks

Asset that can be directly damaged by shocks	Asset required to reduce vulnerability	Examples of how a farmers' organisation can help cope with the needs
Price/market intervention		
Farmland ownership, If used as loan collateral – risk of land repossession	i)Access to a systematic market price scale ii) human capital iii)organisation	Effective farmers' organisation may help farmers to cope with price and market uncertainties. This is particularly effective for those that have post-harvest facilities such as a rice mill. The system will enable a farmers' organisation to plan ahead and to stockpile to cope with the changes of demand and supply in the markets.
Elections		
Risk of land dispossession due to being used as loan collateral. Borrow more to invest in response to electoral promise prices.	Social capital, such as peer-to-peer network among the community of practice. This could take place among farmers, neighbor or even just casual conversations over coffee shop, commonly known in Thai as "Sa-pha-kafae", that literally mean the 'coffeehouse cabinet'.	Not applicable

5.3 The breakeven analysis of rice production

Breakeven analysis has long been used as an essential tool to determine risks and profitability in farm business (Berry, 1972; Dillon, 1993). Maximising profit from rice farming revolves around increasing yield, reducing production costs, and managing price fluctuations. Although these three factors are important, breakeven pricing is largely ignored by farmers themselves. As some farmers (e.g., interview codes: Case1_03, Case1_11, Case2_06, Case2_08, Case3_02, Case3_03) pointed out that their main concern was the selling price. According to the aforementioned farmers, they believed that a high selling price could help solve many financial problems. However, when asked about breakeven analysis

(explained in a non-technical way without using the term breakeven analysis), the farmers still gave the same answer that the main concern was on a selling price, without considering other factors that may be associated with the higher price or other ways to increase profits. By contrast, breakeven pricing brings the fundamental factors (i.e., production cost, market price and product quantity) into the calculation of rice price in a way that could help farmers to make more informed decisions. The basic formula for breakeven analysis appears in many books and articles for example, AGMRC, 2007; CFI, 2018:

Breakeven point (units sold)

= Fixed costs / (Sales price per unit – Variable cost per unit)

Where:

- Fixed costs are the costs that do not change with varying output (e.g.,, salary, rent, building machinery)
- Sales price per unit is the selling price (unit selling price) per unit
- Variable cost per unit is the variable costs incurred to create a unit

Putting these values into the calculation, the formula tells the quantity of product needs to be sold to hit the breakeven point. The calculation uses three factors: fixed cost, sales price and variable cost per unit; i.e. there are two types of costs, variable and fixed, that are to some degree in farmers' control. Variable costs are those that depend on production volume, such as seed, fertilizers and insecticide (Hahn, 2017). Fixed costs such as labour, equipment and land rent depend less on the production volume and thus these costs tend to adjust more slowly.

The point here is that variable and fixed costs play a different role in different sectors and on different levels of economic development. For example, farm business in developed countries (e.g., USA and the Netherlands) tend to be organized as large commercial-scale enterprises and well equipped with machinery. Creditors in such geographies, as Hahn (2017) suggests, focus on fixed costs to improve agribusiness returns. For less developed countries such as Thailand, farms tend to be small and less equipped with machinery and, as a result, variable costs tend to have the biggest impact on the return of investment. The following elaborates the details of fixed and variable costs discussed in this section. It is important to highlight that the aim of the following breakeven

calculation is to understand the potential impact of different factors, whereas the actual breakeven points are less relevant.

Fixed and variable costs

Fixed costs are costs that are largely independent of a sales volume. Put simply, these costs remain the same when sales volume and production volume change, such as rent and farm insurance. The Office of Agricultural Economics estimates the cost of rice production is $827 per hectare (3,968.21 Baht/rai) (OAE, 2016). Meanwhile, the Bank of Thailand – Northeast region office came up with an average jasmine rice production cost of $462.7 (13,881 Baht) per ton of Jasmine rice paddy or $952 per hectare (4,567 Baht /rai) (BOT, 2014). My fieldwork data suggests roughly $646 per hectare (3,100 Baht /rai), as shown in Table 5.5. However, there were no breakdown costs of OAE (2016) and BOT (2014) data. For the purposes of calculation, the breakeven point is estimated using only fieldwork data as shown in table below.

Table 5. 5 Average full costing of rice production (2016/17 cropping season) of local farmers (who used the broadcasting method)

Items required	Rice farmers, before joining the initiative. Production cost in $/hectare (Baht/rai)	Type of costs
Khaw Dok Mali 105 seed, 40 kg – broadcast seeding	$135.42 (650)	Variable
Chemical fertilizer	$164.58 (790)	Variable
Chemical herbicide	$60.41 (290)	Variable
Labour and machine rent	$152.08 (730)	Fixed
Harvest machine rent	$125.00 (600)	Fixed
Farm insurance	$8.33 (40)	Fixed
Transport and sale service by middleman	$15 (150 Baht/ton paddy)	Variable
Total cost	$646 (3,100)	

Source: Fieldwork, 2017 and 2018

Note: Farmers in the area are more likely transport their own rice to sale in small quantity instead of using middleman service.

Sales price per unit

Sale or market price is the price that farmers get from selling their rice paddy. It is a factor that farmers have no control over, yet they rely heavily on it. The nature of rice market price is to fluctuate under the influence of demand and supply of rice in the markets. For the purposes of calculation, I use the 2020 local market price of Sisaket and nearby provinces as a reference. Thailand's Office of Agricultural Economics (2020) records the price for eight rice traders (four millers, two central markets, and two agricultural marketing cooperatives) in Sisaket, Khonkhaen, Roi-Ed, Burirum and Surin. These records show that Jasmine paddy reached its highest price of 18,500 Baht/ton during May–June 2018. The lowest price was recorded at 10,000 Baht/ton paddy in September 2020. For the purposes of calculation, the highest, lowest and mid-point are used, as shown in Table 5.6.

Table 5. 6 Breakeven quantity of rice paddy

Fixed cost	$912	$912	$912
Price/unit (per ton of rice paddy)	$334 (10,000 Baht)	$433 (14,250 Baht)	$617 (18,500 baht)
Variable cost (per ton of rice paddy)	$41.7 (1,298 Baht)	$41.7 (1,298 Baht)	$41.7 (1,298 Baht)
Breakeven quantity (ton of rice paddy)	3.1	2.3	1.6

Source: Own elaboration.

I use data from the fieldwork among farmers in the Sisaket province. The production cost is roughly $646 per hectare (3,100 Baht /rai). The average household size of farmland is 3.2 hectares. Sisaket province's jasmine rice paddy yields on average 2.7 ton per hectare (435 kg/rai). For an average household farmland size, the total yield is 8.64 ton of rice paddy. The total fixed cost for the total farm production is $912, and variable cost is $41.7 per ton of rice paddy. Therefore,

Fixed cost = $285.41 per hectare*3.2 hectare
Variable cost = 360.41 per hectare/8.64 ton of rice paddy
Price/unit = Price of rice paddy at low, mid, high point as shown above

The calculations suggest that increasing productivity may not be an effective strategy for building a more stable income for rice farmer household without controlling fixed and variable costs and stabilising the market price. This highlights the importance of a combination of increasing yield and reducing production costs, especially as the real rice market involves many factors that can alter farmers' profits. For example, the price of rice paddy can be affected by various reasons and the farmers are likely to have limited negotiation power, for instance, in the case a large rice paddy supply flows into the market. For Thai Jasmine rice, November and December are the peak harvest season. This suggests farmers could capture more value from their rice paddy if they have the ability to store rice paddy beyond such period to avoid having to sell on a low price due to high seasonal supply. Reducing fixed cost has been an important objective of the financial assistance policy implementation by Thai government. For example, financial assistance programmes for rice farmers of 2017/2018 cropping year included (Thailand's Department of Internal Trade, 2017):

- helping farmers to arrange harvest machine hiring, and
- financial support for the cost of harvesting and rice paddy quality improvement. Farmer households can claim such support at the rate of $250 per hectare (1,200 Baht/rai), but no more than $400 per household

Such support is a one-off payment and could be used in a more sustainable manner when turned a one-off cash payment into working capital such as machinery. Although this idea has not been implemented at least in a large-scale, it is a pragmatic thing that would benefit farmers in many ways. The following example is to show how such ideas can be realised in a practical way. Suppose, 30 farmers households decide together how they want to use the money received for harvest costs. Instead of hiring a labour and a machinery, they together buy a harvest machine as each family receives $400 in total from the harvest support programme. According to the farmers, a harvest machine has a capacity of harvesting about 8 hectares per day. As discussed earlier, farmers' household farmland is approximately 3 hectares. By grouping together to lease a machine, farmers could turn a one-off financial support into a working capital. This would also resolve a seasonal problem of hiring harvest machine, which are often under constrained supply during the harvest period. In addition, farmers can earn from leasing the machines to other farmers as a way to generate additional income.

Chapter 6 Creating a shared value partnership as a means to improving farmers' livelihood: the case of BSCM Dibbling Initiative

Purpose of the case

The case presented in this chapter examines how a shared value partnership can function as a mechanism that contributes to the improvement of farmers' livelihoods through capacity building, resource mobilisation and capital allocation. The developments may occur when actors leverage their existing resources to create shared value among other value chain actors. The strategy not only aims to understand how to accelerate the poverty reduction process but also to tackle multifaceted societal issues caused by poverty, which are often rooted in issues such as lack of access to finance, knowledge and markets.

Data and methods used

Date retrieved from secondary data source and interview with stakeholders. Data collection methods included desk-based analysis and stakeholder interviews during September and November 2017 at the Bangsue Chia Meng rice mill and various places as agreed. Details of interviewed stakeholders' affiliations were given in table 4.2 and 4.5 of Chapter 4.

Theoretical contribution

The key contribution of the chapter is in the understanding of how a shared value partnership enables economic and societal benefits relative to actors' mutual interests. Shared value fundamentally offers accessibility to economic opportunities, resulting in an improvement of farmers' livelihoods and a reduction in poverty. The case reveals that a determined leadership is an essential factor of shared value mechanisms. In this case analysis, the outcomes of a shared value partnership driven by a determined leadership result in the upgrade of farmers' negotiation power and reconfiguring rice value chain finance. It also reveals a distinctive mechanism of shared value partnership, which differentiates the type of organisational setting from typical Corporate Social Responsibility (CSR) and philanthropic business activities. The findings also suggest that the

shared value approach could be adopted as an institutional innovation, enabling companies to compete with rivals by doing good along with earning profit.

Practical contribution

The understanding of the change process will contribute toward enabling project replication among rice farming stakeholders who might find the findings relevant to their economic activities. These include, for instance, smallholder rice farmers, rice millers and government agencies. The new knowledge may help the Thai government to become more effective in rice policy implementation by leveraging resources from rice traders nation-wide. Meanwhile, millers and traders can adopt new ideas of a shared value partnership and incorporate those into their business models and marketing plans.

Originality/value

The originality of results from the chapter lies in the observation that Thai rice millers possess underutilised resources. The case also challenges the general perception of farmers and millers as having a 'wolf and sheep' relationship. By building on the best of their capacities, a shared value partnership can create a new organisational culture. Note that 'value' refer to financial value (i.e. profit, debt, economic rent) and human development (i.e. human and social capitals). Creating shared value partnerships offers a new form of collective action and a practical business model benefiting all partners. Millers can act in the role of economic rent sharing where farmers can co-benefit through resource mobilisation. Millers can take a role as institutional entrepreneurs in restructuring production and market systems. This can result in reconfiguring value chain finance in the rice market and enable farmers to be repositioned in the rice value chain.

6.1 Case profile

The Bangsue Chia Meng rice mill (BSCM) dibbling initiative is a collaborative programme between local jasmine rice farmers and the BSCM. The dibbling initiative is privately funded by the BSCM to help farmers tackle the low quality of jasmine rice paddy. The BSCM is a leading Thai rice exporter trading under

the Golden Phoenix brand. It has an annual total capacity of 400,000 tons of rice paddy, and exports rice worldwide. The original idea came from Dr. Vallop Manathanya, the BSCM Chairman, who was inspired by the work of the late King Bhumibol in mitigating farmers' vulnerability. Initially, the focus was on improving farmers' income and their quality of rice paddy by using purified jasmine rice seed (Khaw Dok Mali 105) and a farming technique known as dibbling. The partnership gradually evolved to offer greater and broader support to participating farmers to mitigate the risk that forced many members to quit the initiative. Business activities included financing for input supplies and farm machinery and incentives to improve the quality of rice paddy. In the 2016–17 crop year, 465 Sisaket farmers participated in the partnership programme with a total farmland of 1,065 hectares, but only 318 farmers remained in the programme at the end of the 2016-17 season. BSCM's rice value chain activities cover all stages of primary and support activities. Farmers' are involved in the rice production stage.

The BSCM's main business activities are premium rice milling and packaging. One of the key primary activities is to source premium quality Thai jasmine rice paddy to feed into its processing system. The rice purity (percent) is a factor determining premium grade of Jasmine rice. The impurity of Khaw Dok Mali 105 rice seed can occur due to: i) farmers' self-stored rice seed after harvest to use in the following cropping seasons; ii) carriers such as birds or wind; and iii) a high proportion of other rice varieties. Therefore, the initiative has tried to tackle the root cause of jasmine rice impurity by sourcing purified Khaw Dok Mali 105 rice seed. The initiative is not a form of contract farming and, therefore, farmers have the liberty to sell their rice anywhere after harvesting. The BSCM initiative has found that persuasion is more effective than forcing contracted farm to supply high-quality rice paddy. In addition to support of production, the initiative offers incentives of around $17 (500 baht) per ton of rice paddy on top of the market price, which participating farmers generally find a fair deal among local rice trade.

6.2 The structure of rice value chain

In this section, the rice value chain approach is used to analyse how the dibbling initiative affects farmers' livelihood. The rice value chain framework starts by portraying the rice value chain structure, followed by value chain analysis. This involves the analysis of vertical and horizontal linkages as ways of helping farmers to reduce transaction costs. The BSCM helps farmers to earn benefits of economies of scale which the cannot otherwise exploit because they do not have adequate access to resources on an individual basis. The analysis focuses prominently on the rice farming stage of which rice farmers and millers are the main actors.

Identifying value chain activities and actors is the first stage of analysing a value chain. The objective of identifying the value activities is to help understand the connections between activities and actors. This understanding helps guide the analysis of value-added activities and opportunities for profit earning and rent generation along the value chain. This also highlights how value chain analysis can be used in an impactful way to inform policymaking. The value activities involve primary and support activities. Primary activities include business actions that directly create products and value. In other words, market value may not be created and captured without performing these primary activities.

In a rice value chain, these activities typically include rice farming, processing and packaging, transportation and marketing. Support activities are tasks that help to facilitate and enhance the effectiveness of primary activities. These activities can include an array of activities such as procurement, product and technology development, human resource management and organisational infrastructure. Clearly, a range of support activities depend on the company structure, financing, capabilities and mission – it is likely that farmer-led organisations often have limited capacity to maintain such support activities. Meanwhile, working in partnership with large exporting companies like the BSCM could allow better access to such support activities. To this end, support activities of the BSCM's dibbling initiative include procurement, product and technology development, and human resource management. These support activities have contributed heavily to the rice farming stage for participating farmers of the BSCM dibbling

initiative. Overall, the case covers four stages in the rice value chain: jasmine rice farming, rice paddy processing, warehousing and product distribution, and marketing and sales.

Stage: Jasmine rice farming

Primary activity	Jasmine rice paddy production
Actors for the primary activity	Rice farmers
Supporting activities	Input supply and agricultural machinery procurement, farm skill development
Actors for the supporting activities	BSCM, local extension officers, BAAC bankers

Rice farming or jasmine rice paddy production is the foundation of the BSCM dibbling initiative. It is a product farmers and rice millers look to produce and trade. As indicated above, the BSCM has faced continuous problems due to inconsistent quality of jasmine rice paddy sold by local rice farmers to its milling process, which has a direct impact on the BSCM profit and reputation. This is the rationale for the BSCM investing in dibbling initiatives. The partnership model tries to demonstrate shared values between the BSCM and participating farmers the way in which leveraging joint resources enable to mitigate vulnerability. For this purpose, the BSCM is capable of mobilising resources that could directly benefit participating rice farmers. The results of this actions are supposed to include an improvement in jasmine rice paddy quality, while farmers could obtain better income and millers get a better quality of rice paddy into their processing system.

In interviews with the BSCM's production manager and the BSCM's agronomist, they explained that quality issues are linked to farmers lack of appropriate farming skills and insufficient financial investment. Farming jasmine rice does not guarantee a high market price, unless the rice quality meets relevant trade standards. By contrast, rice farmers can obtain more bargaining power in trade by delivering a high quality of jasmine rice, which typically reflects appropriate farming techniques and resources. This requires good quality Khaw Dok Mali

105 seed[2], enriched soil quality, appropriate use of fertilizer and insecticide, appropriate quantities of water and appropriate care of rice throughout different farming stages. The BSCM can leverage their resources to create an organisation as a resource for participating farmers. What this means is that the dibbling initiative serves as a launchpad to mobilise resources and capital to help participating farmers overcoming these problems.

Premium quality rice can provide the BSCM with a sustainable business. In fact, farm-gate price pressure not only provides a direct financial disadvantage to farmers, it also directly impacts rice quality as farmers would be likely to have insufficient funds to farm in the following cropping seasons and the lack of funding may threaten their ability to advance farm skill development and ecological wellness. This is reflected in the opinion of a rice exporter (Interview code: Macro_RiceEx_10) who expressed "if farmers die [he means cannot make profit], we [rice exporters] die too". At the same time, the BSCM can trace back the quality of its rice paddy as the organization knows where its rice is farmed and who provides the source of input supply. Strengthening rice farmers' capability could thus support more sustainable business because it maintains both the viability of both production-side and the sales-side of the BSCM operations. This suggests that leveraging resources jointly can be a powerful tool for the business to tackle problems faced by trade partners while still gaining profit.

Rice paddy production involves two significant movements of input supplies and finance. Without these two factors, farmers cannot farm. First, the BSCM's dibbling initiative helps to source and supply input materials to participating farmers. The inputs include purified Khaw Dok Mali 105 rice seed, fertilizer, insecticide, farm machinery and a team of agronomists. The BSCM procured purified Khaw Dok Mali 105 rice seed from the Ubon Ratchathani Rice Institute, which costs around $20-24 (600-700 Baht) per 25 kg sack depending on distribution channels, which is around $0.9/kg (26 Baht). Second, the BSCM offers an option for financing an interest-free input supply which farmers can pay

[2] Khaw Dok Mali 105 seed is a rice variety that grow into jasmine rice

back when rice paddy is sold to the company. This way, farmers have more flexibility to manage their cash flow. According to an interview with the dibbling initiative manager, many farmers can better manage cash-flow to pay off some mounting debt and manage household expenses without borrowing more. Clearly, the dibbling initiative helps farmers to have the ability to manage better their cash flow while having access to good quality farm supply.

Support from the BSCM's human resource management and company's infrastructure play important roles to achieve premium quality rice paddy. The main function of the dibbling initiative is to source purified Khaw Dok Mali 105 rice seed and to help participating farmers to develop required farming skills. This arrangement creates the BSCM's competitive advantage by sustaining its superior performance as a commercial company and improving farmers' farming performance. The BSCM's dibbling initiative has successfully strengthened the linkages between millers and participating farmers. This is not only cost effective (i.e. rice paddy production cost, cost of finance, and transaction costs) but also enhances process differentiation. This results in building farmers' capability and lowering the degree of financial hardship. The dibbling initiative has also introduced and financially sponsored the use of farm machinery, which further enables farmland to become more productive. Access to agricultural machinery has been largely an unaffordable for many farmers due to the lack of access to finance.

Photo 6.1 on the right-hand side shows neatly laid out rice plots using dibbling technique, while the left-hand side shows a dibbling machine. It should be noted that the plot has good spacing in between each row. This allows farmers to observe and manage weeds, insects and diseases. This way, farmers can optimise the amount of chemical fertilizer and insecticide in the rice field. The technique has a clear difference from broadcast seeding – a common practice used by local farmers. Farmers expressed that the broadcast seeding technique was more time and labour efficient than dibbling, but they also accepted that the downside was the excessive amount of seeds, which created a high cost. Farmers tend to use more seed than recommended to cover risks such as being eaten by birds, blown away by wind and seeds not germinating. Also, densely populated green plants

in the rice field can be a mixture of rice, weeds and grass. The more chemical fertilizer is added into the farm land, the better chance for weeds to grow strongly, and compete with the rice plant. The dibbling method allows farmers to observe and apply fertilizer and insecticide when it is required for the rice. In addition, this method encourages scientific observation skills among farmers. They can learn more about their ecosystems in the rice field and understand the changes in cropping season. Such knowledge is a part of human capital development which is an asset for the improvement of farmers' livelihood.

Photo 6. 1 Left: rice seed dibbling machine; right: rice field planted using the dibbling machine.
Source: Siam Kubota (2017)

One of the advantages of the financing scheme for participating farmers is that they have access to input supplies without having to borrow from financial institutions or being charged high interest rates by local input suppliers. Interestingly, local input suppliers expressed that they were no longer seeing advanced credit as a purchase option, as it is high risk.

> "We take all sorts of high risks and a lot of headache to advanced [input] supplies. To be honest, it is not worth it. We still allow a few old customers to take this type of credit for the sake of a friendly relationship. Most of the time, they [farmers] say we are like a loan shark. I sometimes feel the opposite, feeling myself as a victim [of complaints and money not paid on time]. So, no more credit!"
>
> Interview code: Sisaket_supplier_07

The input suppliers feel that farmers could easily borrow from agricultural banks at low interest rates which is sufficient to cover seasonal production costs. By contrast, farmers also expressed that the size of loans required to cover production costs was low. Another benefit of participating in the dibbling initiative was that farmers would receive a $17 per ton of rice paddy, adding on to market price at the point of sale. Optimising loan amounts can help farmers reduce debt burdens by reducing costs of finance (e.g., loan interest and transaction cost). They felt this financing scheme from the BSCM was the fairest and best option for them.

Table 6. 1 Average full costing of rice production (2016/17 cropping season) of the BSCM dibbling initiative and local farmers (who used the direct seeded rice method)

Items required	BSCM farmers. Production cost in $/hectare (Baht/rai)	Rice farmers, before joining the initiative. Production cost in $/hectare (Baht/rai)
Purified Khaw Dok Mali 105 seed, 25 kg – dibbling seedling	$54.16 (260)	N/A
Khaw Dok Mali 105 seed, 40 kg – broadcast seeding	N/A	$135.42 (650)
Chemical fertilizer	$129.16 (620)	$164.58 (790)
Chemical herbicide	$54.16 (260)	$60.41 (290)
Labour & machine rent	$145.83 (700)	$152.08 (730)
Harvest machine rent	$125.00 (600)	$125.00 (600)
Farm insurance	$8.3 (40)	$8.33 (40)
Total cost	$517 (2,480)	$646 (3,100)

Source: Interview and BSCM data (2017)

Table 6.1 shows an average full costing of rice production for farmers before and after joining the initiative. By joining the BSCM's dibbling initiative, farmers saw their total production cost reduced by 30 percent, of which they invested $517 per hectare as shown in Figure 6.1. It shows that the combination of using purified Khaw Dok Mali 105 and dibbling seed technique help farmers to invest less but yield more. Farmers found that using the dibbling technique helped them to reduce cost by 30 percent while yield increase by 10 percent. Purified seed ensured a better quality of rice paddy than self-stored seed. This finding highlights that seed quality and farming method are significant ways to reduce costs.

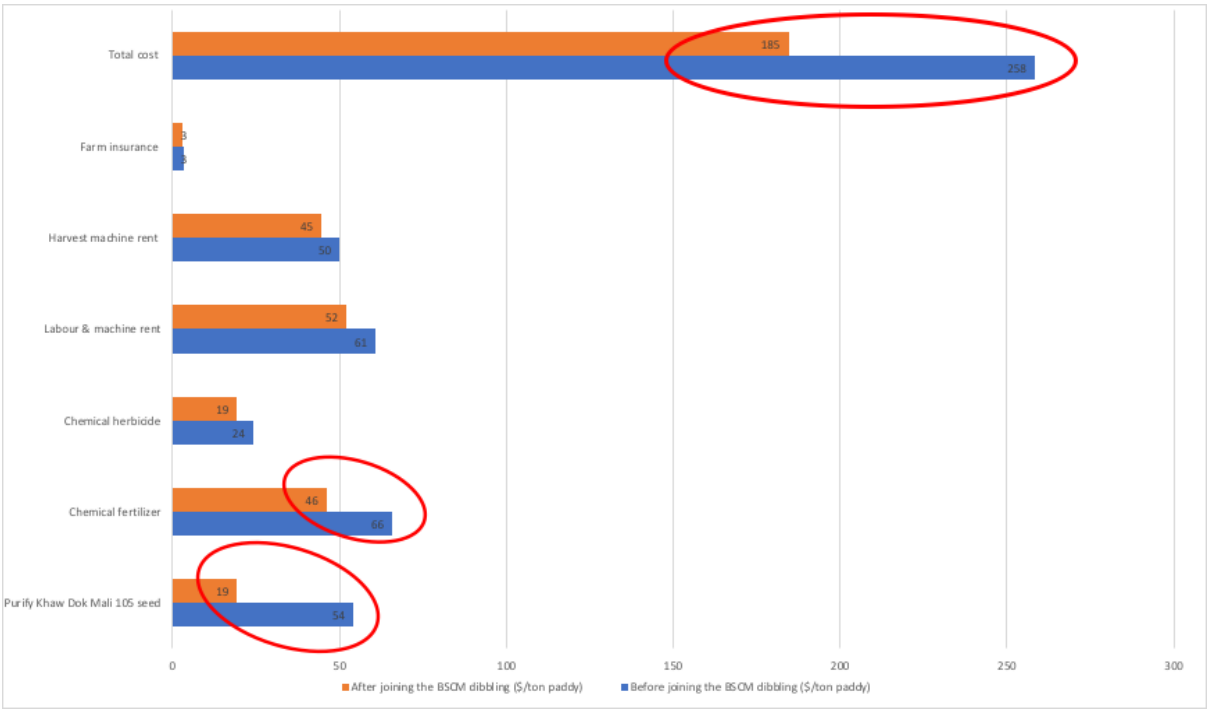

Figure 6. 1 Cost comparison of rice farming before and after joining the BSCM's dibbling initiative ($ per ton rice paddy)
Source: Interviews and BSCM data (2017)

The average yield per hectare was higher than before joining the programme. The farmers of the BSCM dibbling initiative saw an average of 2.8 tons rice paddy/hectare (446 kg/rai). Before joining the programme, they saw an average yield of about 2.5 tons rice paddy/hectare (400 kg/rai), around 10 percent higher than with traditional farming methods. The BSCM offers a further incentive of $17 per ton of paddy (500 Baht) at the point of sales. In total, farmers in the BSCM dibbling partnership programme could earn $77 per ton of paddy more than prior to joining the BSCM dibbling programme.

Table 6.2 highlights the potential added value the dibbling initiative has to offer to participating rice farmers, which is roughly $319 per hectare or $113.86 per ton of rice paddy. This means the farmers in the dibbling initiative would see an income of $1,620/hectare or $578.57 per ton rice paddy. Using the average size of farmland of 3.07 hectare (19.2 rai) in Sisaket, cropping rice under the BSCM dibbling initiative could enable rice farmers to earn about $4,900 per cropping season.

Table 6. 2 Potential value-added earnings by participating in the BSCM dibbling initiative

Potential value-added items	Potential earning/saving $/hectare (Baht/rai)	Potential earning/saving $/ton rice paddy
Cost saving from lower cost of supply	$129.17 (620)	$46.13
Cost saving from interest free financing (7percent annual BAAC) (calculated from the difference between total production in Table 6.1)	$9.04 (43.4)	$3.22
Higher yield 46 kg/rai or 287.5 kg/hectare (Farmgate was $566 per ton paddy, 2018 price)	$134.17 (644)	$47.92
Incentive sell price from being a member of the Dibbling Initiative Incentive = $17 per ton paddy	$46.46 (223)	$16.59
Total	$319 (1,530.4)	$113.86

Source: Interviews and BSCM data (2017)

Procurement

Procurement deals with activities that make resources or input supply available to primary activities. For the dibbling initiative, this involves sourcing supplies from the suppliers that can support the production of premium quality rice paddy. Financial resources play a significant role in making it possible to source high quality inputs. To this end, the dibbling initiative is financially backed by the BSCM itself and it is fair to say that effective procurement has contributed to the success of the dibbling initiative. Key procurement activities include sourcing purified Khaw Dok Mali 105 rice seed from the Ubon Ratchatanee Rice Institute, farm input supplies and agricultural machinery. Farmers who do not participate in the dibbling initiative do not earn the extra price incentive of $17 (500 Baht) per ton rice paddy when they sell to the BSCM. The high quality of rice paddy from purified seed should enable farmers to earn value added at the point of sales in comparison with typical rice seed.

The initiative procured agricultural machinery from Kubota company, a leading Japanese agricultural machinery corporate based in Thailand. This has brought benefits not only in obtaining farm machinery, but also potentially increasing farm productivity and farmer skills. Kubota organised demonstration sessions, where farmers learned about using machinery for rice farming which was their main crop. They also learned different types of machines for dry season crops such as Japanese sweet potato and soybeans, which are high value produce. This enhances the chances of earning more in the dry season by increasing the productivity of land that is otherwise left deserted. Farmers have also indicated that dry season farming helped to increase rice productivity in the following year.

However, the BSCM's dibbling initiative has also encountered problems, which include the high drop-out rate among farmers, as they found the dibbling technique too laborious. To ease farmers' burdens, the BSCM agreed to invest on dibbling machines so that the farmers could continue farming with the dibbling method. To this end, an effective way to convince farmers was found by having them see improved yields and better income. This requires, however, waiting until the harvest season, which turned out be the hardest part for many farmers, causing them to leave the initiative. At the time of the interviews (November 2017), the company had already invested about $500,000 (15 million baht) in the initiative. Despite the unforeseen expenses, the BSCM owner was determined to continue investing in the initiative. This highlights the importance of the continuity of projects, which is also the case for many development agencies. The development process can involve disruptive factors that either disrupt the project or allow lessons to be learned. In any case, it is clear that continuity and persistence are crucial elements of a successful project.

Farm skills development

Product and technology development involve processes and activities that allow improvements of the products and their production processes (Miller et al., 2013). In the case of the BSCM's dibbling initiative, such farming skill development includes the dibbling technique, pest management and appropriate fertilizer use. The BSCM hired a lead agronomist to advise farmers participating in the

initiative. This has proved to be an effective way of farm skill training. The fact that farmers already have farming experience, means that adopting new farming skills would not be difficult for them. The dibbling method is known as a systematic plantation technique, which helps farmers to visibly separate rice plants from weeds. As shown in Table 6.1, this technique helps farmers to reduce rice seed cost by $81 per hectare. All in all, the new farming technique offered technical and financial benefits such as reduced production costs and increased yield. And yet, despite knowing the advantages of the technique, farmers' perception seems to play a key role in either adopting or rejecting the new knowledge. Those who stayed with the initiative adopted the dibbling technique, while ones who left were rejecting it. By having agronomists working closely with farmers, they can observe, evaluate and report back on how issues can be managed. This emphasises that human capital development plays a significant role in the product and technology development.

Firm Infrastructure

Firm infrastructure plays a vital role to the success of the BSCM's dibbling initiative. As a leading Thai rice exporter, the BSCM owns post-harvest facilities including processing and warehousing. These allow the company to store large volumes of rice, both in the form of rice paddies as its supply, and milled rice as its trade product. This also helps to minimise the risk of price fluctuation and cash flow management. Unlike small and medium size millers that could face price fluctuation and insufficient cash flow during a harvest season, the financial stability offered by the BSCM with its facilities can create trust among the members. The most striking feature is that, by mobilising company infrastructure, the BSCM demonstrates how farmers and millers working in partnership can contribute to reducing the financial burden. It can help farmers to benefit from shorter supply chains while increasing net earnings. This can promote ethical business both in terms of traceability and improving rice producers' livelihood.

Human Resource Management

Human resource management provides important support to run and maintain the BSCM's dibbling initiative. According to Grant (2001), firms' superior performance can be constructed from "an integration of individual functional capabilities" (p.121). Although this research looks at the BSCM's dibbling initiative as separate from the overall business performance of the company, it is sensible to relate the management of dibbling initiative to the BSCM's business performance. As the BSCM is a large corporation, it has a competent human resource management team to support its company activities (i.e. the dibbling initiative) to achieve its objectives.

At the centre of the BSCM's human resource people is the company owner, Dr Vallop Manathanya. He is a rice trader who is also farming rice at an experimental farm. According to Dr. Manathanya, his passion for rice farming was inspired by the late King Bhumibol, to understand how rice farming development can be a means to improve farmers' livelihoods. Being an owner of a large-scale family business, he has the capacity to make interventions to the business that are swiftly implemented to by his employees. The BSCM also operates the dibbling initiative with professional human resources workers, for example, agronomists play a key role in operating the dibbling initiative. The lead agronomist works in close collaboration with participating farmers and is approachable by phone and Line app, a mobile application popular among Thai people. The outcomes of such human resource support further highlight the importance of capital, assets and capabilities in enhancing farm development.

Stage: Rice paddy processing

Primary activity	Rice paddy processing
Actor	BSCM
Supporting activity	Product development, technology development
Actors for the supporting activities	Rice farmers, BSCM workforces, and trade partners

The main functions of rice processing stage are to process and package rice paddy into finished products such as rice packs. The BSCM is a rice exporter that trades under the name Golden Phoenix. It prides itself for producing premium quality jasmine rice which is sourced from the Tung Kula Rong Hai plateau that has the geographic advantages discussed earlier, which allows the BSCM to charge its economic rents. Global rice traders know that the geography produces the best jasmine rice. For example, interviews with London-based (Interview code: Intertrade_01), Helsinki-based (Interview code: Intertrade_02) and Philadelphia-based (Interview code: Intertrade_03) rice traders suggest that they would choose jasmine rice from Thailand over rice produced by other countries. From this perspective, the BSCM continues to improve its product line by funding the dibbling initiative. Rice paddy from the initiative yield superior jasmine rice which can be labelled as purified jasmine rice.

According to the BSCM's factory manager (interview code: Case2_01), the company faced a series of problems linked to the quality of jasmine rice paddy sold by farmers. He indicated that many of these problems could be largely solved by the use of purified Khaw Dok Mali 105 rice seed. To produce 1 kg of milled rice requires an average of about 2.36 kg rice paddy as raw material, depending on the quality of rice paddy and processing efficiency. An ideal rice paddy quantity input would be 2 kg rice paddy for producing 1 kg milled rice, but that is hard to achieve. In the milling process, the average rice composition is as follows:

- 42–55 percent of 100 percent Jasmine rice milled, so-called head rice;
- 17–20 percent broken rice A1;
- 7–10 percent broken rice C1, C3;
- 10–15 percent rice barn; and
- 18–25 percent moisture and impurities

Around 80 percent market value of rice milled can be achieved with the combination of 100 percent jasmine rice, broken rice A1, and broken rice C1, C3. Such a composition can increase in relation to quality of rice paddy. For example, the factory manager (interview code: Case2_01) told that using purified Khaw Dok Mali 105 rice seed helped increase the proportion of head rice up to 60–65 percent. The more the proportion of head rice increases, the less broken rice, and the higher market value earnings. Therefore, the BSCM dibbling initiative has tackled such problems at the very root cause faced by both farmers and a rice miller.

The BSCM's offers slightly higher purchase price than other rice millers in the area (interview code: Case2_01 and Case2_03). This perhaps reflects the need for sourcing high quality jasmine rice paddy. Yet, some farmers hope to earn more from their paddy by adding impurities such as different rice varieties, moisture and even stones to their paddy, which damages the reputation of jasmine rice paddy sold by local farmers as a whole. If impurities were found at the selling point, then farmers would earn less than the market price. If impurities went into the milling process, millers would had to pay the price, depending on the type of impurities. For example, a mixture of different rice varieties can damage company's reputation, which has sometimes created lack of trust in the relationship between millers and farmers.

Stage: Warehousing and product distribution

Primary activity	Store rice products and distribute products to markets
Actor	BSCM
Supporting activity	Product development, technology development, logistics
Actors for the supporting activities	BSCM workforces and trade partners including logistics companies

The BSCM at Sisaket branch produces approximately 250,000 tons of rice annually. The company trades about 80 percent of total production in international markets. In practice, international rice buyers will order in advance, which allows the company to plan its operations, delivery and logistics well ahead. Since rice is farmed in an open space farmland, productivity can be affected by natural disasters, such as drought and flooding. For this reason, it is common for large-scale rice companies to stockpile rice paddy in their warehouses for supply management purposes.

Warehousing and product distribution involve delivering products to wholesale and retails traders in domestic and international markets. Products require warehousing before delivering to consumers both in domestic and international markets. This is a great barrier for typical farming organisations to make their entry into these markets. The quality standards and efficiency of warehousing and distribution can have a direct impact on the quality of packaged rice including shelf-life, physical appearance and chemical characteristics. A shelf-life of white rice can be up to 5 years, while vacuum sealed rice can have a longer shelf-life. The BSCM has continued investing in skilled workers as well as state-of-the-art technologies.

This case of the BSCM and farmers partnership is evidence of an alternative option to enable farmers' organisations to enter into markets. Warehousing and distribution channels are existing facilities available in most areas of rice farming nationwide. Many local millers have indicated that they would welcome farmers (individuals and groups) to hire their milling facility. Farmers can commonly mill their rice paddy free of charge in exchange for broken rice and other rice

compositions. For some rice mills who produced their own electricity, rice husk can be used as fuel to generate electricity. Farmers are also encouraged to use rice husk as organic fertilizer.

In an interview with a rice miller, who asked not to be named, it was stated that the lack of rice stockpiles data has influence on price fluctuation. This is an unexpected finding as general market understanding would focus on the price points during rice production and processing. The ability to manage rice stockpile inventories would mean prices would likely become more predictable. In addition, farmers can benefit by planning to grow something else when it is known that supply is sufficient in the market, yet there is no inclusive information system that would keep track of the rice inventory in the Thai market. Also, some traders took advantage from better communication within their networks to control rice supply in the markets, causing price fluctuation.

Stage: Marketing and sales

Primary activity	Marketing rice in wholesale and retail markets
Actor	BSCM
Supporting activity	Advertisement, shelving strategy
Actors for the supporting activities	Trade partners, advertising agencies

Marketing and sales involve activities that encourage purchasing and customer loyalty. These activities can include advertisement, sales promotion and customer relationship management. The BSCM has built its reputation as a leading premium Hom Mali rice producer over the last 80 years. Participating farmers immediately benefit from such recognition through the partnership programme, while the BSCM can benefit by strengthening its reputation through partnership with local farmers. Figure 6.2 shows a rice advertising poster that uses the partnership story to portray the BSCM's contribution to the society and the environment. Rice farmers have been affected by unpredictable rice policy particularly during the past ten years. After a decade of political instability which caused slow economic growth, the results of the dibbling initiative have satisfied

participating farmers and customers. Product satisfaction can create brand loyalty.

Figure 6. 2 Commercial advert of limited edition jasmine rice from the 2018 crop From left to right (translate from Thai advert captions): 1. prepare purified jasmine rice seed; 2. prepare appropriate soil, 3. farm with dibbling technique; 4. look after farm with love; and 5. harvest and package to meet the manufacturing compliance.
Source: Adapted from the BSCM brochure of November 2018

The BSCM's dibbling initiative can be considered as an instrument that enhances the company's competitive advantage. Rice markets are fiercely competitive both domestically and internationally. There are a large number of rice exporters from various countries such as Cambodia and Vietnam, producing jasmine rice. The key question for any rice trader is how to build a strong brand loyalty between a company and its customers. Product uniqueness can derive from a product's development as well as a marketing strategy, and help a company to survive the threat of product substitution. These are some of the underlying reasons why Thailand's Department of Foreign Trade decided to rebrand Thai jasmine rice to Thai Hom Mali rice. However, rebranding Jasmine rice may not be sufficient to build customer loyalty and it, at least initially, means that the Thai rice exporters

lose the band value built around ‘jasmine rice’. The BSCM, like other rice firms, faces the threat of product substitutions where quality and price competitive strategies may not be sufficient to sustain markets. The BSCM’s dibbling initiative can serve also as a strategic public relations asset, helping the company to earn strong brand loyalty. Some of the key moments include the success of marketing and sales of the new 2018 crop from the dibbling initiative. This suggests that both farmers and the BSCM benefit from the shared value partnership. The first product from BSCM’ dibbling initiative was launched in 2018 with the emphasis is on superior quality of jasmine rice. The BSCM gives its consumers the experience of distinctive purified jasmine rice and the desire to taste this special product. Despite a small product line, it is a successful marketing strategy that creates brand loyalty among consumers.

6.3 Rice value chain analysis

The case study demonstrates how value chains can be used as a facilitating mechanism for creating shared value partnership and enhancing farmers’ livelihood. In particular, it shows that business can leverage resources to enable farmers making profit, build capability and access capitals. For example, the dibbling initiative shows how partnership formation enables the BSCM to support individual rice farmers. This is particularly motivating since rice millers are often perceived by general Thai society as exploitative profit makers. By contrast, the case suggest that millers have also tried to help small farmers in different ways. For example, some millers (not included in this study as discussed in Chapter 4) had conversations with farmers when they come to sell paddy rice. However, such conversational exchange has been solely on an individual basis. Therefore, the dibbling initiative opened a platform for millers and farmers to communicate.

6.3.1 Governance and coordination

The focus of value chain governance and coordination framework is to analyse how well value actors perform individually and collaboratively to develop rice value chain. This case study highlights the different viewpoints when using different value chain mapping strategies, as shown in figure 6.3 and 6.4. Both mapping strategies complement each other in terms of value enhancement.

Figure 6.3 exhibits a commonly known method of illustrating value chain analysis of price build up. It is important to note that higher value in each stage may not necessarily mean higher profits in the stage. This is true particularly in the rice industry where economies of scale are key to generating profit. Despite being a common way to represent the value chain, a mapping strategy used in Figure 6.3 omits the details of how the corporate body and the partnership with farmers help to improve farmers' livelihood. The lack of this connection may affect opportunities to identify potential profit earning and rent generating through value chain activities. Figure 6.4 integrates these approaches and shows the coordination of primary and support activities. Such value chain ordination can help to identify gaps in existing infrastructure or services, as well as highlight opportunity for business development.

As mentioned earlier in this chapter the focus of value chain analysis has been on the rice production stage. The main concern of this analysis is on the rice farming stage which involves smallholder farmers. Figure 6.3 shows the flow of physical input/outputs and value added from production to marketing. It illustrates the initiative that supports a total of 465 rice farmers with total farmland of 1,065 hectares registered to participate the initiative in the 2016/17 cropping season. At the end of that cropping season, there were only 393 rice farmers with a total farmland of 881 hectares remaining in the dibbling initiative. In general, the rice value chain starts from the production stage where rice paddy production and input supplies are the key economic activities. The value chain boundary is framed to cover actors and activities relevant to a farmers' organisation for the rice commodity from production to consumption. These stages include rice production, input supply, processing, transportation, marketing and consumption (as shown in Figure 6.3). In this study, the focus is on farmers' activities and their performance at the primary production stage, while the subsequent marketing and consumption stages are observed to help shape the analysis and discussion.

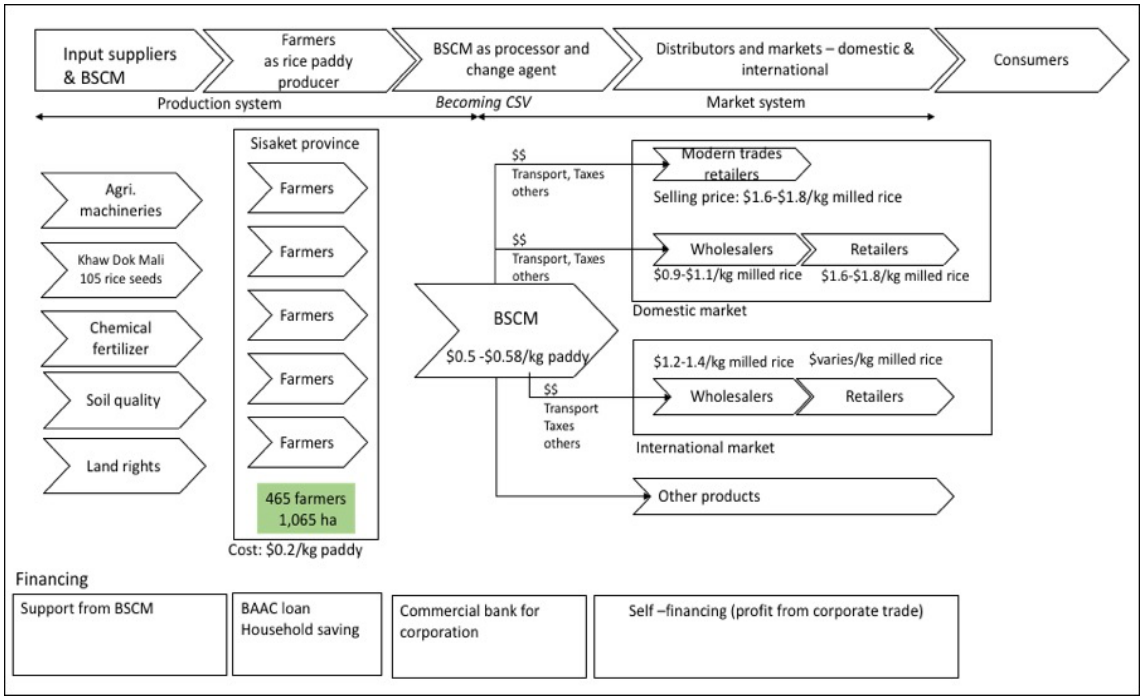

Figure 6. 3 The value chain of rice under the BSCM dibbling initiative
Source: Own elaboration.
Note: Usage of water for agricultural purposes is free of charge for smallholder farmers.

One thing to note is that the link to direct and indirect value chain actors can be extended. However, such an extension may not necessarily be helpful in achieving study objectives. For example, the value chain of rice can extend to the other value chains that make up the value system such as the chemical fertilizer value chain and alternative crop value chain in the dry season (e.g., horticulture, hemp, and beans). The degree of governance can be extended from local to national level, but this may not necessarily useful to the objectives of the current analysis. Here, the focus is on an immediate linkage that have direct impacts on farmers' livelihoods. However, understanding the whole value chain would enable value chain upgrading, resource mobilisation and capital allocation.

Cropping rice as a monocrop is a high-risk business even when considering the best-case scenarios, such as farmers partnering with the BSCM. Farmers need to diversify their sources of income. However, the partnership can offer a turning point in that direction offering opportunity to achieve farm diversification. Farmers can use the partnership as a launchpad to build capability as a way to

generate more income. This highlights how small farmers can achieve the benefit of economy of scale by joining the BSCM partnership. The average size of a farm in Sisaket province is suitable for subsistence farming. Farm output can meet the needs of farmers and their families, but transforming farms to a commercial scale may not be profitable. This is a clear difference when compared to rice farmers in the central region of Thailand, where renting to expand farmland has been common practice. As a result, rice farming has become more large-scale and profitable in the central region. Since farm expansion is not easily achievable at individual basis, the Sisaket farmers can achieve the benefit of economy of scale by working together as a farmers' organisation.

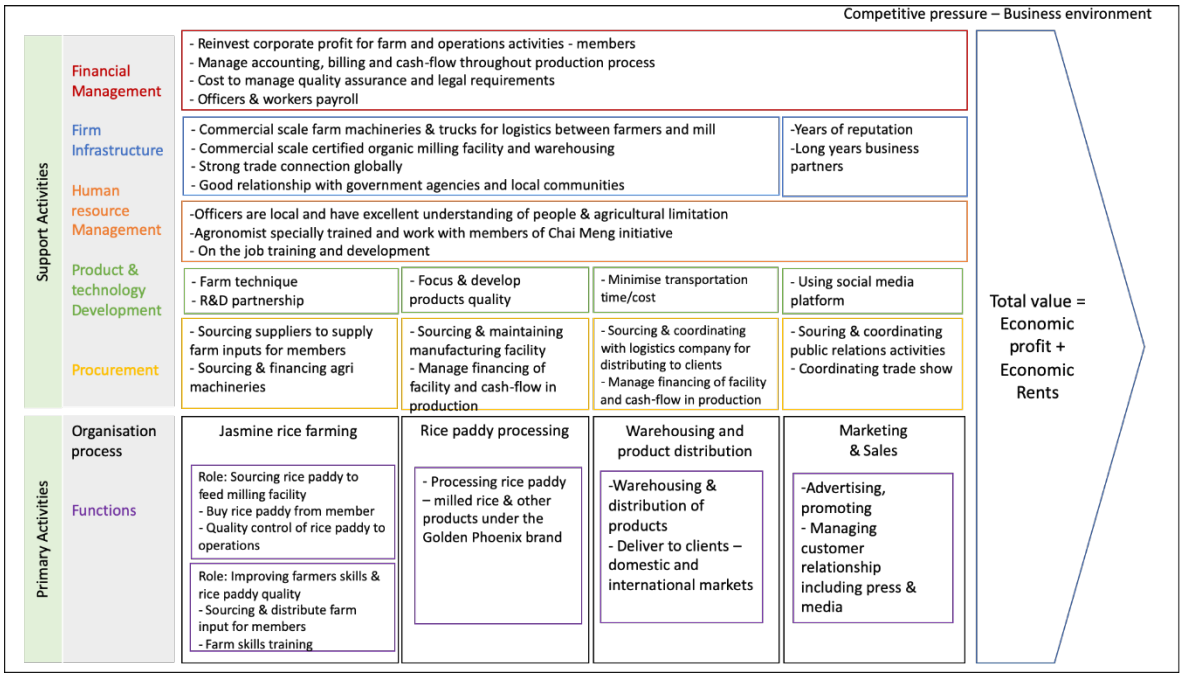

Figure 6. 4 The value chain process coordination of the BSCM
Source: Own elaboration.

Figure 6.4 and 6.5 show the coordination of horizonal and vertical linkages between primary and support activities to enhance the functions of rice production. This highlights the importance of capital, assets and capabilities in order to enhance functions and become more efficient. To achieve these roles, the BSCM requires effective support activities in the same vertical line of function. Horizontal and vertical coordination help in upgrading the value chain.

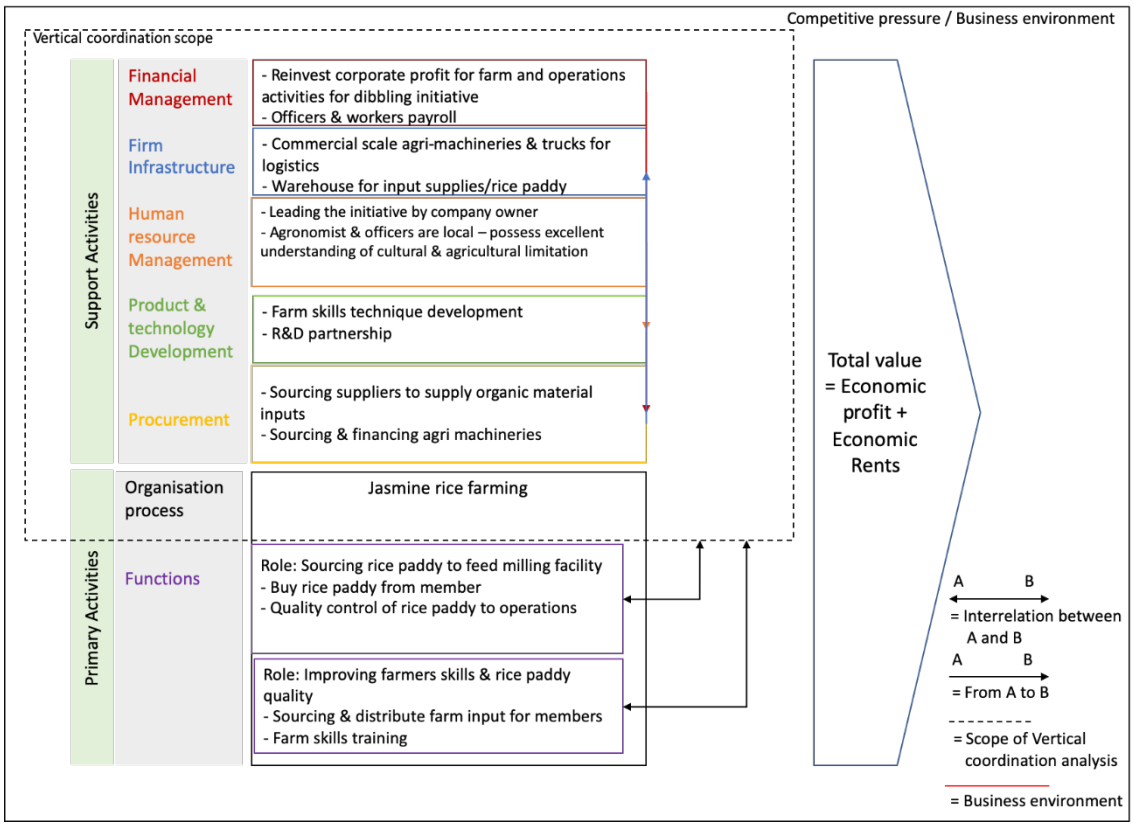

Figure 6. 5 Coordination matrix of primary and support activities in jasmine rice farming
Source: Own elaboration.

As Kaplinsky and Morris (2000) emphasise, "power asymmetry is central to value chain governance (p.29)" and that distinguishes value chain governance from co-ordination of activities. In the context of the Thai rice market, it has been shown that there was a status hierarchy between rice millers and farmers. The possession and accessibility of resources and capital are known to be factors that create power asymmetry between these two actors.

The case of the BSCM demonstrates that working in partnership can be a powerful tool to achieve process efficiency and profits for both of these parties. Power asymmetry makes one in better position than another. It also entails power in negotiations, which can influence the behaviour of farmers. By creating more equality, the dibbling initiative has initiated a sustainable business practice through creating fair organisational behaviour among farmers. Such behaviour enables farmers to build human, social and physical capital, that can add to their

assets. The basic rules that define the conditions for dibbling initiative participation are to apply dibbling techniques and participate in farm skills training. This type of governing rule offers shared value to both parties. It also builds relationship between participating farmers and the BSCM as rice millers. The most striking feature is that this governing rule is not only for organisational management purposes, it also offers the ability to gain entry into a market and factors of production.

It is important to understand the role of governance in this rice value chain because it would offer informed decisions for other rice traders who might want to follow suit. It is also essential for farmers to understand such governing rule if they were to participate in similar schemes. When considering jasmine rice as a means to achieve mutual benefit, the dibbling initiative offers economic inclusion to participating farmers. In the jasmine rice market, the rule of participation can include using trademark and manufacturing compliance which can be hard for smallholders to obtain. Such legislative governance is clearly a great barrier to entry into a market.

6.3.2 Upgrading

Entering into a market as a trader is one of the most challenging tasks for smallholder farmers. Limited resources can mean that a lack of assets, capital, capabilities, and networking create barriers to entry into markets. Through the dibbling initiative, the BSCM has leveraged their resources, paving the way for smallholder farmers to become more inclusive in the market. All in all, the partnership enables farmers to benefit from economies of scale, capability building, improve access to financial investment and technical assistance. These are key achievements in the pursuit of better livelihoods.

It is noteworthy that leveraging the BSCM's resources has offered significant benefits to farmers and that this type of organisational arrangement is different to a typical farmer-led organisation. Generally speaking, organizing for collective action, for example, as agricultural cooperatives is a familiar strategy for groups of farmers to benefit from economies of scale. However, such collective actions

may not necessarily be effective in leveraging resources external to those that the farmers already possess. This highlights the importance of resource leveraging in the value chain analysis. For example, a typical rice farmers' organisation may hope to earn financial profit from processing rice paddy, and earn better income from milled rice packs. In doing so, the farmers' organisation will need to invest in rice paddy production and post-harvest facilities. They would also need to operate business and marketing activities. The whole process would require a variety of professional skills such as factory management, marketing and accounting, to name a few. Such collective actions without resource leveraging may not enable farmers to achieve profits as planned. As shown in Figure 6.6, jasmine rice farming requires a variety of tasks and coordination between primary and support activities. Rice farming may seem like a simple day job to some people, but operating it at high levels of quality and profitability would require systematic management and a variety of resources.

When considering it from a marketing perspective, the BSCM has introduced innovative marketing strategies for farmers that promote win-win relationships. The BSCM extended their resources and capital to enable farmers to grow rice paddy in the way the company needed the farmers to do. This resulted in a better selling price. In addition, farmers benefit from lower production costs, improved yields, regenerative soil ecology and human capital development. It is clear that the dibbling initiative can enable higher profits, economic rents and human development. The key mechanism involved in the initiative is that it enables more effective utilisation of the factors of production. Particularly, the right to farmland has a fundamental role in this process of change, as the land ownership has improved farmers' livelihoods despite generally small average farm-size. In general, farmer-led enterprises tend to have limited complementary support activities. By contrast, the BSCM leverages their resources and capital into the dibbling initiative. Support activities of the BSCM's dibbling initiative can include procurement, product and technology development, human resource management and the BSCM infrastructure. These support activities have contributed heavily to rice production.

Factors of production

For many smallholder farmers, land and capital are unaffordable factors of production. However, the organisational model formed by the dibbling initiative has made it possible for farmers to gain access to such factors of production. As the case shows, a farmers' organisation – in this case the collective action between the BSCM and participated farmers - is a resource for building assets and capabilities. This outcome may further explain "organisational rents (p.28)" discussed by Kaplinsky & Morris (2000). The extra value earned by an organisation serves as a resource. This explanation is clearer when we look at the products as shown in Figure 6.5. Total value in Figure 6.6 refers to economic profit plus economic rents. Economic profit can derive from a product itself, while economic rent is an extra value earned by a resource, in this case an organisation.

Through a shared value partnership, the change in business activities in the production system includes the use of purified Khaw Dok Mali 105 seed input, supply financing and on the job training. The change in business activities in the market system includes fair negotiation of quality for good price and reducing the involvement of arbitrageur. Financing programme funded by the BSCM has significantly contributed to a stability and continuity of the initiative. This is significant factor because the BSCM is an active rice processor and trader in the market. It has the capacity to support the continuation of the initiative and the process of building resilience can take a long time. Having primary stakeholders (i.e. millers and rice traders) mobilising resources through trade can mean sustainability.

Capital provides the ability to gain access to primary inputs for farming and processing equipment, where profits are generated. Farm labour is mostly self-employed and household labour. However, the challenge lies in the capabilities of labour, as skills and knowledge of available workers may vary. Human capital can be accumulated through training programmes as well as on-the-job training. Farm skills earned through the dibbling initiative enable soil regeneration allowing soil quality to improve and become more suitable for farming. Farm

knowledge developed through training from an agronomist enables farmers to improving their own farmland such as soil restoration. This proved to be an effective and affordable method to improve soil and land resources.

One important thing to highlight is that having access to factors of production offers many opportunities. Value creation does not need to be only based on rice farming but may also take place by alternative farming and non-farming activities. According to the Thailand Institute of Scientific and Technological Research (2012), the quality of rice seed influence quality and quantity of rice yield. It is a foundation of cost reduction as good quality rice seed would require lower input of fertilizer and insecticide, while yields would be higher than with lower quality seeds (Thailand ISTR, 2012). This particular change in production system has been made possible through the BSCM's financing. It provides participating farmers with access to purified Khaw Dok Mali 105, resulting in higher yields and lower production costs.

BSCM financing emphasises providing tools and infrastructure for product improvement. Farmers have choices to either pay now or pay later for farm input supplies. The pay later scheme aim to help farmers to reduce borrowing burden by allowing them to repay the interest free advanced credit after selling their paddy to the BSCM. The dibbling initiative manager explained that, although the BSCM aimed to help farmers to reduce their debt burden, it was farmers' personal choice if they felt the necessity to borrow from creditors. However, they found that the participating farmers gained a greater ability to repay existing loans and move towards savings. The BSCM's financial support programme can thus help to reposition rice farmers in the value chain (as seen in Figure 6.7). The company offers an interest-free financial support to participating farmers. This comes in the form of input supply and agricultural machinery without hidden costs, which, in turn, reduces production costs. Such a support contributes to farmers' debt conditions by improving circular flows of finance in current production and marketing systems.

As jasmine rice is a premium product, the BSCM focuses on its product development and maintaining its superiority by having efficient procurement systems to source high quality inputs and heavy agricultural machinery. This can be made possible by having good cash-flow in the business. In the interviews, a factory manager indicated that the company has a healthy cash-flow and that it can operate an initiative using its own budget. This financial freedom allows the BSCM to operate the initiative persistently. In this case, the outcome turns out well as the BSCM and farmers find a shared value in their business partnership.

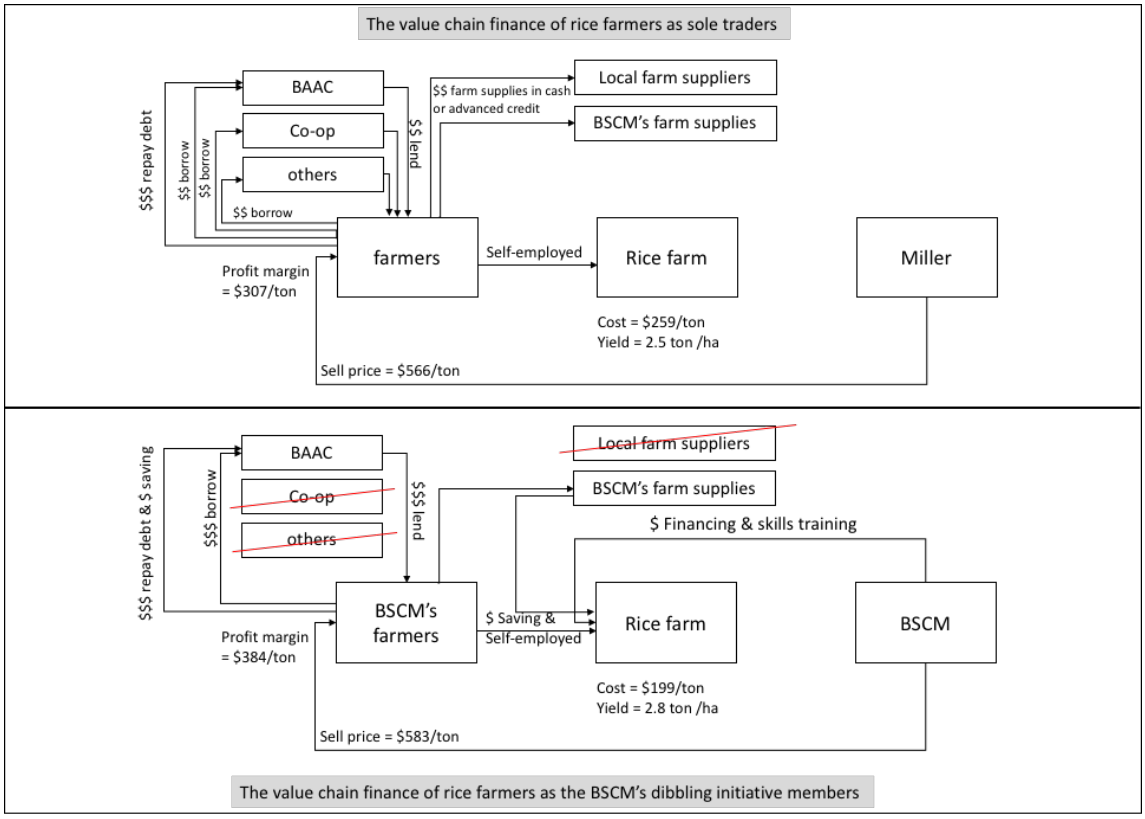

Figure 6. 6 Comparison of the value chain finance of rice farmers as BSCM dibbling members and rice farmers as sole traders
Source: Own elaboration.

The dibbling initiative is small in size and faces a number of problems including individual issues that could affect the quality of rice farming. Examples of such issues include drop-out rate from the initiative due to objections by family members not willing to use dibbling method because it is more laborious, and the fear of being different from neighbours. However, a swift response by procurement and human resources teams has made dealing with such problems easier. Particularly, these types of problems can be best resolved by showing

results. Having a good funding enables the dibbling initiative to implement activities effectively. Evidence suggests that the BSCM's role as a supplier to rice farmers helps to overcome the company's threats to substitution. The outcome can be further developed into a more market value production upgrade, such as obtaining organic certification. Potential rent generation would be likely higher than before as any produce from certified organic land would be classed as a certified organic product. The result of farm development can expand from rice cropping season to dry season. For example, alternative crops, such as Japanese sweet potatoes and beans, can be considered after rice farming season depending on market demand.

Farmers benefit from an advanced, interest-free supply loans with by $9.06 per hectare (43.5 Baht/rai). Cost savings from an interest free loan may look small when compared with the BAAC interest rate. However, this can be greater when compared to other lenders such as informal lenders. Interest rates charged by informal lenders could vary from 2 percent to 10 percent interest monthly. This is one of the causes of farmers becoming trapped in the vicious cycle of debt. It is worth noticing that potential transaction cost reductions could be added to income.

Rice farming is a major source of Thai farmers' income, yet the majority of farmers depend on many sources of income to make ends meet. Capacity building and networking can offer future opportunities to venture into other areas generating more income. A capable farmers' organisation can create opportunity to learn new skills and about new markets, while improving factors of production to prepare for the future.

6.3.3 Distributional outcomes

From rice farmers' standpoint, distributional outcomes concern income improvement (i.e., higher and more stable), wider access to human and social capital, and better access to physical and financial capital. Such outcome can strengthen value chain activities and minimise vulnerability, subsequently facilitating improved livelihoods.

It means building capabilities of value chain actors to upgrade their activities. Particularly, it aims at loosening barriers that obstruct actors from pursuing their business activities. In this case, it can build on what is discussed in the previous section. The BSCM creates an organisational arrangement as a resource to help participating farmers overcome farm and market problems.

The aim of distributional outcome is to maintain stability and continuity of good business activities, while supporting possible scaling up schemes. The findings show that the improvement of production systems and market systems enable farmers to improve their livelihoods. For example, farmers see a better household cashflow from income, instead of borrowing for consumption. Farm skill development, agricultural machinery and finance are important components that enable farmers to develop more options such as alternative crops during dry season. These would also make way for an exit plan, if farmers would consider allocating their capitals to proceed with other high value crops. Interestingly, many farmers have mechanical skills and knowledge to make so-called homemade inventions such as water drip and dibbling machines. In fact, functional but affordable agricultural equipment and machinery are in high demand. Machinery is an area where farmers could expand their skills and join the business environment as a local inventor. This discussion takes a viewpoint where an organisation as a resource coordinator takes a centre stage to allocate capitals. Such transformation facilitates building resources, capabilities and capital, and are further discussed in Chapter 9. The following discusses distributional outcomes as results of the farmers' organisation.

Wider access to human and social capital development

The principal objective of the dibbling initiative is to build farmers' capabilities. The combination of farm training and on-the-job training was used for human capital development. As discussed in the previous section on the rice value chain analysis, farmers highlight considerable skills and knowledge acquired though the initiative. It is fascinating that the initiative's objective is improving quality of rice paddy by encouraging the use of dibbling techniques. However, farm management knowledge can be applied to other types of farming as well. This is a great advantage for farmers to prepare for either future farm investment or an exit plan from rice farming. In other words, their newly acquired human capital provides a foundation for expanding to other forms of capital accumulation. For instance, farm skills help to care for soil and enrich ecosystems, which is an important contribution to physical (land) and natural (soil and ecosystem) capitals. Intangible assets earned as a result of human capital such as goodwill and brand recognition can contribute to gaining market share. These in return enhance financial profits.

Farmers' behaviour can be intellectually influenced by farmers' organisations. While social capital would enrich social networking, it may also influence farmers' behaviour through peer-to-peer learning. This would be particularly helpful when a farmers' organisation has become a community of practice offering hands-on and on-the-job training. It is important to note that cultural influence, in some cases, may not bring positive energy into farmers' communities. For example, the dibbling initiative experienced a large dropout rate during initial stages. Many farmers faced a situation in which they had to drop out of the dibbing initiative due to disagreements in their close social circle. Basically, disagreement and anxiety occur when farmers do things differently from the nearby others. For example, some farmers use excessive amount of rice seeds as a way to mentally guarantee that the excess amount can cover the loss of seeds before they germinate. This is mainly related to pressure from in-laws and extended family members and neighbours, which suggests that cultural aspects contribute to improving (or not) livelihood responses.

A community of practice can be used as a structure to guide and maintain social capital development. Although it depends on the lifestyles of individual farmers' communities, the combination of structured programmes such as skill training is often a good start. Frequency is crucial to maintain social networking among farmers. The continuity can be effective where the setting is informal. This is something I did not quite notice in the case of BSCM but is quite obvious in the Um Sang enterprise (further discussion of the Um Sang case is provided in Chapter 7). Cultural aspects should be considered in the development of social capital.

Better access to physical and financial capital

Rice farmers have limited market negotiation power because of their level of dependency on scarce resources. These resources include input supplies and post-harvest facilities. Partnering with the BSCM has improved farmers livelihood by gaining access to working capitals. These include:

- purified Khaw Dok Mali 105 seed;
- agricultural machinery;
- post-harvest facility;
- affordable transportation;
- advanced credit, and
- market information.

Rice paddy is a perishable product. Without appropriate drying and storage facilities, the longer farmers keep wet rice paddy, the lower the price farmers can earn. This means that individual farmers are likely to have limited bargaining power over buyers (millers) due to the lack of post-harvest facilities. This implies that the dibbling initiative has brought about unintentional change in the market system. Low farm-gate price has long been a strategy due to the fact that farmers do not have sufficient post-harvest facility. The BSCM partnership leverages its commercial resources through fairly traded rice paddy.

Flood and drought are natural factors in farming which are outside human control. However, resources provided by the BSCM enable farmers to prepare for rain and drought. Normally, if they were to get help to deal with rain and drought, this would likely come from the government or civil society. Having a systematic support from a miller was effective in terms of disaster preparedness, as they usually understand problems occurring in the rice farming. In this case, the BSCM helped by allocating financial capital to fund machinery suitable for farmers' needs in order to cope with the situation. Participating farmers can deliver their rice paddy to post-harvest facilities to store or to dry the rice paddy.

6.4 Conclusion

The BSCM dibbling initiative has demonstrated how shared value partnership can be used as a principal organisational model which influences farmers' livelihoods and their behaviours. It shows the importance of business coordination between primary and support activities and how to create value (i.e. profits and rent) to enhance value chains. This can be effective under the circumstances where actors are willing to mobilise their resources within and across organisations. The most striking feature is that by mobilising company resources and infrastructure, the BSCM demonstrates partnership between farmers and millers could contribute to improved farmers' livelihoods. The findings signify that the dibbling initiative was a means to repositioning farmers in the rice value chain and a mechanism to reconfiguring value chain financing. The analysis also points out that the value chain governance through the dibbling initiative reduces power asymmetry. As a result, such value chain governance enables farmers to be treated more inclusively and fairly.

A surprising finding is that the organisation becomes an effective facilitator of capital allocation. This condition differentiates between having a farmers' organisation as a business model and as a resource facilitator. In addition, the generation of economic rents can be considered an important factor that differentiates such shared value partnership model from general corporate social responsibility activities. The BSCM performs a rent sharing role that can benefit its participating farmers. It mobilises resources to enable business partners to

create economic rents. This is particularly interesting when common perceptions about economic rents are that it is a physical asset such as land value and business location. This highlights the role of value chain approaches to obtain economic rents through different value chain activities. The empirical evidence shows how a new model? of an organisation can improve farmers' financial management in terms of a more effective debt management, and eventually lead to improved livelihoods. It is noticeable that by reconfiguring the flow of finance provided by the BSCM, farmers are able to gain greater ability to pay back existing loans. Farmers saw their total production cost reduced by up to 30 percent, while yields increased by up to 10 percent. As the initiative progressed through time, farmers found themselves financially better off, not only breaking the vicious circle of debt, but also managing to save for future farm investment. The case offers evidence that the shared value partnership can be constructed in a way benefit to both parties. Farmers saw constructive and systematic ways to improve livelihoods, showing that shared value can be instrumental for building resilience by having institutional entrepreneurs as a mean to mobilise resources.

The BSCM has a firm market position in rice markets. An understanding of the dibbling initiative mechanism can help to point out in what way farmers' livelihoods can be improved. This understanding is both novel and practical because it offers a new way of looking at how CSR development processes can work. In addition, this new knowledge will help in coming up with replication logics for other millers or interested industries willing to adopt such strategies. Also, the knowledge of creating share valued partnership models can contribute towards the formation of Thai rice policy and strategy. Findings highlight that existing rice millers can potentially act as resources to improve farmers' livelihoods. The BSCM's dibbling initiative has also demonstrated that businesses can contribute to their respective community development while continuing their economic activities profitably. It shows that business as usual is unsustainable because it cannot offer competitive advantage to a company itself. From the value chain perspective, it shows that incompetent actors or business activities in each stage of the value chain inevitably affect business performance of other stages.

This case study suggests that institutional innovation can provide effective mechanisms that help a company to compete with its rivals. It can enhance organisational competency where resources and capabilities are available. This also movement suggests that millers are underutilised resource in the rice value chain. In general, rice milling is a family business and has been continued through generations. Rice millers have seen societal, economic and political changes through time and have a unique position in rice value chains. They can be involved in both production and processing, making them a strong asset to production and market systems adjustment. In Thailand, there are over 700 rice milling facilities nationwide, mostly in Central, Northeast and Northern regions where rice is grown.

The dibbling initiative is not only a programme that enhances farmers' skills and financial development but can be understood as a bridge between farmers and millers. This can offer benefits to farmers in many ways. This bridge creates conversational platforms between farmers and millers, allowing farmers as producers to understand what millers as buyers look to buy and help them to achieve that standard, which can means better selling price for rice paddy. It is fair to say that business and marketing knowledge is distant to most farmers in general. Participating in such initiatives allows farmers to become a part of the value chain as more recognised producers. This also increases farmers' negotiation power through product quality improvements. By producing rice paddy that is better fit for the market demand, farmers gain more negotiation power. This can build farmers' foundation towards entrepreneurial mindset which could help them to become more resilient in the market in the future.

Chapter 7 Enhancing farmers' organisational capabilities as a driver towards improved livelihoods

Purpose and Propositions

The case analyses how enhancing farmers' organisational capabilities contribute to the improvement of farmers' livelihoods. Being a capable farmers' organisation involves competencies and business legitimacy such as operating as a formal business entity. This case is purposefully selected to examine how becoming a business entity affects value chain development and farmers' livelihoods.

Data and methods used

Date retrieved from secondary data source and interview with stakeholders. Data collection methods included desk-based analysis and stakeholder interviews during September and November 2017 at the Baan Um Sang certified organic rice community enterprise and various places as agreed. Details of interviewed stakeholders' affiliations were given in table 4.2 and 4.5 of Chapter 4.

Theoretical contribution

This research uses rice value chain as conceptual framework, discussed in Chapter 3. It focuses on value chain governance, organisational model, upgrading and finance as key analytical guide to examine how farmers' organisation improve farmers' livelihood. The results reveal that a capable farmers' organisation serves as a platform to empower smallholder farmers, for instance, by providing access to skills development and inclusive market participation. Such understanding can foster projects that bring together economic activities of rice farmers, rice millers and government agencies in a new way in Thailand and elsewhere. The new knowledge can provide answers to some unanswered questions among farmers organisations, including why replication of successful farmers' organisations has been difficult.

Originality/lesson learned

This case study offers empirical evidence that as a business entity, a farmers' organisation enables farmers' collectives to gain access to finance, markets, knowledge and collaboration. Such access enables a farmers' organisation to improve their business activities, business performance and community development. Specifically, the study found that the Um Sang offers a unique organisational development integrating a hybrid model for both producer and buyer-driven models. Such unique outcome highlights that such integration encourages farmers' inclusion and market participation. The findings highlight how vulnerable actors can successfully improve their market negotiation power and eventually reposition in the value chain, which offers a foundation for value chain development.

7.1 Case profile

The Baan Um Sang certified organic rice community enterprise (in short, the Um Sang) or Kasedtip group (literally meaning 'heavenly agriculture') was established in 2004 by a collective of smallholder rice farmers in the Du sub-district, Rasisai district, Srisaket province, led by Mr. Boonmee Surakot, so-called uncle Boonmee (Photo 7.1). The Um Sang is a farmers' enterprise that specialises in producing certified organic rice products. As of 2017, the enterprise has 1,258 smallholder farmers. The original idea for organic farming came from an attempt to resolve farmers' debt caused by low returns on investment due to high production costs (e.g., chemical fertilizer and insecticide) and a low farm gate price.

According to Mr. Surakot, rice production cost for community members was as high as $1,000 per hectare (4,700-4,800 Baht per rai), before forming an organic rice farmers' organisation. It included the cost of rice seed, chemical fertilizers, middleman service charge and labour. By contrast, the price of jasmine rice paddy is always fluctuating influenced by factors such as market demand, political interventions and advanced trade in international markets. At the same time, the production costs have risen especially for chemical fertilizer, insecticide and herbicide, which made rice farming often unprofitable for the community members. To counter the issue of rising production costs, the Um Sang aimed to apply organic farming to their farmland of around 300 rai, or 48 hectares. The first cost reduction strategy was to apply self-made organic compost which helped to reduce production costs by $84 per hectare (400 Baht per rai). The second was to process rice paddy and sell milled rice to wholesalers and consumers, instead of selling rice paddy to millers. Typically, jasmine rice, also known as Thai Hom Mali rice paddy, has a market price of around 8–9 Baht per kilogram of rice paddy, whereas milled and packed rice can be sold for 12 Baht per kg. Later, the Um Sang's rice products were promoted as provincial recommended product, and today around 80 per cent of its products are exported. The ability to produce certified organic rice has been the key factor for creating and capturing more value added by the farmers.

Photo 7. 1 Mr. Boonmee Surakot proudly presenting the Um Sang enterprise's products
Source: Fieldwork, 2017

7.2 The structure of rice value chain

In general, rice value chains start at the production stage where rice paddy production and input supply are the principal economic activities. A farmers' organisation is a unit of analysis and the centre of this study. The value chain boundary is defined to cover actors and activities relevant to farmers' organisations, from production to consumption. These stages include rice production, input supply, processing and packaging, transportation, marketing and sales. Although in this study, the concentration is on farmers' activities and their performance, the marketing and sales stage was observed to help shape the analysis and discussion.

The following value chain activities are specific to the Um Sang case and use data acquired from interviews, the Um Sang Facebook page, documents and media coverage. The Um Sang rice value chain comprises of four stages: certified organic jasmine rice farming; rice paddy processing; warehousing and product distribution; and marketing and sales.

Stage: Certified organic jasmine rice farming

Primary activity	Certified organic jasmine rice paddy production
Actors	Rice farmers and leaders of the Um Sang's certified organic farmers' organisation
Supporting activities	Sourcing input supplies, agricultural machinery, farming skills development
Actors for the supporting activities	The Um Sang's farmers' organisation, local agricultural extension workers (The Ministry of Agriculture, Kubota machinery company, organic certification office

The Um Sang enterprise produces certified organic jasmine rice. Obtaining the organic certification involves monitoring and quality controls set out by the Thai Ministry of Commerce. The primary product is jasmine rice paddy, which is produced from the certified organic land and hence labelled as such. Also, the Um Sang enterprise farms alternative crops during the dry season such as soy, hemp and purple sweet potatoes that are also labelled as certified organic products. This provides a substantial competitive advantage that boosts farmers' livelihoods (that the certification can be used for alternative crops as well).

As a farmers' organisation, the Um Sang offers two service functions in relation to rice farming activities. First, the organisation sources farm supplies and, second, the organisation aggregates and processes rice paddy. As a farm supplier, the Um Sang helps their members by sourcing farm input supplies while at the time of the field visit, the Um Sang was also building a new milling facility to increase its rice processing capacity (the impact of such expansion is not included in this thesis). Sourcing farm supplies is a significant factor in enabling the Um Sang to meet certified organic regulation and as such the operation offers double benefits for cost effectiveness and meeting organic certification standards. Certified organic rice seed sourced by the Um Sang costs just $21.6 per 25 kg sack (650 Baht) or $0.9 per kg. This is around 25 per cent lower than the price of typical rice seed sold by local farm suppliers. Photo 7.2 below shows certified organic Home Mali 105 seed (jasmine rice).

Photo 7. 2 Certified organic Home Mali 105 seed
Source: The Um Sang Facebook page, 2018

In practice, local suppliers may not always carry organic farm supply stocks because they are more expensive and in less demand. The majority of rice farmers in the area use chemical fertilizer. A local supplier (Sisaket_supplier_07) described when asked if the farmers had to make an advance order for organic supplies:

> "We usually have [organic farm input supply] some stock but not so much. We know the people who do organic farming, so we carry enough supply just for them."

> "No, they don't need to order. We know them. They just come in to buy. You know, here people know each other. Organic supply is tricky! I give you an example of [organic] rice seed. Jasmine rice seed is already in limited supply, then they want organic [rice] seed! I also ordered it [rice] from my suppliers. Sometimes, it [rice] doesn't yield properly. You know, because it is organic! So, they [farmers] complain and spread the rumour I sold bad stuff!
> [..] Organic fertilizer is usually cheaper, but they need to be applied more frequency, so that adds to the price and hassle. Ones who use [chemical] fertilizers they can't easily switch. Some tried but the yield drops when they switch, so they rush back to get [chemical] fertilizer."

Figure 7.1 and 7.2 provide a schematic illustration how the Um Sang holds a supply distribution point that offers price and supply quality competitive advantage to its members. The collective can achieve such an advantage due to

economies of scale and by reducing transaction costs. Table 7.1 compares price differences between the Um Sang's members and individual local rice farmers in general. The Um Sang's farmers' costs are about $208.5 less than local farmers per hectare of rice production.

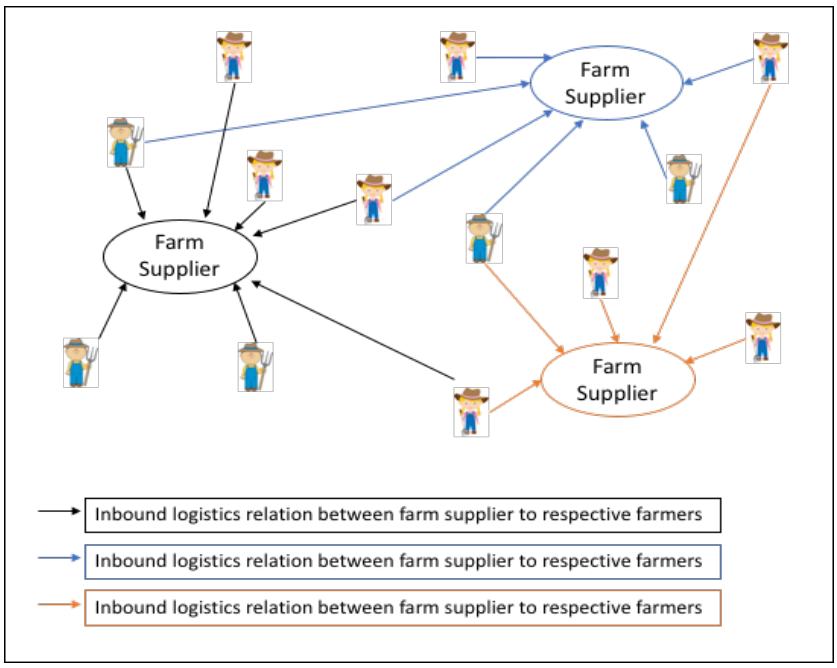

Figure 7. 1 A simplified picture of connections between local farm suppliers and farmers
Source: Own elaboration.

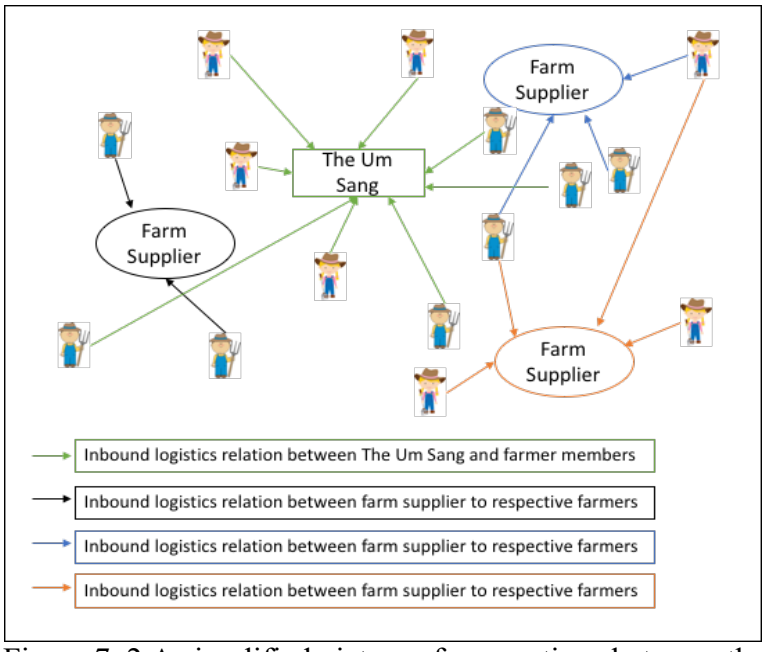

Figure 7. 2 A simplified picture of connections between the Um Sang and its members; and local farm suppliers and farmers
Source: Own elaboration.

Table 7. 1Average full costing of rice production by the Ban Um Sang organic rice community enterprise

Items required per rai (= 0.16 hectare)	Um Sang farmers production cost in $/hectare (Baht/rai)	General rice farmers production cost in $/hectare (Baht/rai)
Certified organic Hom Mali 105 seed, 10 kg	$54.16 (260)	N/A
Khaw Dok Mali 105 seed, 40 kg – broadcast seeding	N/A	$135.42 (650)
Organic fertilizer	$104.16 (500)	N/A
Chemical fertilizer	N/A	$164.58 (790)
Chemical herbicide	N/A	$60.41 (290)
Labour & machine rent	$145.83 (700)	$152.08 (730)
Harvest machine rent	$125.00 (600)	$125.00 (600)
Farm insurance	$8.3 (40)	$8.33 (40)
Total	$437.5 (2,100)	$646 (3,100)

Source: The Um Sang's farmers' organisation and Sisaket's DOAE, 2017

Product and technology development involves processes and activities that allow improvements of products and production processes. For the Um Sang, these support activities involve a great deal of farmers' field support enabling farmers to develop and apply new farming skills. Members attended regular skills training sessions through the Um Sang. Having farmers gathering in-place like a farmers' organisation helps training arrangement manageable for responsible organisations. Photo 7.3, for example, offers an atmosphere of farm skill training at the Um Sang. In this event, the Sisaket DOAE trained farmers on the issues related to post-harvest farm management such as the downside of straw burning and use straw residue to enrich soil.

Photo 7. 3 Farm skill training organised by Sisaket DOAE at the Um Sang's farmers' organisation in January 2020
Source: The Um Sang Facebook page, 2020

According to a local agricultural extension officer [Sisaket_extension_01], forming a farmers' organisation has a clear advantage by providing access to farming skills training, whereas an agricultural extension office has limited capacity to provide training and advice on an individual basis. As he described:

> "I always want to go out to train (farmers) or just casual conversation about looking after farm. But we are just a small team. Having farmers gather at their farmers' organisation is the best option for both sides, for us and the farmers themselves. Often they learned and I also learned from someone who did well and share that knowledge." [Sisaket_extension_01]

For example, the Um Sang's farmers mostly used "Na-Yod" or the dibbling technique, a technique to plant rice by individually dropping rice seeds in rolls, instead of broadcast seeding[3]. Also, a systematic planting technique helps farmers to visibly separate rice plants from weeds. As shown in Table 7.1 and 7.2, this technique helped farmers to reduce the cost of rice seed by around $13.3 (400 baht) per cropping season.

[3] Broadcast seeding is a technique throwing a handful of rice seed in the rice field in the traditional way.

Table 7. 2 Farm performance

Farm performance	Value
Production cost, $/kg (Baht/kg)	$0.1 (4 Baht)
Rice paddy yield, ton/hectare (kg/rai)	3.25 ton (520 kg)
Farm gate price, $/kg (Baht/kg)	$0.5 (15 Baht)
Profit, $/kg (Baht/kg)	$0.36 (11 Baht)

Source: The Um Sang's farmers' organisation, 2017

Improving the product (rice paddy) through farm skills training also encourages the building of social capital and human capital among the members of the organization. Social capital naturally accumulates through interaction during skills training and regular meetings. For example, some farmers [such as Case1_05, Case1_09, Case1_18] expressed that, at the beginning, they only joined training programmes because they were enjoyable social gatherings with "gossip, delicious food and a good laugh, what more would you ask for?" [Case1_09]. However, once they applied the farm techniques and saw the difference, they started to take farming skills development more seriously.

The Um Sang also offers a service for aggregating and processing rice paddy. This is a function that substantially benefits its members because they know farm gate prices in advance, and the Um Sang offers higher prices as they process certified organic rice. The members of the Um Sang are rice paddy suppliers as they feed rice paddy into the Um Sang mill. Despite having the same functions as a typical rice miller, the key difference is the relationship between the miller and farmers in the case. Typically, a miller and farmers are two actors operating their own business activities. The Um Sang enterprise integrates these two roles in an inclusive manner and benefits farmers through collective action.

More specifically, the Um sang operates on a co-operative basis, which benefits its farmers. This may sound like an obvious point regarding a co-operative organisation, yet in practice the reality may not be as simple as it sounds. That is because a farmers' organisation must prepare a large volume of cash to pay at

short amount of time during harvest season. Such cash reserve can be secured through business loans and profits, which is a financial challenge faced by all rice traders. Being a certified organic rice exporter, the Um Sang earns substantial profits as compared to trading only domestically, which allows it to offer higher farm gate prices to its members as a common practice. For example, in 2019 harvest season, local millers bought at $400 per ton rice paddy while the Um Sang bought from its members at $500 per ton. The approach has substantially contributed to improving farmers' livelihoods. Also, rice paddy is a perishable product. Without appropriate drying and storage facilities, the longer farmers keep rice paddy, the lower the price they can earn from it. This is where post-harvest facilities play a crucial role in making it possible for the members to get a better farm gate price and not to rush to sell rice paddy immediately after it is harvested. In 2017, the Um Sang production capacity was 6 tons per day. This is small when compared to local millers but large among typical farmers' organisations. However, as it was noted above, the organisation is working to expand its capacity.

The age of farmers (over 50 years of age) and the small size of farmland have been some of the most commonly cited factors threatening the ability to earn better profits and to develop a sustainable livelihood. The average farm size in Sisaket province is 19.2 rai or 3 hectares per farmer household. Although this total land area seems manageable by a full-time farmer, many farmers are over 50 years old. Working conditions are rough, especially as the average temperature in the region is 38 degrees Celsius. Therefore, additional labour and machine rentals are essential items of expenditure required to produce rice. These are perceived as threats to farmers' income because due to their age they would seemingly need to hire extra labour, while the small farmland size means that only a small quantity of rice paddy is produced.

However, empirical evidence from the Um Sang farmers offers a different understanding to such perceptions. In short, the observations with respect to age and income are similar to those in the BSCM case that age has an insignificant impact on income. This is under the condition that farmers are associated with farmers' organisation, learn farming skills and use purified Khaw Dok mali 105

rice seed. Despite the age of farmers, they farm as a way of life, and this is an important life philosophy and a factor leading to their success. Farming has long been their daily routine, and they know their environment, quality of soil, how to manage weeds, i.e. older farmers would seem to be better at harnessing their skills, which compensates for reduced physical abilities.

Procurement deals with activities that make resources or inputs available at any stage of production. It involves sourcing supplies from the right suppliers which helps to maintain the premium quality of organic rice production. It also involves sourcing and financing agricultural machinery to be used among the enterprise members. Such functions highlight the importance of vertical coordination among value chain actors. In this case, the most effective machinery can be used if the Um Sang have sufficient funds to purchase or to lease them. Procurement activities also involve sourcing input materials at best prices for the enterprise, a benefit that is not applicable to many Thai farmers' organisations due to the lack of relevant organisational capability. For example, the enterprise has a lease contract with Kubota, a leading agricultural machinery company in Thailand, which has brought about many benefits not only in obtaining farm machineries, but also by increasing farm skills. Kubota organised demonstrations of farm machinery and farmers learned how to use such machinery for rice farming and also the right machines to use for dry season crops such as hemp. This has enhanced the chances of earning more in the dry season by increasing productivity of land that would otherwise be left unused waiting for the next rice cropping season. Farmers have indicated that dry season cropping proved to help increase rice productivity in the following year.

Stage: Rice paddy processing

Primary activity	Rice paddy processing
Actor	The Um Sang farmers' organisation
Supporting activity	Product development, technology development
Actors for the supporting activities	Rice farmers, workforce of the rice milling company

The Um Sang processes rice paddy into milled rice, as well as other rice products such as rice noodle, rice flour, and rice-based cosmetic product lines. The organisation produces and trades under the "Uncle Boonmee" brand and also operates an outsourcer for other companies such as Blue Elephant. The various business activities enable the Um Sang to capture higher profits as compared to the traditional rice paddy trade. Farmers sell rice paddy directly to the Um Sang, which means no profits are split with intermediaries (e.g., middlemen) in the process. The farm gate price is announced in advance and is typically higher than a local market price. For example, the Um Sang farm gate price for the 2017 harvest (November 2017) was around $517 per ton of Hom Mali rice paddy at full-rate, while local rice millers' farm gate price was $367 per ton of Hom Mali rice paddy.

Moisture is a factor that deteriorates the quality of rice paddy and consequently lowers the sales price. For this purpose, sun drying is a traditional method to improve quality of newly harvested rice. Photo 7.4 shows a sun drying method before processing. It should be noted that one side of the road is left for commuting (Photo 7.4 b). It is a common but controversial practice in Thai rural areas due to negative implications for road safety. Rice processing is also labour intensive. For example, the sun drying method alone requires a large number of workers to operate, which can provide employment opportunities for farmers to earn non-farm income. The Um Sang has created jobs for their members by offering work involved in rice drying as a part of reinvesting profits into the farmers' organisation.

(a)

(b)

Photo 7. 4 Sun-dried rice paddy: (a) rice paddy spread on the area of a milling facility; (b) rice paddy on the side of a road
Source: Fieldwork, 2017

When selling rice to local millers, farmers obtain no price advantage of offering certified organic rice paddy, whereas the Um Sang offers about 30 percent higher prices than market price because the organisation can process and sell the end product as packaged certified organic rice. This allows the Um Sang to capture the commercial value and reinvest profit to improve its members' livelihoods. Farmers receive the dividend from the profits the Um Sang makes from rice products, such as packs of rice, noodles and rice-based cosmetics. The Um Sang also reinvests profit in the development of human capital and rice production facility. These include farming skills, farm machinery and farm input supply procurement. Besides business profits, the Um Sang also receives premium payments from the Fairtrade organisation for being its member.

Stage: Warehousing and product distribution

Primary activity	Rice storage, and distribute products to markets
Actor	The Um Sang farmers' organisation
Supporting activity	Product development, technology development, logistics
Actors for the supporting activities	Workforces of the Um Sang, trade partners, rice export brokers, organic certification organic officer, trade officer

Warehousing and product distribution involve storage and logistics to deliver final products to customers. According to the Um Sang's founder, about 80 per cent of its organic rice production is exported to international-based customers.

Warehousing capacity has been a significant problem for storing rice paddy and processing rice products for the enterprise. As discussed earlier, certified organic rice farmers can earn organic price advantage only from facilities that market certified organic product lines. This makes it a challenge for farmers to earn more from certified organic farming. During a field visit to the Um Sang in 2017, a new warehouse and milling facility was being constructed. I was told that the Um Sang managed to secure a business loan from the BAAC for around $500,000 (15

million Baht) to invest in the facility expansion project. It was a small and medium-sized enterprises loan that requires established business credit history and ability to pay back the loan. One of the advantages related to the loan was business advice and support, which proved to be particularly beneficial to the Um Sang. For example, the BAAC's business advisor guided the Um Sang to register as a limited company to replace its then farmers' organisation registration. This gave an advantage to the Um Sang as a business entity in many ways, including the opportunity to apply for a quota to export rice. This directly enhanced the Um Sang's competitive advantage by moving to sell to international markets.

The Um Sang has a shop at the farmers' organisation office, which is one retail channel the organisation has started using. However, the overall retail approach has faced difficulties. The main issue is high costs, including the cost of shelving products in modern supermarkets and delivery costs [Case1_04]. Trade-related government offices such as Thailand Post and the Office of Internal Trade launched a campaign in 2018 that helped waive these postal delivery costs for a limited time period. However, the campaign was not carried out long enough to change consumer behaviour. Many customers were eager to buy directly from farmers but once the campaign ended the cost of postal delivery became too high as rice is a relatively heavy product in relation to its value.

Stage: Marketing and sales

Primary activity	Marketing, advertising and sales
Actor	The Um Sang's farmers' organisation
Supporting activity	Advertising, managing social media, public relations
Actors for the supporting activities	Um Sang, social media platform operator and trade partners

Marketing and sales involve activities that encourage purchasing and customer loyalty. These activities can include advertisements, sales promotion and customer relationship management. The Um Sang has built a reputation as a leading farmers' community enterprise over the past decade, making it one of the

most well-known farmers' community enterprises in Thailand. This reputation is a part of the Um Sang competitive advantage and it has built customer loyalty over time. The Uncle Boonmee brand name has economic value, allowing the enterprise to earn higher profit as compared to other similar brands with the equivalent product lines. Such a differentiation has attracted wholesale rice traders to source the Um Sang rice production under their brand names. This has partly enabled the enterprise to increase its profit margins that allow the organisation to offer 15 per cent dividends to its members, while most Thai agricultural cooperatives offer around 7 percent dividends.

The Um Sang's leader (Case1_01) expressed that he felt satisfied with the organisation's business performance as it had secured advanced orders from international clients. Such advanced orders enable the Um Sang to offer and maintain high buying price. This helps farmers to earn high and more stable income. According to him:

> "Usually, we (the Um Sang) announce the price to our members quite early so we, both farmers and the Um Sang, can plan for the paddy rice buy process. We can do this because our rice has always been on high demand and we received advanced order. It has been beneficial for all of us. But we need to expand our milling facility to serve more members." (Case1_01)

This is important as the Um Sang trades in niche markets and, therefore, sustaining customer demand is a major issue for the farmers' organisation. To build a strong market position, the organisation specialises in certified organic rice which also includes a medicinal rice variety. The trends set by health-conscious consumers have resulted in increasing demand the products. Although the Um Sang is one of the biggest farmers' organisation exporting rice, it is relatively small compared to other corporate rice exporters. Due to its small volume, the Um Sang is not usually seen as a rival to other rice exporters in Thai market operating at much larger scale. The organisation has thus been able to maintain good business relationships with other companies in the business environment, allowing them to increase heterogeneous resources.

Establishing as a business enterprise requires administrative offices to run the activities. In general, Thai farmers' organisations are self-managed in a home

office environment – typically in an organisation leader's house. The quality of administrative tasks (e.g., accounting and related paperwork) depends heavily on people's skills, often offered on a voluntary basis. In this respect, the Um Sang has set a trend new to farmers' organisations. For example, it hires administrative personnel at a market rate and, for instance, has successfully attracted young local personnel who have administrative skills and are passionate to contribute to rural development of their hometown. As part of my conversation with an office officer at the enterprise, the person explained life back at home in a very interesting way.

> "… I did my undergrad and worked for a couple of years in Bangkok. I missed Bangkok's vibe sometimes but I sure would not even think of returning. Here, I live with my parents [multi-family home] … the cost of living is low. Although I earned about half as much as when in Bangkok, I ended up save more." [Case1_04]

The interviewee [Case1_04] did highlight work-life balance and saving money as key reasons to stay in the rural area. From my observation (not part of this research, but everyday life), a large number of people working in Bangkok are rooted in rural areas and linked to a background in agriculture. There is a growing interest in returning to work in their hometown if they can find employment, due to varying working conditions and high cost of living in Bangkok.

7.3 Rice value chain analysis

This part of the analysis discusses value chain coordination and resource mobilisation as factors contributing towards building a capable farmers' organisation. Value chain coordination yields results in terms of the efficiency of the flow of products and services, and by reducing barriers to market entry and by improved governance. Meanwhile, resource mobilisation enables a farmers' organisation to become more prepared for tackling vulnerabilities (as discussed in Chapter 5), improving livelihoods and accumulating capitals and assets.

7.3.1 Governance and coordination

The efficiency of the flow of products and services is an ultimate goal of value chain governance and coordination. Value chain flowchart is a common illustrative tool used in most value chain analysis. Figure 7.3 and 7.4 illustrate

the different levels of analysis and functions of value chains. On the one hand, Figure 7.3 shows the flow of physical inputs and outputs in terms of products and value-added from rice paddy production to marketing. This simplified illustration shows the collective action of 1,258 smallholder farmers as their enterprise's activities. Meanwhile, Figure 7.4 shows the coordination of primary and support activities that creates and sustains the Um Sang's competitiveness. These two aspects complement each other, making the analysis more rigorous. More specifically, Figure 7.4 shows how the coordination of primary and support activities help to build resilience for farmers during the jasmine rice farming stage. For example, the scarcity of harvesting machines has created vulnerability for many smallholder farmers as discussed in Chapter 5. An efficient coordination of firm infrastructure, financial management and procurement helps the Um Sang's farmers gain better access to harvest machinery.

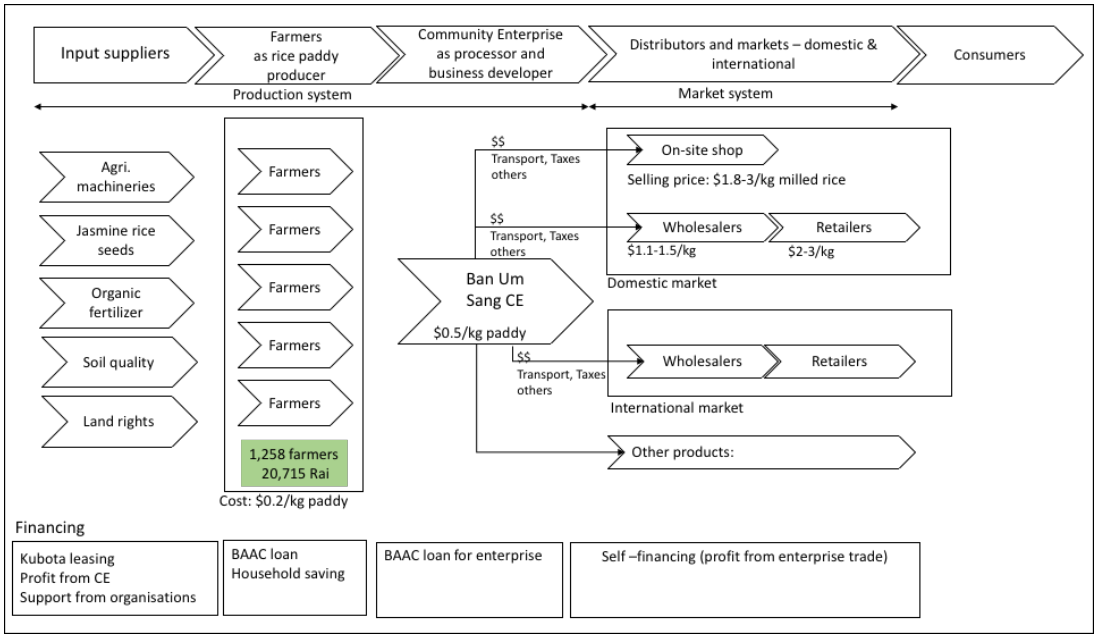

Figure 7. 3 The Um Sang's simplified rice value chain
Source: Own elaboration.

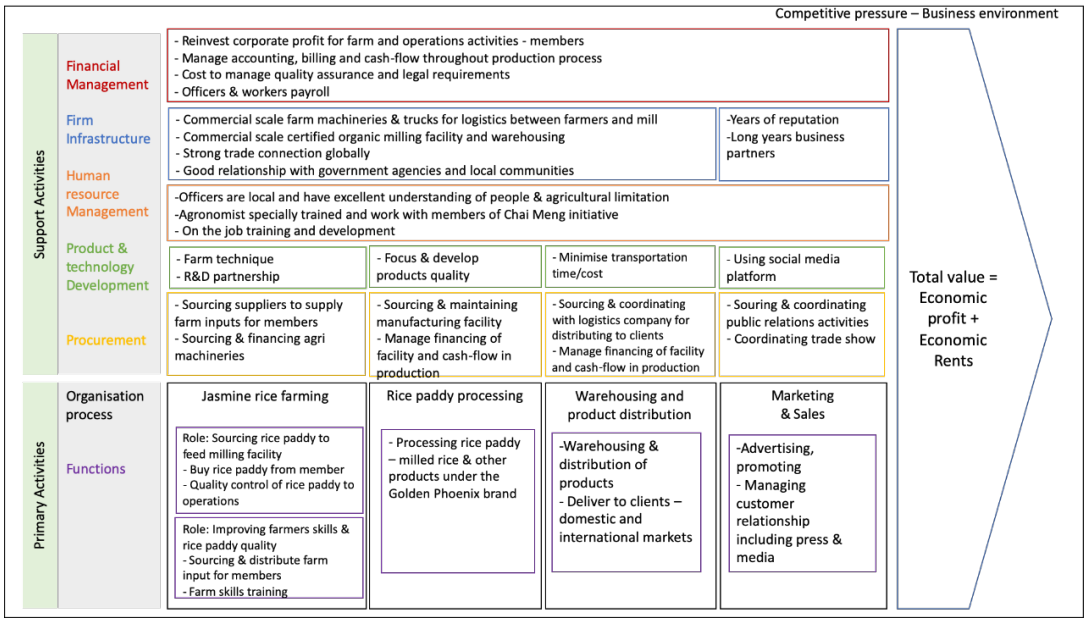

Figure 7. 4 The Um Sang's coordination of primary and support activities
Source: Own elaboration.

Across different stages of the rice value chain, human resource management plays a significant role in ensuring that organic farming standards are met and good performance is delivered. Coordinated human resource management is an important driver of the Um Sang success that helps maintain its performance. As an organisation, the Um Sang has three key operational areas: administration, factory and field operations. The administrative section involves oversight of overall administrative tasks including regulating organic certification requirements, accounting and licensing, managing finances and marketing. The factory deals exclusively with rice processing and packaging. The field section includes farming skills development training working closely with farmers and helping them to learn and apply farming skills and organic practices. These three aspects work hand in hand to maintain certified organic qualification, which helps to maintain the Um Sang's competitive advantage.

The Um Sang has attracted many young, educated officers to work with the enterprise. According to the Um Sang 2017 administrative data, the organisation comprised of three departments: 6 officers in administrative office, 13 officers in milling factory, and four officers in packaging department. The leadership team is led by a marketing manager and an enterprise lead who are the daughter and the son of Mr. Boonmee. Both are highly educated, one with Masters degree and

the other with a PhD. This can be considered as a rare phenomenon in Thai rural areas where the majority of farmers' families would not encourage their highly educated offspring to work on the farm for economic reasons. Having direct experience in the rice-trade not only brings a better share of economic profits, but also improves entrepreneurial skills as farmers do not generally have in-depth knowledge of business and marketing. Being a rice trader offers an opportunity for a farmers' organisation to develop such professional skills becoming a competitive trader.

The current case is illustrative in this sense as the success of a farmers' organisation in Thailand is a rare achievement and, in this sense, the results of the Um Sang could be used as an example among Thai farmers' organisations. The enterprise receives frequent visits by farmers' organisations from around the country. The Um Sang counts the Prime minister Gen Prayuth Chan-ocha among visitors to their organisation, as shown in Photo 7.4. According to Mr. Boonmee, becoming a successful farmers' organisation is considered to be difficult to replicate. The idea of replication here is not to encourage copycats, but instead to use learnings from the case as a guideline. From this viewpoint, the discussion highlights the importance of an organisation as a resource. Therefore, it is crucial to understand the mechanisms that enable the Um Sang to achieve success and look at how the Um Sang can continue improving from its current stage.

Photo 7. 5 Prime minister Gen Prayuth Chan-ocha visiting the Um Sang enterprise due to its success
Left**:** Mr. Boonmee, second from left, holding microphone explained the work of the Um Sang
Right: The Prime Minister participated in a farm
Source: Thairath Newspaper, 24 February 2018

The Um Sang enterprise has learned unique lessons that can empower farmers' organisations in many ways. It is important to highlight that the Um Sang has prioritised farming skills and quality of farmland as its development foundation. It has developed into an organisation from a collective action gathering and, further, into a capable organisation. From this standpoint, a capable farmers' organisation enables farmers to gain assets facilitating access to capital. The outcome is reflected by the accumulation of Um Sang's tangible (e.g., working capital) and intangible assets (e.g., trademark and brand recognition).

The findings suggest that tangible assets can potentially help farmers to improve livelihoods in a more sustainable manner. These can include certified organic land, land ownership, high quality farm inputs, human and social capital development. Certified organic land and land ownership can be considered as the foundations of agribusiness among organic farm producers. The quality of land is an important asset for agribusiness, yet when the focus is solely on profit, land is often abused and mismanaged. For example, the excessive use of chemical fertiliser can harm the ecosystem, health of farm labourers and the quality of the soil. From this viewpoint, it is important to note that the focus of appropriate farming is not exclusively on converting to organic farming, but rather to apply good agricultural management in an ecological way. Certified organic farmland can offer benefits to farmers in many ways. It helps to rejuvenate soil nutrition, improve the quality of soil texture and the overall ecosystem. Any crops that are farmed on certified organic land can be labelled as organic produce, which provides a higher market price than ones without organic labelling.

Low-cost farm production has been promoted as a key strategy to help farmers to reduce farm investment and improve livelihoods. However, improving livelihoods requires a series of factors to be in place. Lowering production costs alone may not have significant effect on return of investment. Other things need to consider, for example, such as productivity, the market price of paddy and soil fertility to yield rice the next cropping season. For the Um Sang, low-cost production can be considered as a competitive advantage as certified organic

practice. Having such legitimacy offers long term market advantage. All these maintain the sustainability of the Um Sang's business performance.

For the Um Sang, also intangible assets have played a crucial role in adding value and improving farmers' livelihoods. The intangible assets include brand recognition and a trademark. These types of intangible assets have long been discussed for being subjective, making them difficult to measure. However, for farmers with limited assets, these types of intangible assets can be a great way to enter into markets, particularly a niche or specialty market. Uncle Boonmee's reputation and trade name have high economic value. As a result, the Um Sang's members benefit financially from healthy business performance such as high dividends, to be discussed in following sections.

7.3.2 Upgrading

Value chain upgrading is a process of enhancing competitiveness. This can include making better products or developing more efficient processes. In a rural development context, enabling smallholders to better participate in the markets has often been a central aim of value chain upgrading (Riisgaard et al., 2010; Poole et al., 2013; Kilelu et al., 2017). In this sense, the Um Sang is a rare case of a farmers-led organisation that has developed into a competitive business enterprise. In the context of Thailand's business environment, a farmer-led organisation is mostly perceived as an informal entity. Registering as a formal business entity is not a prerequisite, which this exempts the organisation from some legal requirements such as audit accounting. The aim of such exemption is to help smallholder farmers earn benefits from participating in markets. At the same time, better access to markets is a complicated endeavour, which is more difficult if one does not operate as a formal business entity that effectively prevents from participating, for instance, in international markets.

Registering as a formal business entity is a major step for a farmers' organisation. Such an action can turn an organisation from a social gathering into a pool of capital and resources, that is, from being an intangible asset into a tangible asset. This characteristic is considered as a capable organisation in which an such

organisational development enables famers' livelihood enhancement. Being a business entity offers trade advantages to the Um Sang in many ways. For example, the organisation can apply for SME business loans and rice export quotas. These activities require a set of paperwork including a business entity registration, trade records and a credit history. These are all factors that have been perceived as barriers to entry into markets for many farmers' organisations. In addition, trading as a business entity enables the Um Sang to gain economic rents from its assets in two ways. First one is the organic certification and the other one is the geographical benefit for the Tung-kula-ronghai plateu that has received a geographical indication (GI)[4] from the World Intellectual Property Organization. The certification and consequent GI designation create a competitive advantage for the Um Sang placing in a strong market position compared to individual farmers or informal farmers' organisations. The combination of certified organic farmland and GI makes the Um Sang products fit for specialty markets and gain high market price, which has attracted several partners and hence access to their networks.

Transforming from a farmers' organisation into a registered business entity has allowed the Um Sang to become a commercial enterprise trader, which has contributed to its repositioning in the rice value chain. This is an achievement in transforming farmers' collective action into a capable farmers' organisation. From a business viewpoint, the Um Sang has gained market positioning as a producer of a premium quality jasmine rice. It is noticeable that the business environment in the Sisaket rice market has been supportive to smallholder farmers. For example, the Um Sang has been able to communicate and be involved in many significant programmes targeting the rice market, including interchanging knowledge with other large commercial scale rice traders. This emphasises the organisation's ability to reposition itself in the value chain, which has resulted in the generation of profits to improve farmers' livelihood.

[4] A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. In order to function as a GI, a sign must identify a product as originating in a given place. In addition, the qualities, characteristics or reputation of the product should be essentially due to the place of origin. Since the qualities depend on the geographical place of production, there is a clear link between the product and its original place of production (WIPO, 2020).

I asked the Um Sang founder for his opinion on possible joint ventures or mentoring other farmers' organisations who might be willing to grow. He expressed that such an idea was viable: "I would be more than welcome this idea and to help, if I can, in any way." [Case1_01]. Yet, such initiatives seem practically challenging because they involve substantial effort in working collaboratively and require often substantial funding. For example, the organisation's rice processing facility would need to be expanded to accommodate such joint venture activities that would require extensive investment. In some ways, serving a niche or specialty market is a reputation-driven approach. This means that quality plays an important role in consumers' purchase decisions and consumer loyalty obstructs newcomers from entering markets. This suggests that the Um Sang can play a role in rent sharing where other farmers' organisations could benefit through organisational collaboration.

This is a significant finding as it suggests that strengthening policy agendas for inclusive market systems could change the way farmers' organisations are formed and operate. In general, the aims of forming farmers' organisations include achieving higher profits and building farming skills. Therefore, strengthening inclusive market systems should be a key objective of supporting the formation of farmers' organisations. In other words, improving the market system is the core mechanism, while increasing farmers' profits is an outcome of such a developmental process. Rice traders can welcome farmers into an entrepreneurial ecosystem, which can increase farmers' human and social capital by involving them collectively in the production and trade of rice. This finding agrees with fundamental knowledge that human and social capital can help farmers achieving sustainable livelihood.

7.3.3 Distributional outcomes

From rice farmers' standpoint, distributional outcomes concern income improvement (i.e., higher and more stable), wider access to human and social capital, and better access to physical and financial capital. Such outcome can

strengthen value chain activities and minimise vulnerability, subsequently facilitating improved livelihoods.

This case study found that the ability of the farmers' organisation to access capitals has a strong link to the quality of value chain governance and upgrading. Such development helps improve value chain activities and prevent or minimise shocks or factors that may deteriorate farmers' livelihoods. Considering from an organisational standpoint, such understanding can sustainably strengthen business operations. Most importantly, this section's discussion highlights that farmers' organisation itself is the most valuable asset.

Wider access to human and social capital development

Results from the Um Sang's rice value chain show that human capital can empower farmers to achieve improved livelihoods. Human capital development requires funds to organise skills training. For the Um Sang's members, this is a great advantage. They receive support that has a direct impact on income increments and cash-flow management. The training programmes include farming skills development and financial literacy (e.g., household/farm investment accounting). Farmers have applied what they have learned to improve rice cropping and have tried out alternative crops in dry seasons such as sweet purple potatoes and sun hemp (Crotalaria juncea). These crops are in high demand in local markets and also help to improve soil quality. In addition, this creates alternative income and youth employment opportunities, as farmers [interview label: Case1_01, Case1_04, Case_05, Case_06] explained that young people work on the farms during their school break between March to May, when farmers require labour to prepare the soil for the new cropping season. In addition, an opportunity to try out different crops and new markets would offer a better perspective to consider diversification of farming activities.

Considering a workforce as a human resource, the Um Sang benefits from having skilful administrative officers which increases diverse knowledge within the organisation. The Um Sang can provide human resources by investing in the hiring of permanent employees, as discussed earlier. These paid workers are a powerful resource, enabling the Um Sang to modernise and trade profitably. They

work to maintain the superior standards of the organisation such as organic certification and high farm gate price commitment to members. This is evidenced by the profits that allows the Um Sang to offer usually significant dividends to its members. The Um Sang offers a farm gate price in the region of $0.5/kg of rice paddy. This is about 30 percent higher than what local millers offer in regular markets. The stable market price enables farmers to plan for their farming and finance. It also results in product and technological development opportunities such as expanding product lines, including rice-based cosmetics and rice snacks. It also includes reaching out to new types of customers such as rice oil manufacturers and soya sauce manufacturers. This has encouraged farmers to grow soybeans after the end of the rice cropping season in the dry season (when the land is usually deserted). Such alternative crops help to increase income and improve soil quality.

Better access to physical and financial capital

In general, farmers' organisations receive support from Thai government and wider public as a way to help farmers' communities to maintain better livelihoods. However, farmers' organisations can only seize market share in the long term under certain conditions. These include products meeting standards and customers having access to them. These conditions are difficult to attain, resulting in many Thai farmers' organisations failing to make profits.

The Um Sang's story of a farmer-led enterprise has inspired people to feel there is a path out of poverty. The combination of its organisational story and the premium quality of certified organic rice products generates high market value. It has built a reputation as a leading farmers' community enterprise in recent years, making it one of the most well-known farmers' organisation enterprises in Thailand. This reputation is part of the the Um Sang's competitive advantage and it builds customer loyalty over time. The Uncle Boonmee brand name has economic value, allowing the enterprise to earn a high price compared to other firms with the same product lines. This differentiation has attracted wholesale rice traders to source rice from Um Sang. This achievement has enabled the Um Sang to make a decent profit margin that has allowed to offer up to 15 percent

dividends to its members, while most Thai agricultural cooperatives offer up to 7 percent dividends.

Sources of finance in this stage include enterprise profits and business loans. These are being used to run the enterprise value chain activities, including buying rice paddy and paying staff payroll. The Um Sang's farmers' organisation involves production, marketing and administrative jobs. It has people with the right training and skills to do the work which is a new aspect among typical farm-led organisations. This is made possible due to effective recruitment and available hiring budgets. These recruitments include a factory manager, technician, accountants and agronomists, which highlights an importance of capital accumulation to reinvest in an organisational development.

Harvest season is a crucial time for any type of miller when it comes to cash-flow management. Business loans are common for millers to manage their cash-flow during harvest season. To obtain a loan approval requires an excellent credit and trade history, and a collateral, making it unlikely that farmers will be able to access such loans, often leading to the failure of farmers' organisations.

Premium certified organic jasmine rice is a specialty market segment. It is demanding and requires attention to detail, particularly in terms of quality. The Um Sang has made this possible by having sufficient cash-flow in the business. Cash-flow management comes from profit and loans provided by the BAAC's small and medium-sized enterprises (SME) business loan scheme. Obtaining such loans are a great achievement for a farmers' enterprise. This has allowed running a profitable business and reinvesting to maintain performance, showing a healthy business model to lenders. This results in the banks (e.g., BAAC) being willing to lend money to the enterprise based on its business performance and ability to payback. This is important lesson which can be passed on to other farmers' organisations.

Business loans and business performance are the key investments enabling the Um Sang to develop organisational infrastructure. The Um Sang obtained business loan totalling around $500,000 (15 million Baht) from the BAAC for a

post-harvest facility construction, expanding its rice milling factory with sufficient storage for rice paddy and processed rice products. According to the BAAC's manager, this sum is believed to be among the largest loans in the history of Thai farmers' organisations. The Um Sang, like rice exporters, obtains advance orders from international markets, so it can forecast future income and cash-flow. Presenting such a business plan is deemed necessary to secure loans. To this end, business loans and personal loans are two different things. Without good planning for what to do with the money, personal loans can be a risky for individual farmers. This type of loan requires personal responsibility and personal ability in financial management. So, it is up to the farmers.

In the case of the farmers' organisation, this can be a game-changer. Business loan packages come with a business advisor who helps guide and recommend directions to achieve profits. A business advisor can provide the most needed support in term of business guidance. For example, a change from being a farmers' organisation to a registered business entity has made the organisation more easily recognised in markets. This is the area where farmers' organisations have struggled the most in the past. Although farmers' organisations receive certain tax advantages and support from government, their business sustainability should rely on product quality.

Access to organic supplies, quality assurance and legal requirements are elements the Um Sang invests in to achieve benefits of economies of scale. First, it sources organic inputs of supplies at a reasonable price. Members pay less than market prices due to the advantage of economies of scale. For example, members could save up to $7 (200 Baht) per 25 kg sack of Hom Mali 105 seed as compared to a common retail price. In addition, the Um Sang covers the cost of quality assurance and legal requirements to maintain organic certifications and business licensing. Second, the Um Sang reinvests its profits to lease heavy agricultural machinery such as harvesting machines. It also purchased trucks to use for logistics purposes such as transport rice from farms to its rice mill. As a company, the Um Sang can benefit from getting corporate contracts that mostly offers better deal than individual purchases. Members are also better able to hire such machines owned by the Um Sang. They could save up to $33 (1,000 Baht) in each

cropping season when compared to the typical machine hiring price. It is important to note that for certified organic farms, hiring random harvest machines can cause impurity in their farmlands due to stringent regulation in organic certification. Therefore, such a collective action offers double benefits for farmers' finance and maintains the quality of organic farming.

Third, warehousing and product distribution involve delivering products to clients in domestic and international markets. This is an area that highlights the strength of the Um Sang as it has commercial-scale infrastructure, which is rare among Thai farmers' organisations due to the lack of finance, human resources and business capability. It has a commercial scale warehouse to store rice paddy purchased from farmers at the rice milling stage, as well as to store milled and packed rice. Products are required to be warehoused before being delivered to customers both in domestic and international markets. This was a threat of the Um Sang as it has a large amount of rice paddy at harvest season. As the Um Sang had insufficient warehousing and milling facilities, their members had no other options but to sell their organic rice to local rice millers at the market price. This can discourage farmers from continuing organic farming as the price difference between an organic rice paddy, and a typical rice paddy can be substantial, in the region of $66 - $166 (2,000 - 5,000 Baht) per ton. In order to continue improving, the Um Sang would need more finance to expand its milling facilities. Although it has secured business loans, the Um Sang founder explained that the loan amount was still insufficient to invest on an optimal milling facility. Without further expansion, the members would have no other choice but to sell rice paddy to other millers where certified organic rice is not priced.

7.4 Conclusion

Building a capable farmers' organisation requires a wide range of capabilities. As a limited company, resources and skills are required to operate tasks such as business administration, accounting and licensing. The Um Sang case offers some important observations on how a farmers' organisation as a business entity then contributes to improving farmers' livelihoods. It shows that the model and behaviour of an organisation play a significant role in achieving resource

mobilisation and effective capital allocation and signifies how and in what ways the value chain and organisational model links to organisational behaviour. The importance of proper organisational models and behaviour is reflected in business performance and value chain upgrading. To this end, certified organic rice is a product that illustrates the Um Sang's business plan, organisational behaviour and practices. It differentiates value-added activities from conventional rice production and accounts for different aspects ranging from farming to business development. At the same time, being a business entity helps to access markets and financial resources.

For a government intervention programme aiming to support smallholder farmers, agricultural machinery and post-harvest facilities are interventions that can immediately boost farmers' livelihood as they are most needed. In addition, having essential facilities in place could encourage farmers to develop their entrepreneurial abilities. Creating an effective organisation can be an agent in transforming farmers' value creating activities. In agribusiness, practical methods for value creation can result in increased productivity, enhanced small producer market participation, and increased access to finance. Building human and social capital through implicit learning in an organisational setting should also be considered as a benefit of farmers' collective organizing. Smallholder farmers may learn and develop new ways of thinking, skills and behaviour without realising it. The learning process is not limited to a formal setting. The key is effective communication through which essential skills can be transferred. Policies takes place at the macro-level, but debt is an individual problem and linked strongly to individual decision making and responses to factors affecting the decision making. Farmers' self-organisation can help manage debt in farmers' households. Moreover, farmers' organisations are an engine to help process knowledge and practice as well as a way to apply such knowledge into their farming. Therefore, self-organisation can be more effective if it is communicated among farmers' organisations.

Findings from the Um Sang case suggest that partially merging farming operations with peers into a farmers' organisation instead of running them individually can offer financial advantages and extend resources. This puts

forward an idea of multiple community enterprise as the new model of farmers' organisation. Considering the conditions in which most farmers live, it is undeniable that building a thriving farmers' organisation can be a difficult task. Instead of each collective group building their own farmers' organisations, creating multiple community enterprises could be a model helping less able farmers groups to participate in markets. Many farmers have indicated that they could not switch to organic farming, despite realising its benefits, due to the lack of processing facilities. Having such facilities would help farmers to move towards ecological farming and earn economic rents enabled by shared facilities.

Chapter 8 Learning from experienced farmers' organisations to improving organisation performance: the case of Sisaket Agricultural Marketing Co-operative limited

Disclaimer:
This case study is incomplete due to the lack of data availability. The attempt to draw this case is to guide a possible benefit a facilitator-driven farmers' organisation model can bring in this business environment. It can also help guide further study and planning of the Sisaket AMC.

Approach
Research methodology, in this case, was different from the other two case studies due to the lack of data. Desk-based analysis was used to review secondary data such as documents and news. For analysis, the shift has made from looking at the rice value chain to understand a farmers' organisation into discussing lesson learned from other experienced farmers' organisation to help improve an organisation performance. This approach makes this analysis particularly relevant to development practitioners such as farmers' organisation administrators, managers, government officers and the like. It can offer some recommendation for managing real-world problems faced by farmers organisations.

Originality/lesson learned:
This case responds to the recent report by Thailand's Corporation Promotion department (2018) that the Sisaket AMC has been running business loss. The report suggested that improving organisational structure and trade capacity would be needed. However, an explicit recommendation was not given. The case study offers an analysis to shed light on which direction would benefit the Sisaket AMC's organisational adaptation. This case highlights that the AMC has a unique position with plausible leverage power supported by Thailand's Bank for Agriculture and Agricultural Cooperatives. It has access to resources such as knowledge, market and finance. Although underutilised, such leveraging power has the potential to help facilitate and develop farmers' livelihoods.

Theoretical contribution
A facilitator-driven farmers' organisation model, mainly supported by government agencies, has an unprecedented leverage for empowering farmers. It can i) mobilise resources to tackle farmers' problems such as post-harvest facilities and the barrier to entry into the market; and ii) facilitate two ways communications between farmers and government agencies. It is noticeable that such a facilitator-driven model is a somewhat bureaucratic company, which is rigid and less effective than the business company (e.g., the BSCM).

Practical contribution
The AMC is a facilitator-driven farmers' organisation implemented in Thailand to help farmers cope with farm products' price fluctuation. Understanding its role and improve its organisational structure can potentially help improving farmers' livelihood on a large scale.

8.1 Case profile: The Sisaket Agricultural Marketing Co-Operative Limited (AMC)

The Sisaket Agricultural Marketing Co-Operative Limited (AMC) is one of the four provincial AMCs which produce Jasmine rice on the Thung Kula Rong-Hai plateau. The four provincial AMC are Surin, Buriram, Roi-Ed and Sisaket. The rice products are accredited for geographical indication (GI) grown on the Thung Kula Rong-Hai plateau. The rice paddy feeds to the AMC rice production trade under the A-rice trade name, shown in photos 8.1 and 8.2. The A-rice brand is sold by the Thai Agri-Business Company Limited (TABCO). The TABCO is a joint venture partnership between the BAAC and Thailand's Cooperative Promotion Department (CPD).

Photo 8. 1 5kg packed 100% jasmine rice of A-rice brand
Source: Thailand Post-mart (2019)

Photo 8. 2 Workers managed packed rice at the milling facility
Source: Rakbankerd, 2013

The Sisaket AMC was established in 1991. However, the rice milling service began in 2008. It has members totalling around 220,000 farmers who are the

BAAC customers residing in districts of Sisaket province. The Sisaket AMC business services that are relevant to rice include i) selling farm input supplies to members; ii) aggregating and processing rice paddy to produce A-rice brand products; iii) provision of a service of agricultural machinery procurement. Rice milling is situated in Rasri Salai district, while the main office is located in Meung district (Meung means City Centre). Rice milling has a commercial-grade processing facility with a production capacity of 40-ton paddy per day. Storage capacity for rice paddy is 500 ton (Rakbankerd, 2013). The Sisaket AMC uses a price guarantee policy, which would add about USD 7 (200 Baht) to the market price. Members can earn a 1% dividend, which is paid from Sisaket AMC profit. According to the Sisaket AMC, all Sisaket-registered farmers can sell at the AMC without being directly registered with the AMC. However, the Sisaket AMC has reported a financial loss. Thailand's Cooperative Promotion Department has classified the Sisaket AMC and the other 27 provincial AMC in a category that runs a loss but has the potential to develop (Thailand's Cooperative Promotion Department, 2017).

8.2 Data collection

The purpose of data collection was to harvest relevant data and information to answer the research question. Stakeholder interviews and documents were the critical empirical evidence collected for this thesis. However, the AMC case was the only case that I could not interview with persons working for an organisation despite several attempts to arrange appointments, as discussed in Chapter 4.

A farmers' organisation was taken as an entry point and the nexus of data collection. Due to the inability of retrieving primary data and information from the management of AMC, I used desk-based analysis using secondary data. The shift was made from looking at the rice value chain to understanding a farmers' organisation and discussing the organisation model and its leveraging power. With this shift, the use of secondary data can maintain research validity. Some stakeholder interviews were conducted to use across cases, for example, the branch manager of Sisaket's BAAC and the director of the ministry of commerce,

Sisaket provincial office, as listed in table 8.1. Documents were mainly retrieved from news archives and the BAAC.

Table 8.1 List of stakeholders relevant to Sisaket AMC case study

Affiliation	**Number of informants**
Stakeholders involve with Sisaket AMC	**40**
The Sisaket's Agricultural Cooperatives for Marketing - Leadership team	0
The Sisaket's Agricultural Cooperatives for Marketing - Farmers	10
Bank for Agriculture and Agricultural Cooperatives – Sisaket provincial branch	2
Agricultural Cooperatives - Sisaket	1
Ministry of Commerce Sisaket provincial office	1
A local miller in Sisaket province	2
Local agricultural suppliers	3
Rice paddy middlemen	4
Farm Women Group Association	4
Sole traders in morning market	12
Ubon Ratchathani Rice Research Center	1
Relevant stakeholders involve in selected rice value chains	**24**
Bank for Agriculture and Agricultural Cooperatives – Headquarter	4
Department of Rice, Ministry of Agriculture and Cooperatives	1
Kasertsart university	3
Thai Rice Exporters Association	3
The Land Bank Administration Institute (Public Organization)	1
Department of Land Development, Ministry of Agriculture and Cooperatives	2
Siam Kubota Corporation Co., Ltd.	1
Shipping broker companies – rice exporting logistics	2
Agricultural machineries	2

Source: Own elaboration.

The relationship between rice farmers and the Sisaket AMC as a farmers' organisation is different from the other two cases previously discussed. In this case, membership eligibility is based on being the BAAC clients. As a result, over 220,000 Sisaket farmers are automatically considered the Sisaket AMC members. However, the AMC has a rice milling capacity of 80 tons per day. The organisation's milling capacity can service only a small volume of paddy rice. Also, the AMC serves as an input supplier to farmers, the same role as district co-operative organisations. It may distract the AMC focus and divert resources from the marketing mission, causing profit loss as reported.

According to an interview with local farmers who sold their paddy rice to the Sisaket AMC (Case3_02, Case3_03, Case3_04, Case3_05), they expressed the following: roles of Sisaket AMC has been helping to earn higher paddy price, but less helpful as an input supplier. Because it easily accessed their local cooperative and input supply shops.

"The [Sisaket] AMC is not a shop, and I had to call before to make sure someone is there" (Case3_02).

There was no significant change in the rice paddy production process. The difference can be observed as the Sisaket AMC offered paddy rice aggregation service as an alternative to local rice millers. According to interviews with the Sisaket AMC members, the farmers indicated that the price advantage offered by the Sisaket AMC was somewhat insignificant compared to the market price. Input supplies sold by the Sisaket AMC offered no price advantage as compare to local suppliers. Besides, farmers indicated that they felt unwelcome, with the conversation style such as "don't you know how much work I have" (Case3_03). In this case, it can contribute to customers' decision not to buy the products. This discovery is something the AMC may want to review, considering that they faced accumulated loss of profit. This coincides with what Thailand's Corporation Promotion department (2018) has identified as internal structural transformation, being one of the many issues that the AMC is required to improve.

8.3 Lesson learned from other farmers' organisations to advance the Sisaket AMC

It is widely accepted that farmers' organisations have roles in improving smallholder farmers' income and productivity (Bizikova et al., 2020). In other words, a farmers' organisation business performance reflects how well it is capable of helping farmers' livelihood improvement. Making a profit is a good indicator signalling that the business is going in the right direction. By contrast, a farmers' organisation that runs a business loss is less likely to help develop farmers' income and productivity. It is the essence of this case analysis.

The Sisaket AMC has been repeatedly reported to be running a business loss over the years (Thailand's Corporation Promotion department, 2018). There have been several attempts by responsible organisations to turn around such business performance. For example, the Sisaket's Bank for Agriculture and Agricultural Cooperatives and the Sisaket's Cooperative Auditing Office organised joint meetings to address and tackle the Sisaket AMC's long term business loss (Sisaket Provincial Cooperative Office, 2020). Although detailed of the discussions were not disclosed.

The consequences of business loss prevent the AMC from achieving its mission to help farmers benefit from the paddy rice market. For example, farmers were turned down at the selling point as the Sisaket AMC did not have sufficient capacity of the post-harvest facility to buy a large volume of incoming paddy rice during harvest season. Being turned down at the point of sale can negatively affect farmers in many ways, as described by respondents Case3_03 and Case3_04. The transportation cost added up due to more trips. A farmer is likely to be offered a lower price than the market price at the second point of sale, which can be considered as a "desperation or distress sale" (Case3_04). The Case3_04 respondent explained that when a miller turned down paddy rice at point of sale, the middlemen would know it. Such information communicates among intermediaries who worked for millers. With such well-connected networks,

farmers are bound to lose due to the lack of negotiation power and post-harvest facility.

Such a situation is not unique to solely Sisaket AMC. During harvest season, most millers face challenges in managing paddy rice in different ways. The problems often involve post-harvest and cash reserve management. Problems linked to post-harvest management involve farmers lack of dryer and storage facilities. Thus, they need to sell paddy straight from farm to mill, regardless of price fluctuation. Cash reserve management is a challenge faced by millers as they need to pay in full at the sale point. All these problems contribute to market price fluctuation.

This following plan and recommendation is specifically for the Sisaket AMC, which draw from lesson learned from the other two case studies. The objective is to guide the direction for possible development from its current stage. Other similar farmers-related organisations establishment can take this exercise as a guide to suit their development purposes. The AMC has potential to play a significant role in enhancing farmers' livelihood by achieving more evenly and wider distributional outcomes. This recommendation is specific to the Sisaket AMC and could offer some lesson learned for other AMC branches. Such system thinking can offer a pattern leading to a more successful planning and execution. It is important to take note that data is insufficient. The figure and calculation are for example purpose, actual data is required for explicit planning.

Problem 1: Insufficient size of milling facilities as compare to the beneficiary population. These include 80 tons/day milling production capacity; 500 tons rice paddy storage; and 1,500 square metres of sun-dried area

Problem 2: Using a commercial intermediary for business activities such as marketing

Problem 3: Overlapping business activities with districts co-operative organisations

Problem 4: Incompetent human resource management

Problem 1: Insufficient size of milling facilities as compare to the size of the Sisaket AMC's farmers. These include 80 tons/day milling production capacity; 500 tons rice paddy storage; and 1,500 square metres of sun-dried area.

This suggestion uses some lesson learned from the Um Sang and the BSCM. Building on lessons learned from the previous cases, it is evident that the farmers and the Sisaket AMC could work in partnership to construct a post-harvest facility. The investment capital could be allocated through the Sisaket AMC leveraging power. To offer a valid response, this part will discuss with reference to the paddy rice production and value-added management planned for the Roi-Et provincial co-operative (Watjanawatra, 2014). Rio-Et province is one of the four provinces that organised AMCs to focus on jasmine rice production from the Tung-Kula-Rong-Hai plateau.

I used the Roi-Et provincial co-operative as a guide to planning for paddy rice production and value-added management, as shown in figure 8.1. The following discussion will highlight a possible planning of how the Sisaket AMC could leverage resources and serve as a key actor to negotiate for post-harvest facility construction. With careful planning, some data from figure 8.1 can help the Sisaket AMC construct a planning to improve farmers' livelihoods. The AMC can serve as a negotiator or a policy planner who can coordinate with the government and farmers.

The calculation can be more complicated than presented here, but the analytical foundation remains the same to improve farmers livelihood. It is a puzzle - why does the government implement a costly subsidy programme that does not ease foreseeable and seasonal problems? Poapongsakorn (2019) offers a response in an "Overview of rice policy 2000-2018 in Thailand: A political economy analysis", as follows.

> "The interesting questions are why do all governments have to provide the costly subsidy and what are the consequences on the future of Thai agriculture and government debt? There are at least three reasons for the popularity and prevalence of agricultural subsidy policy, i.e. farmers being the largest group of voters, the ease and availability of subsidy financing, and the failure of

professionals and government agencies to respond to the farmers' needs and problems."

Poapongsakorn, 2019:p. 12

The effectiveness of policy formation and implementation is a complicated matter. It can offer an alternative way to make the most agricultural subsidy by maximising season cash support into a long-term facility. Such a planning discussed here can be an example of how professional and government agencies can better respond to farmers' problems.

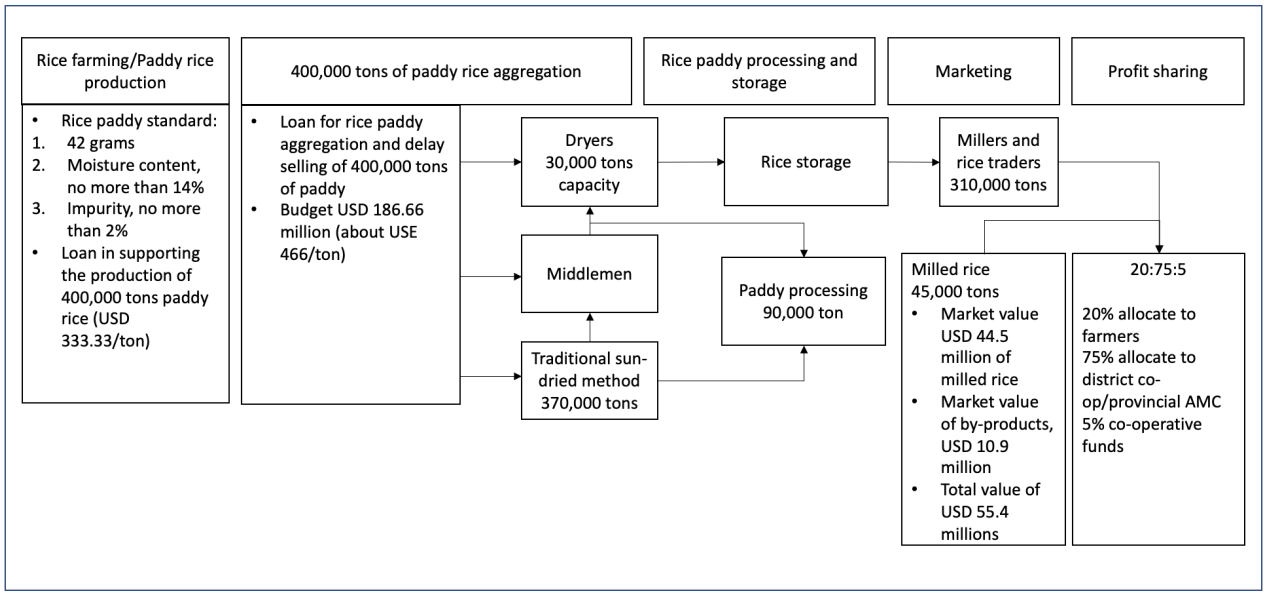

Figure 8. 1 Paddy rice production and value-added planning, managed by co-operative group of Roi-Et province
Source: Watjananawatra, 2018 (in Thai)

Note for figure 8.1: Aggregation target of the 400,000 tons paddy rice

i) Loan for rice paddy aggregation and delay selling 400,000 tons of paddy was budget for 186.66 million (about USD 466/ton). However, the majority of paddy rice of 370,000 tons use the traditional sun-dried method. At the same time, about 30,000 tons of paddy goes to dryers at capacity. Intermediaries (e.g., middlemen) play an essential role in helping to aggregate paddy.
ii) An average farm size of a rice farmer household in Sisaket province is 3 hectares (National Statistic Office – Sisaket provincial branch, 2017). An average paddy rice yield is 2.5 ton per hectare (Office of Agricultural Economics – Sisaket provincial branch, 2016). With provided statistic, it would take about 53,333 rice farmers households to produce 400,000 tons of paddy rice.
iii) Regarding the 2017/18 delay selling paddy rice subsidy, the government offered a maximum of USD 330 per rice farmers' household. The total budget is approximately USD 17.6 million per cropping year. The pitfall, as mentioned earlier, that farmers and their farmers' organisation did not fully benefit from such policy due to the lack of storage to delay selling.
iv) Concerning figure 8.1, it suggests that such a budget can be used more sustainably by building a post-harvest facility, instead of giving in the form of cash transfer to individual farmers.

v) Once post-harvest facilities are put in place, it can smooth the other value chain stages. For example, co-operatives can trade paddy rice with other trade partners only if they have a paddy stockpile (figure 8.1). Results of such value activity can offer 20% additional and dividend to farmers who are shareholders. Such negotiation requires a negotiator who is in a position to do so. It shows the uniqueness of Sisaket AMC for being a facilitator-driven farmers' organisation model. It can help to leverage and mobilising resources. It is incredibly impactful because leveraging power is a step toward value chain upgrading. For example, the farmers' organisations will trade paddy rice with millers and rice traders. It can result in better incomes in the form of higher profits and dividends.

Also, the expansion of milling facility may encourage farmers to move forward to organic farming. One of the reasons that discourage farmers from switching to organic farming is the milling facility. Price advantage is the key mechanism to encourage farmers to switch to organic farming. As evidence shown in the Um Sang case that, a large number of farmers would like to join the Um Sang enterprise. However, the Um Sang has reached its current capacity to accept more members. Therefore, milling expansion would encourage farmers to switch to organic farming. This will give direct benefit to farmers by reducing the production cost, improving farmland ecosystem and earning a higher return.

Problem 2: Using a commercial intermediary for business activities including marketing

Using intermediary means more transaction cost. The current law and regulation restrict the AMC's ability to trade (Cooperative Promotion Department, 2018). As a result, it set up the TABCO as a commercial intermediary. Having control over their own business can allow the Sisaket AMC to become more focus and pay more attention to detail. For example, the CPD (2018) indicated that 34.2% of inventory have found to be unidentified loss and oversupply of products. This highlights the need for regulation change to give more power to the provincial AMC. Otherwise, a commercial intermediary should be established for the Sisaket AMC business activities. The commercial intermediary needs to be decentralised. It is likely to compromise business performance if all AMC handles by a central commercial intermediary.

Proposed solutions	Benefits from expected outcomes
2a. Change of regulation that limit commercial activities of the AMC 2b. If regulation cannot be changed in the near term, the Sisaket AMC should be endorsed to register a sister company to operate its business activities	2a. In the current law and regulation that limit the AMC to trade, the Sisaket AMC may register a business entity as a spin-out company to lead the role in trading for the Sisaket AMC. 2b. The Sisaket AMC would be able to trade locally and internationally. This has direct impact on how to plan for accounting and budgeting. Opportunity to trade locally include aggregating rice paddy from farmers, selling dried paddy to millers and trading rice milled to wholesalers and retailers both domestic and international markets.

Further explanation of proposed solutions:

- The structural transformation of government agencies is not entirely new. The Thai government has implemented such an attempt by establishing the types of hybrid organisations to increase efficiency. For example, the public organisation has been introduced by many ministries such as the Science and Justice. The higher pay scale successfully attracts competent candidates to work for such organisations.
- The role of the AMC is beyond trading. Its success would signal the business environment for the strengthening of collective farmers. This is vital to balance out farmers negotiation power in the markets in the given business environment.
- Having a sister company to operate just for the Sisaket AMC would allow creativity and practice plans for marketing. For example, the Sisaket AMC may expand the product line to sell dried paddy to local millers. It may also consider seeking endorsement from the government to have rice products include in tax return category. This suggestion has arisen after the government implement an economic stimulus package by allowing

tax return for shopping bill at a maximum amount of $1,000 (30,000 Baht) (Ministry of Finance, 2019).

Problem 3: Overlapping business activities between the Sisaket AMC and districts co-operative organisations

The Sisaket AMC, like the other AMC in general, offers a wide range of services including farm supply business to farmers. It means the AMC would need to allocate its focus on many businesses activates providing that it already has a limitation on workforce competency. In practice, farmers have a more direct association with its registered district co-operatives. It would be likely to be more effective if business transaction arranges between district co-operatives and provincial AMC at an organisation level. For example, the district co-operatives may arrange with rice farmers who willing to sell rice paddy to the Sisaket AMC as a group arrangement. This approach would offer a more systematic arrangement that benefits both the farmers and co-operatives.

Proposed solutions	Benefits from expected outcomes
3a. Focus on marketing role through arrangement as discussed in problem 2 3b. If other tasks required, it is more efficient to arrange at organisational level – meaning between the Sisaket AMC and district co-operatives, instead of individual farmers 3c. Emphasis on creating new market channels to distribute products	3a. This approach would allow the Sisaket AMC to focus on marketing role. Expected outcome can include helping farmers to earn profit from rice paddy trade regardless of government price intervention. 3b. This should result in improving the AMC organisational efficiency. As CPD (2018) identified some problems concern unidentified loss and oversupply (34.2%) and products expired or damage (26.3%). The internal business adjustment would likely improve these current issues 3c. It would help the Sisaket AMC to minimise risk of running lost. New market opportunity can help to distribute more products from facilities in place

Dried rice paddy can offer a potential market channel, for the Sisaket AMC to trade with local rice millers. At some point during the off-season, rice paddy can become scarce, causing price volatility. In practice, most millers would try to stock rice paddy as much as their capital and storage capacity allow. If that was true, how might dried paddy create market opportunity?

Many millers experienced hardship to secure sufficient funds from banks to buy rice paddy. It caused cash-flow problems during a short but critical time of harvest season (around the end of October to mid-November). The Thai rice industry has changed immensely after the rice-pledge scheme (implemented between 2011-2015). Consequences of the rice-pledge scheme can include strict bank regulations on loans for small to medium-sized rice millers. Many millers indicated that they could not find sufficient fund to buy rice paddy, the same way it used to be in their parent generation. On the one hand, the Sisaket AMC can take advantage by trading dried paddy to millers, providing they have storage space to stock dried rice and access to the BAAC. On the other hand, this approach can benefit small to medium-sized millers because the stages between buying wet rice up and process dried rice may not be straight forward. There are many factors involve complicating the process such as quality of rice paddy, logistics and supply chain management and market manipulation between traders. Buying dried rice would minimise risks as mentioned. Besides, it would require less storage space and a smaller size of capital.

Problem 4: Human resource management

Proposed solutions	Benefits from expected outcomes
4a. The Sisaket AMC can become a successful entrepreneurial company by investing in professional workforce. This includes hiring, on-the-job training programme and performance assessment	4a. All the above requires professional workforce to handle different tasks effectively, but coordinate as one organisation. The outcome can be measure by profit making.

Human resource management is central to changing from bureaucratic company to entrepreneurial management. It is the mindset that moves an organisation into the direction where its behaviours lead. Evidence from the Um Sang case shows how resource heterogeneity enables the organisation to create values. Some lesson learnt from the Um Sang, and the BSCM can offer practical examples to the Sisaket BSCM. These examples can include investing in skilful employees and leadership team and regular on-the-job training. These workforces are powerful drivers enabling the enterprise to modernise and trade profitably.

Conclusion

This case shows that an organisational model is a crucial factor of value creation for an organisation. Although the Sisaket AMC has been running a business loss, its unique organisational model shows great potential to improve farmers' livelihoods. Value perspective could span further from profit generation and product development in the value chain. The leveraging power is a unique ability a farmers' organisation can use to achieve livelihood improvement. As a farmers' representative, the abilities to coordinate and negotiate can enable change-making in a more sustainable manner, such as budget allocation and policy implementation.

Chapter 9 Discussions and Conclusion

This chapter discusses the findings across three case studies of farmers' organisations in Thailand and consolidates the contributions of the study. The primary focus is to draw together findings on how capable farmers organisations have improved farmers' livelihoods through capability development, resource accessibility and post-harvest infrastructure development. The chapter starts by discussing a farmers' organisation as a mechanism for resource mobilisation. Followed by the cross-case analysis, the key findings are summarised and discussed across the three cases of organisational development. Then, I turn to the developmental patterns that have led to profitability and sustainability among smallholder rice farmers. The discussion of the patterns involves the precursor factors that lay the foundation for the determinants of organisational development. These precursor factors are commitment and trust; organisational models and behaviours; shared value; and capacity development and resource mobilisation. Consequently, the process and outcomes of a capable farmers' organisation influenced by such precursors are organisational routines; repositioning farmers in the value chain; reconfiguration of value chain finance and value chain upgrading. Such pattern offers a guide for policy formulation and implementation such as replication and scaling up purposes, which contributes towards filling that gap in the institutional change literature.

9.1 A capable farmers' organisation as a mechanism for resource mobilisation

This study has analysed how the development of farmers' organisations improves farmers' livelihoods by using three organisation models in Sisaket province of Thailand as empirical evidence. The livelihood improvement materialised when a farmers' organisation successfully became a nexus for capability development, resource accessibility and post-harvest infrastructure development. Such an organisation accumulates resources and capital from its profits and by gaining access to resources through one of an arrangement of organisational models, leading to rice value chain development. Although the development may occur gradually and with subtlety, such a process can be observed (or explained) from the perspective of organisational models and organisational behaviours.

The three cases of farmers' organisations were purposefully selected to represent different types of farmers' organisational models. There are the producer-driven (the Um Sang), buyer-driven (BSCM) and facilitator-driven (the Sisaket AMC) model. They are all situated in the same province which largely controls for factors such as government intervention, financial regulation and geography. These factors shape the business environment shared by all three studied farmers' organisations. The findings reveal that organisational models have direct influence on organisational routines and business performance, in ways that can lead to improved livelihoods through higher returns on investment and better access to farming resources. In addition, farmers' organisational models are found to be a catalyst towards change processes in the rice market system. This change has direct benefit to farmers by being included in the change process; the study shows that such change processes occur due to farmers being repositioned in the value chain. The change of roles played by the farmers in the value chain happen as a capable farmers' organisation gains negotiation power, which results in farmers gaining access to resources and other factors that improve their business performance. This finding is important since some scholars, such as Mahoney and Thelen (2010), have raised concerns that despite the fact that institutional analysis has received significant attention in the literature, there is still a lack of guidance and sensemaking on the actual institutional change process. This study contributes toward filling that gap in the literature.

To this end, the current analysis uses value chain approach to represent and capture phenomena that occur during to the change process. The approach takes the business environment as a system boundary illuminating an abstract idea of the market institution through something more concrete and more observable and in this way the power of negotiation can be recognised as being a part of the change process. Where farmers used to be excluded from the market institutions, the process of repositioning them in value chain and reconfiguring finance can be a pragmatic approach to agricultural development policy. Such new knowledge is particularly significant when discussing livelihood improvement and poverty reduction strategies. Considering from a value chain development standpoint, farmers could be better off from policy interventions that aim at repositioning

farmers in value chains, instead of focusing on value-added or value chain upgrading of the production process alone. Here, the practical meaning of repositioning value chain can include having resources or access to resources – empowerment - in ways that improve farmers' livelihoods. Repositioning in this meaning concerns being less vulnerable, having more economic opportunities and wider access to resources, and can result in a more extensive asset accumulation as shown in Figure 9.1. Tangible examples will be further discussed in the cross-case discussion in Table 9.1.

To illustrate the approach adopted in this study, it is useful to revisit the DFID's Sustainable Livelihoods Guidance Sheets (2001) and Poole's Livelihoods assets hexagon framework for agricultural development (2017) that can offer an operative image of practical way to translate theory into practice. Figure 9.1 shows an adapted livelihoods assets hexagon framework for agricultural development with an insertion of a capable farmers' organisations as farmers' livelihood assets. As business activities, capacity building and networking activities are performed in such an organisation, it helps to generate capitals that spill over to creating multiple benefits. This is a process of which a capable farmers' organisation accumulates its entropy by having heterogeneous resources. It represents a path for vulnerable actors to become resilient and independent.

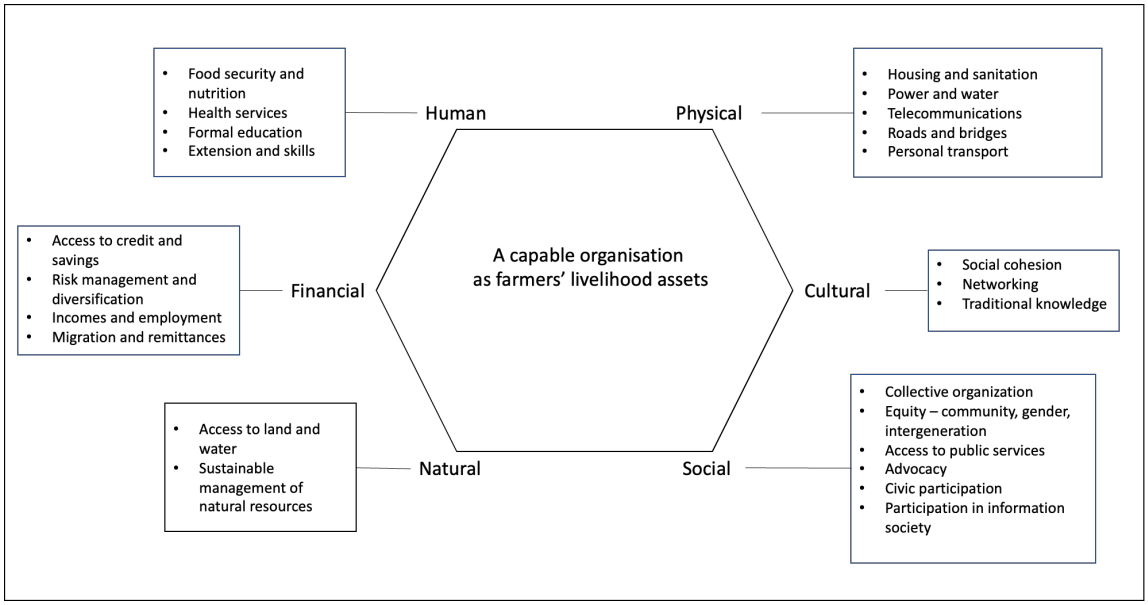

Figure 9. 1 Livelihoods assets hexagon framework for agricultural development
Source: Adapted from Poole, 2017

It is noticeable that improving and expanding value-creating activities can play a role as a turning point towards better livelihoods for farmers. The findings highlight that the turning point of improving livelihoods has often been underpinned by more effective use of factors of production and resource-based organisational arrangements. For example, land value has been enhanced by attaining organic certification. This activity has allowed farmers' organisations to achieve breakeven and eventually earn rent. Besides, the empirical evidence suggests a strong relationship between farmers' organisations and their members as they influence each other on behaviours and attitudes. Looking from a farmers' livelihood perspective, rice value chain development can offer more than additional profits in financial terms. Instead, it can offer an integrated perspective into societal, ecological, health and human development.

9.2 Cross-case analysis

This section discusses selected key findings across the three case studies as summarised in Table 9.1. Empirical findings of the three cases highlight a significant misperception between building an organisation versus implementing a business model, which might have led to misleading interventions. Teece (2010:172) defines a business model as a tool which "… describes the design or architecture of the value creation, delivery, and capture mechanisms [a firm] employs. The essence of a business model is in defining how the enterprise delivers value to customers, entices customers to pay for value, and converts those payments to profit." (Teece, 2010: 172). The definition points to some critical aspect of how the business is executed, which can then result in profit generation. The case studies were purposefully selected as exemplary cases from this perspective. In particular, they portray the importance of building farmers' organisation as a capable organisation, not just a straightforward implementation of a business model. A capable organisation that serves as farmers' livelihood assets towards capacity development, capital accessibility and infrastructure development, as shown in figure 9.1.

From this viewpoint, a collective group of farmers or policy planners needs to decide whether to create a capable farmers' organisation and, if so, what new products to create. If the aim is to earn higher profit through value addition, then creating a new product can be a good start. Because farmers would not need to deal with the whole variety of business activities and would not need to invest in post-harvest infrastructure such as dryer, milling and storage facilities, a farmer's organisation can open new opportunities for this. It would allow farmers to begin with lower business risk and start-up costs. Choices can include renting a processing facility from rice millers. Another plausible option is to partner with another well-established farmers' organisations. This approach may suggest an idea of multiple organisations – i.e., a group of farmers may form a joint venture business activity with an experienced and successful farmers' organisation.

With regards to investment in post-harvest infrastructure, a government might be in a position to act more cost effectively than individual farmers' organisations due to the capacity to facilitate financial investment and human resources. This is an area where farmers would significantly benefit from government intervention. If the choice was to consider long term action that builds farmers resilience, building farmers' collective action into a business enterprise is appealing, because it would help to expand resources, assets and capabilities. However, creating farmers' organisations may not be suitable for all groups of farmers. Thus, a discussion on whether to build an organisation or implement a business model is a helpful preliminary check for groups of farmers considering forming an organisation.

Table 9. 1 Key findings for the cross-case analysis

Case/key analytical factors	**1: The BSCM**	**2: The Um Sang**	**3: The Sisaket ACM**
Model of a farmers' organisation/a value chain	Buyer-driven	Producer-driven	Facilitator-driven
Operational format	A shared value partnership between farmers and a miller The initiative is managed by the BSCM, while farmers are not part of the management.	A self-organised farmer's enterprise upgraded from an informal farmers' organisation to a registered business entity The organisation is managed by the Um Sang members.	A provincial agricultural co-operative organisation with a focus on marketing The organisation is managed by the Sisaket ACM leadership team. Being a farmer or member is not prerequisite.
Product to sell by farmers to a miller	Purified jasmine paddy rice	Certified organic jasmine paddy rice	Jasmine paddy rice
Product that is sold to consumers	Packaged rice under Golden Phoenix brand Note: Farmers do not share profit/loss from retail or consumer sales	Packaged rice under Uncle Boonmee trademark Note: Farmers share profit/loss from packaged rice sales	Dried rice paddy and packaged rice Besides rice products, the Sisaket ACM also markets other products such as cashew nut
Activities that create value	Purified rice seed, dibbling technique, mechanised agriculture, processed and packaged rice, advanced supplies with interest-free and organised trainings	Organic certification, dibbling technique, mechanised agriculture, processed and packaged rice, pay dividend and organised trainings	Price intervention, dry rice paddy, processed and packaged rice
Intangible assets (e.g., reputation, trademarks, brand)	High - Golden Phoenix brand is a well established brand	High - Uncle Boonmee brand is traded in a niche market	Moderate - Rice brand that is new to markets
Resource mobilisation and capital allocation to	Resource leveraging	Resource leveraging	Not applicable, but has potential due to organisational support by the Bank for

minimise vulnerability context	Source agricultural machinery, lend the BSCM company infrastructure and human resources to help meet the needs of participating farmers	Source agricultural machinery, collaborate with research institutions such as a university and a rice institute, partner with manufacturers such as soya sauce company to create market for dry season crops (e.g., soybean) for members	Agriculture and Agricultural Cooperatives
Livelihood improvement includes increased return of farm investment and reduced level of dependency to other actors	Highly likely Many improvements associated with farmers' livelihood have been achieved e.g., better farm-gate price, skills development, better negotiation power and more income channels Farmers can earn better market prices from quality of rice paddy without government's price intervention policy	Highly likely Many improvements associated with farmers' livelihood have been achieved e.g., better farm-gate prices, earn dividends from organisational profits, skills development, better negotiation power, and more income channels Farmers can earn decent market prices from quality of paddy rice without government's price intervention policy	Not applicable, due to insufficient data to analyse business activities
Farmers' involvement as a part of rice value chains	Mainly paddy rice production stage but receive substantial incentives and support as a part of dibbling initiative	Mainly paddy rice production stage but receives substantial incentives, support and dividends	Limited involvement
Upgrading in the value chain	Achieved product, process and channel value chain upgrading Work in partnership between farmers and millers. Quality and ethical process as shared value partnership between farmers and corporation	Achieved product, process and channel value chain upgrading From conventional farmers' organisation to a registered limited company as a certified organic enterprise	Not applicable, but has potential to achieve process, product, functional and channel upgrading due to organisational support by the Bank for Agriculture and Agricultural Cooperatives

Accessibility to resources	Good access that is made possible by the BSCM funding for the initiative and company networking	Good access that is made possible by the Um Sang profit and organisational networking	Limited/under-utilised
Relationship between rice farming stage and rice processing (farmers and millers)	Well connected For example: trainings where the BSCM can communicate their product quality expectation, and farmers can request some support to meet the standards	Well connected For example: trainings and farmers meetings where the Um Sang can communicate their product quality expectations. Farmers can use their voices, share opinions and request some farming support.	Disconnected
Number of members (as of 2018)	Approximately 400 farmers	Approximately 1,200 farmers	Approximately 220,000 farmers Note: All registered BAAC's customers are eligible as the Sisaket AMC members
Processing capacity (ton/year) Note: Um Sang and Sisaket AMC record processing capacity per day	250,000 tons paddy per year	6 tons paddy per day (before the new phrase of milling facility opens in 2019)	80 tons paddy per day
Yield (tons rice paddy/hectare)	Approximately 2.4–2.8 tons paddy/hectare (0.38–0.45 tons paddy per rai)	Approximately 2.5–3.4 tons paddy/hectare (0.4–0.55 tons paddy per rai)	Approximately 1.87–2.8 tons paddy/hectare (0.3–0.45 tons paddy per rai)
Production cost/farm-gate price (per ton rice paddy)	Production cost: 166–200 $/ton paddy (5,000–6,000 Bh) Farm-gate price: 350–590 $/ton paddy (10,500–17,500 Bh)	Production cost: 133–183 $/ton paddy (4,000–5,500 Bh) Farm-gate price: 500–633 $/ton paddy (15,000–19,000 Bh)	Production cost: 200 – 366 $/ton paddy (6,000–11,000 Bh) Farm-gate price: 333–566 $/ton (10,000–17,000 Bh)

Price premium Price premium (%) = [Brand x price ($) - Benchmark price ($)] / Benchmark price ($) Using $1.3/kg (40 bh) milled rice as the benchmark price	25–120% Brand price = $1.6 - $3/kg (50-90 Bh)	25–50% Brand price = $1.6 - $2/kg (50-60 Bh)	25–50% Brand price = $1.6 - $2/kg (50-60 Bh)
Economic rent/rent earning potential	Tung-Kula-Ronghai geography Purified Khaw Dok Mali 105 seed	Tung-Kula-Ronghai geography Certified organic rice	Tung-Kula-Ronghai geography
Transaction costs	Lower transaction costs as farmers trade paddy directly with the miller without an intermediary Low transaction costs for the use of financial product and services due to interest-free finance	Lower transaction costs as farmers trade paddy directly with the miller without an intermediary	Not applicable, due to insufficient data to analyse business activities
Sources of finance	Privately funded by the BSCM	Business loans and organisation profits	Business loans from the BAAC
Financial instruments, products and services	For the organisation: The BSCM has options of business loans with commercial banks. There is no financial benefit from organising the dibbling initiative. The BSCM funded initiative activities from its own resources. For individual farmers: Input supplier credit: An interest-free loan option for participating farmers	For the organisation: The Um Sang takes business loans from the BAAC For individual farmers: Dividends and savings: Farmers will receive dividends from the Um Sang's profit. Members have an option to keep in saving. Farm loan: The BAAC is a typical microfinance institution that most Thai	For the organisation: The Sisaket AMC receives business loans from the BAAC For individual farmers: Farm loan: The BAAC is a typical microfinance institution that most Thai farmers are eligible to ask for a microcredit.

	who may wish to pay back after harvesting. Farm loan: The BAAC is a typical microfinance institution that most Thai farmers are eligible to ask for a microcredit. Farm insurance: Most farmers are eligible for government's farm insurance.	farmers are eligible to ask for a microcredit. Farm insurance: Most farmers are eligible for government's farm insurance.	Farm insurance: Most farmers are eligible for government's farm insurance.
Organisational models contribute to farmers' livelihood improvement	Buyer-driven model putting emphasis on improving quality standard by building farmers' farming skills and increasing resource accessibility to farmers Results in human capital development, resilience to vulnerability factors, and improved income and livelihood for farmers	Producer-driven model putting emphasis on developing farmers' skills (e.g., farming and finance). Business performance supports better livelihood for farmers including high farm-gate price, high dividends, dry season crops and organic certification. Results in human and social capital development, resilience to vulnerability factors, and improved income and savings	Not applicable as discussed in Chapter 8. However, the scenario-based planning suggests that the proposed milling facility could achieve a better business performance that can potentially contribute to higher sale price than market in a less price fluctuation trend.
Organisational routines – the impacts of resources and capabilities on organisational coordination	Transition stage - Routine activities take place mostly between the BSCM and the members but less among members themselves - Cultural capability contributes to social and human capital development – moderate, but progressing positively once farmers see benefits they can earn	Advanced - The Um Sang motivates and have frequent interactions among members leading to smooth-functioning routines - Cultural capability (beliefs and perceptions - high quality standards, responding to challenges) contribute to social and human capital development	Unclear - The ACM only concerns market intervention. It does not include farming skills development in rice paddy production phase. - Cultural capability not applicable because of limited involvement of farmers in the value chain activities

Organisational routines – heterogeneous resource advantage	Although partnership can be considered a new initiative, the BSCM has a large pool of experienced human resource with various skills to promote the development of the group of farmers and a wide network for extend support	Progressive - In terms of enterprise as business identity, still growing and learning but making progressive market developments - Human resources – management team is competitive as compared to typical farmers' enterprises that are mostly self-organised by farmers	Limited
Organisational routines – the relationship between learning efficiency and the presence of leadership	Progressive - The management team of the dibbling partnership routinely report to top management of the company (the chairman) – involved in the implementation and programme development	Progressive - The management team involved in the implementation and programme development	Limited - The ACM is a policy-based intervention. Each provincial ACM has to report to higher management team. Based observations and available documentation, the initiative involves mostly top-down commands from the top management (i.e. minister, secretary general)
Product differentiation	- Jasmine rice grown on the Geographical Indication of the Tungkula plateau - Purified Khaw Dok Mali 105 to produce jasmine rice by farmers of the dibbling initiative - Intangible assets such as branding and reputation	- Jasmine rice grown on the Geographical Indication of the Tungkula plateau - Certified organic rice - Intangible assets such as branding and reputation	- Jasmine rice grown on the Geographical Indication of the Tungkula plateau
Laws and regulation	- Hom Mali rice standard - The possession of an export license	- Hom Mali rice standard - The possession of an export license - Acquired certified organic labels	- Hom Mali rice standard - Can apply for an export license

9.3 The development process for building a capable farmers' organisation towards livelihood improvement

The findings suggest a novel development process of building a capable farmers' organisation towards livelihoods improvement. The resulting capabilities can develop into rice value chain upgrading, enhancing farm performance, and offering new market opportunities to farmers. The path of building a capable farmers' organisation can yield profitability and sustainability. The findings also suggest the pattern of building a capable organisation at a more detailed level. It involves certain precursor factors that lay the foundation of the determinants of a capable organisation. As shown in Figure 9.2, the precursor factors are commitment and trust; organisational models and behaviours; shared value; and capacity development and resource mobilisation. Consequently, the process and outcome of a capable farmers' organisation are organisational routines; repositioning farmers in the value chain; reconfiguration of value chain finance and upgrading rice value chain.

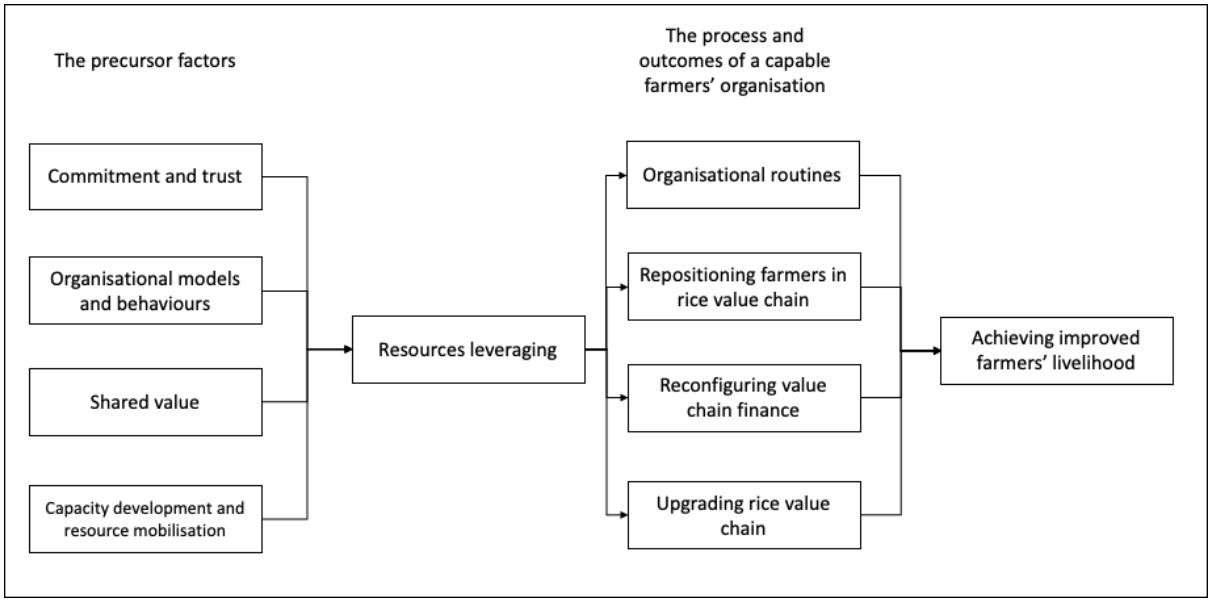

Figure 9. 2 The development process of building a capable farmer organisation
Source: Own elaboration.

9.3.1 The precursor factors

a) Commitment and trust

Commitment and trust are the first and foremost precursor factors gearing towards building a capable farmers' organisation. Commitment builds trust, and trust sustains a commitment to carry on value activities. It creates the dynamics that maintain interaction between value chain actors. The analysis of commitment and trust is evidenced by the case of the BSCM and the Um Sang of which faced difficulties in early stages of their associations. Initially, the BSCM faced a drop-out of a large number of participating farmers. This seemed to provoke considerable difficulties for continuing the initiative, provided that abundant resources had been poured into the dibbling initiative. However, the initiative team persisted in continuing to work with the remaining farmers. They studied the causes of drop-out, and their commitment has gradually gained trust from the remaining farmers.

For the Um Sang, the collective group faced financial problems as no financial institution was willing to lend at the early stage of the enterprise establishment. The Um Sang's leader led the group by using his own land to set up a farmers' organisation office to run the business activities. Seeing the commitment of its leader, the rest of the members then voluntarily put together their funds to run the enterprise. The first three years was privately funded until they successfully secured an enterprise loan from the BAAC. Once the trust was formed and built a commitment to carry on, a farmers' organisation was ready to move forward to achieve their goals. A rough start was experienced by both farmers' organisations that developed well since then. By contrast, farmers of the Sisaket AMC felt the level of commitment was unclear. Two reasons caused them to be sceptical. First, the Sisaket AMC production capacity is insignificant in comparison to the size of associated farmers and support received from the BAAC as showed in Table 9.1. Second, the Sisaket AMC buying price is similar to local millers. There is no clear price advantage to selling to the AMC, which has caused doubts about its usefulness in the long term. Side-selling is, of course, widely noted phenomenon

among farmers' organisations (Donovan, Stoian and Poole, 2008; Poole and de Frece, 2010).

Commitment and trust form a significant foundation in building a capable farmers' organisation. They are essential but intangible components that have not been as much acknowledged as compared to physical and financial resources in general. Trust is the foundation of a healthy business environment. It would extend into integrity and commitment across time and space over the stages of value chains. With trust and commitment, financial hardship in the context of agricultural development can turn into a lesson learned of choices for actors to choose what to do and not to do. That is a thing in common that actors in the rice value chains experienced. The challenge lies in who would respond in a meaningful way as illustrated by the Um for becoming one of the highly regarded farmers' organisations in Thailand. Similarly, the BSCM demonstrates an unprecedented association of farmers and a rice trader partnership. The choice the BSCM made has challenged the whole Thai rice industry, both the domestic millers as well as international traders for engaging in leveraging resources and market interventions in a more meaningful way.

b) Organisational model and behaviour

Creating a capable organisation is a choice needing collective decision-making towards sustainable agriculture and livelihood. An organisational model that is suitable for a farmers' organisation helps influence sound behaviour and pragmatic routines. Such attributes are fundamental to reinforce the ground for sustainable livelihood. At the centre of a farmers' organisation are the members who play a key role contributing to its growth and development. A model of a farmers' organisation can be a powerful tool when operated by determined leadership and committed members. Such a combination is likely to bring change as cases discussed in each case study. This understanding is crucial because it guides building a capable farmers' organisation. However, as the benefit are not always easily quantifiable, this knowledge may not be captured from typical value-added perspective.

It is noticeable that both the producer-led and buyer-led organisational models have been shown to enable repositioning farmers in the value chain and to facilitate reconfiguring value chain finance. Yet, these characteristics were not found in the facilitator-led model. Increasing farmers involvement in markets and access to finance and resources lead to farmers earning better incomes, which are a clear outcome of producer-led and buyer-led organisational models. These models are also found to have direct influence on organisational routines and business performance. This result does not indicate that a facilitator-led organisation cannot bring about improved livelihood, because it was operated under different conditions. From this perspective, it is an interesting empirical question whether a facilitator-led model could offer similar results when the organisation is led by committed members.

The decision whether to build an organisation or to implement a business model may affect the appropriate type of policy intervention. This means that groups of farmers would be better off to receive a type of policy intervention promoting growth and development. This would as well benefit a government by avoiding wasting public money on interventions that are less likely to succeed. For example, farm-gate price intervention may not be most helpful for a farmers' organisation that processes and markets its own rice products. It could be, for instance, more helpful to gain financial access to expand post-harvest infrastructure. From this viewpoint, a collective group of farmers or policy planners need to decide whether to create a capable farmers' organisation or to create products. If the aim is to earn higher profit from value addition, then creating a product can be a good start. Because farmers would not need to deal with all sorts of business activities and would not need to invest in milling and storage facilities. It would allow farmers to begin with lower risk and start-up cost. Designing appropriate policy supports would more efficient and effective use of public sector resources.

c) Shared value

In a food and agricultural context, the notion of shared value partnership can be exemplified in a meaningful way. Agriculture can become a new shared frontier of rural and urban interaction which spans common responsibility for social, economic and environmental issues. In the food industry, food traceability has gained momentum among consumers. Having agriculture as the centre of interaction between urban and rural matters can make a substantial impact. For example, organic produce and organic farmland can offer shared value along the supply chain for agriculture and, ultimately, offer a greater health benefit to consumers. At the same time, better profits for farmers could mean less dependence on a government subsidy. This can then mean reducing public budgets to supporting farmers. It is quite likely that rural-urban interaction can offer more holistic benefits to a wider society.

The BSCM 's dibbling initiative builds on a shared value partnership foundation. It is not just doing good but working together to improve existing problems. This distinguishes it from corporate social responsibility (CSR) activities. Many businesses use CSR as a public relation strategy to manage good public relationships. Such activities may not necessarily enable vulnerable actors such as farmers to become better off. For example, some chemical fertilizers companies may organise CSR activities by organising a charity lunch at orphan houses. However, such activities do not contribute to resolve fertilizer impacts on farmers such as high price and damage to health. In other words, such CSR activity does not accelerate innovation or dealing with direct impact caused by company products. This also highlights that CSR can be the initiative of an organisation. Share valued partnership has evidence to be an important element of the change process. The change agent is the actor who initiates change in the development process (DiMaggio1988, Garud et al., 2007, Battilana et al., 2009). Shared value partnerships have been sometimes considered from somewhat narrow perspectives limited to, for instance, an organisation model or determinants of organisational development. The BSCM case demonstrates how a shared value partnership can be successfully implemented in practice and it reveals an unexpected finding that the shared value partnership can be employed

as an institutional innovation strategy. A new form of organisational setting can innovatively improve farmers' livelihood while building human and social capitals at the same time.

From the perspective of Coase's transaction costs (1937), shared value is a practical strategy that enables farmers' organisations and their partnership companies to minimise the cost of transacting. It could offer a more cost-effective solution as compared to setting up an intermediary firm to help reduce transaction costs. As discussed earlier, the challenge is to notice the difference between a farmers' organisation being used merely a business model or being developed as a resource pool. In addition, it should be noted that setting up a farmers' organisation is no different to a company – it is a challenging task for those with limited business experience. As a result, many farmers' organisations have not been able to resolve issues of transaction costs and trade facilitation (Poole and de Freece, 2010; Poole, 2017).

Effective cost control is one aspect of shared value. In agriculture, it is defined, for instance, by investment costs without compromising yield, quality of input and output, transaction costs, market price and economic rents. It could perhaps be seen as one of the informal screening conditions for farmers to associate with an organisation. Effective cost reduction may be the first step building interest shared value. There are many costs that can be more effectively managed when dealing as an organisation. Learning from cases, these include input supplies, agricultural machineries, business licencing, accounting, to name but a few. Put simply, a capable organisation can help farmers achieve the benefit of economies of scale.

The BSCM dibbling initiative can deploy effective cost control from a trader perspective. Low quality jasmine rice paddy is not good for both the BSCM as a trader and the farmers themselves as discussed in Chapter 6. However, investing large sums of money to help farmers improve their productivity is not an easy example. Asking local millers about whether they were willing to follow an example of the BSCM, a local miller said:

> "It is a good cause. I am happy when I see someone doing it. I wish I could help. But it can be troublesome. Haven't you heard how much work Chia Meng [the BSCM] put into it. I don't know if I would do the same even if I would be a big trader like it. If I can be honest. I don't think many [millers] want to do it. But if government wants this to work, they should give some help. Something like tax benefit or loan benefit. Give us something. You know since Cham num khaw [the Yingluk administration's rice pledged scheme] it has been difficult to get business loan from banks. I need load of money to buy rice and usually we clear up [business loan] in 6-12 months. Thing has been difficult! I even think to sell my mill." [Interview code: Sisaket_miller_05]

This opinion from a local miller was very helpful to understand the issues concerning shared value partnerships. It helps to identify what are obstacles that obstruct millers to adopt such programmes. The main thing is that it does not have to be the same level of what the BSCM has invested. The lack of effective cost control may offer a reasonable explanation why the farmers of the Sisaket AMC were not committed to the organisation. Among farmers, effective cost reduction and pricing appear in two stages: production and processing. Without experiencing an improved cost structure for farming, the farmers' association can become trivial. By contrast, the cases that show evidence of effective cost control may gain commitment from their farmers. It enables the process of organisational development to carry on, as shown in the outcome of organisational development.

It considers the co-benefits farmers' organisations have on ecological, social, economic and human development grounds. For example, the certified organic production of the Um Sang offers effective costs to farmers and environmental regeneration in many ways. These include the environmentally friendly approach to the soil ecosystem as farmers can notice an increase in rice production in the latter years. Omitting the use of chemical fertilisers can mean better human health conditions. Although there is no statistical record, farmers indicated that many who practise chemical-based farm faced health problems such as cancer, detailed by a farmer (interview code: Case1_01). They feel that organic farming has contributed to their better health condition. This has a direct impact on their household savings as healthcare costs can cause a considerable loss of savings. For some families, taking a loan to pay for healthcare can threatening good livelihood due to a long-term debt.

d) Capacity development and resource mobilisation

Insufficient resources and skills have been significant problems among the workforce in the agriculture sector. Among rice farmers, these involve the lack of appropriate farm inputs and farming skills. Yet, many Thai farmers may disagree with this claim, providing that there are several farm input suppliers in the rural area around the country. Most districts of Thailand have an extension office with extension officers on duty. The argument is not about the existence of the farm supply channels and agriculture extension offices. It is more about the quality, efficiency and mobility of the existing resources. When considering the workload of extension offices and the ratio of an extension workers per farmers, the extension officers raised a similar concern about the limited availability of critical resources, as described by a local extension worker (interview code: Sisaket_extension_01). Farmers incapability can then result in the lack of competencies to deal with vulnerabilities resulting from various shocks. At the same time, improving farmers' livelihoods is a problem that requires an immediate response, albeit that results may take time to take effect.

In the rice business, the miller is an actor who often has the right resources to contribute to the job. If the debate is about available resources and market competency, the miller can often facilitate both production and market systems. For instance, the BSCM's dibbling initiative has dealt effectively with these issues. More generally, the empirical evidence demonstrates that the acquisition of new capabilities was the driver geared towards improved livelihoods. Improved livelihoods in this meaning are not exclusively dependent on farming rice, but rather having an opportunity and capacity to choose what kind of business the farmers want to pursue. Being independent is partly a state of mind, freedom to go about without shame, and to mentally think and physically do things – earning the power to make the right decision for the farmers themselves.

The transition from farmers as sole traders to collectively trade as a farmers' organisation, such as the Um Sang, has highlighted the importance of effective use of resources. The farmers had limited resources at the initial stage of a farmers' organisation establishment, and it is noticeable that the resilience-

building process occurred gradually over time. The Thai rice market can be a challenging marketplace, testing how well farmers are able to harness their capabilities. Farmers can experience price fluctuations, natural disasters such as drought and floods occasionally, and political interventions. Evidence suggests that such shocks are factors that continue to worsen livelihoods. To deal with such circumstances, it would require the ability to adapt and capacity to deal with changes and shocks. The challenge is that it is a dynamic, fast-changing environment, whereas having associated with a capable farmers' organisation would likely mean that farmers stay updated with correct information. Moreover, education is the backbone of every economy. Farmers can have a misapprehension about formal education and on-the-job training. It is vital to adjust the perception of becoming professional farmers. A professional farmer can be defined as a person who acquires and applies farming skills effectively. On-the-job farm training can be a part of the continuing education, which includes both farming skills, accountancy, business management and financial literacy.

The link between the stage of dependence and democracy is a surprise finding. The fact is that rice farmers are among the largest groups of Thailand's population and rice policy has been repeatedly used as a primary election tactic during the past decades. Being independent would likely help farmers to exercise their democratic rights based on their political opinion rather than perceived immediate financial incentives. This suggests that market institutional reconfiguration could also shape the outcomes of the democratic process. When vulnerable people, such as farmers, can vote from their true opinion, not based on short-term incentives, this may contribute to a new development of Thai democratic system. Besides, it is expected that at a certain stage farmers' resilience can challenge the existing market institutions. This suggests that such a change process of market institutional reform can offer a new facet of agribusiness in Thailand context. If the change eventually happens, this might change agricultural policy into more long-term thinking, such as focusing on building infrastructure instead of short-term populist policy implementation. This could eventually prevent farmers from worsening livelihoods.

9.3.2 The process and outcome of a capable farmers' organisation influenced by the precursors

a) Organisational routines as an improved livelihood pathway

The findings feature the link between organisational routines and value chain governance, the way in which relationship and coordination pay significant roles in capacity development. Organisational routines on skills development and capacity building enable farmers to systematically improve their livelihoods in a sustainable manner. The three cases highlight that organisational routines are the outcome found in the BSCM dibbling initiative and the Um Sang cases, showing evidence of livelihood improvement. By contrast, relevant organisational routines were not found in the case of Sisaket AMC, due to the lack of good coordination between farming and processing stages. The farmers of the progressive organisations found themselves in a much-upgraded position to deal with their vulnerability context. For example, farm loans have become a productive debt that enables these farmers to make a living from the farm and create a better livelihood. For instance, they forbid the use of farm loans for household consumption and record household spending accounts.

The routines developed by these farmers' organisations can include farming skills training, two-way communications between farmers and the organisation leadership team, new cropping routines, social networking activities, to name but a few. I want to elaborate these details here because these are simple, yet practical routines that have brought about great impact on better livelihood. Farming skills training is a good learning environment, particularly when organised by the farmers' organisation itself. It is also a self-reinforcing process. From my observation, farmers are likely to benefit more from training when they do it with familiar peers, particularly in the presence of some respectful fellow farmers.

Organisational routine is defined here as a collection of activities enabling livelihood improvement. This helps to explain why they were not found in the Sisaket AMC case. The lack of relevant organisational routines in the case equates with the lack of a pathway helping farmers to follow and practice new behaviours. Routine is instrumental in building capabilities from existing

resources. It emphasises the coordination of organisational routines and resource heterogeneity. This suggests that the more abundant resources an organisation has, the more likely farmers would flourish, on the condition of having the right routines that harness those resources. In this sense, routines act as intermediaries to make use of resources into farmers' capabilities. This claim can be observed by the case of Sisaket AMC where the organisation has resources providing that the BAAC supports it. However, the lack of organisational routines between the AMC and farmers can be recognised as a drawback and an obstacle to livelihood improvement.

Developing an argument based on the above rests on the contention that routines are recurrent interaction patterns. Literature (e.g., Becker, 2004; Pentland et. Al., 2010) characterises routines as repetitive by recurrence, persistent, leading to predictable interaction patterns. This has been proved by the time of the rice-pledge scheme implemented during the year 2011–2015. The time when the majority of farmers financially suffered was due to the long-overdue pay cheques for pledged rice by the government. The Um Sang was able to survive the misconduct of the government's rice-pledge scheme.

Like the old saying, old habits die hard. The prolonged absence of good farm investment routines has become an old habit. Also, government price intervention can be perceived as a routine intervention on which farmers rely. If the market price is deemed unsatisfactory for an extended period of time, some form of political pressure tends to be put on the government, which has eventually made price intervention to become a typical routine. This has created subtle habits among farmers, making them become gradually more dependent on the government. The stage of being dependent can cause deliberate damage to creativity and entrepreneurism, as well as democracy. The longer the old unproductive habits exist, the harder they die out among farmers. Evidence from the cases reveals the characteristics of organisational routines that become knowledge and help transform the farming culture. Over time, this can transform vulnerable farmers into resilient and independent professional farmers.

b) Repositioning farmers in the value chain

Much of institutional theory and organisation studies agree that individual actors are the driver of institutional change (e.g., North 1991 & 2016; Beckert, 1999). However, little is known about the precise mechanisms on how individuals influence collective arrangements (Hasselbladh & Kallinikos, 2000). The precursors discussed earlier have illustrated such mechanisms. For example, empirical evidence demonstrates how the precursor factors, such as organisational models and resource mobilisation, contribute to repositioning farmers in the value chain. In general, smallholder farmers are perceived as vulnerable actors with limited resources. As a result, they have limited access to economic opportunities and earn a small margin of profit in the value chains. Therefore, repositioning is a significant outcome for farmers enabling them to seize economic opportunities. To do this, farmers will need good access to resources, whereas resourceful actors can advance the evolution of the business environment. Creating business cooperation can offer a great opportunity for smallholder farmers to engage in markets. The cases demonstrate conclusively several of these conditions. The unexpected discovery was that the outcome of the shared value could be a mechanism for repositioning farmers in the value chain.

The goal of repositioning is for farmers to be better-included in the market systems. Inclusive market systems can offer farmers the possibility of livelihood improvement. It is the marketplace where more economic opportunities are available to vulnerable actors such as farmers (UNDP, 2010; Poole, 2017). Figure 9.3 shows the schematic representation of a marketplace where such opportunities are available and would be likely to result in more job creation and provision of affordable goods and services for the poor. Practically, it can help to lower production and transaction costs, increase profit margins and increase earning from more job opportunities.

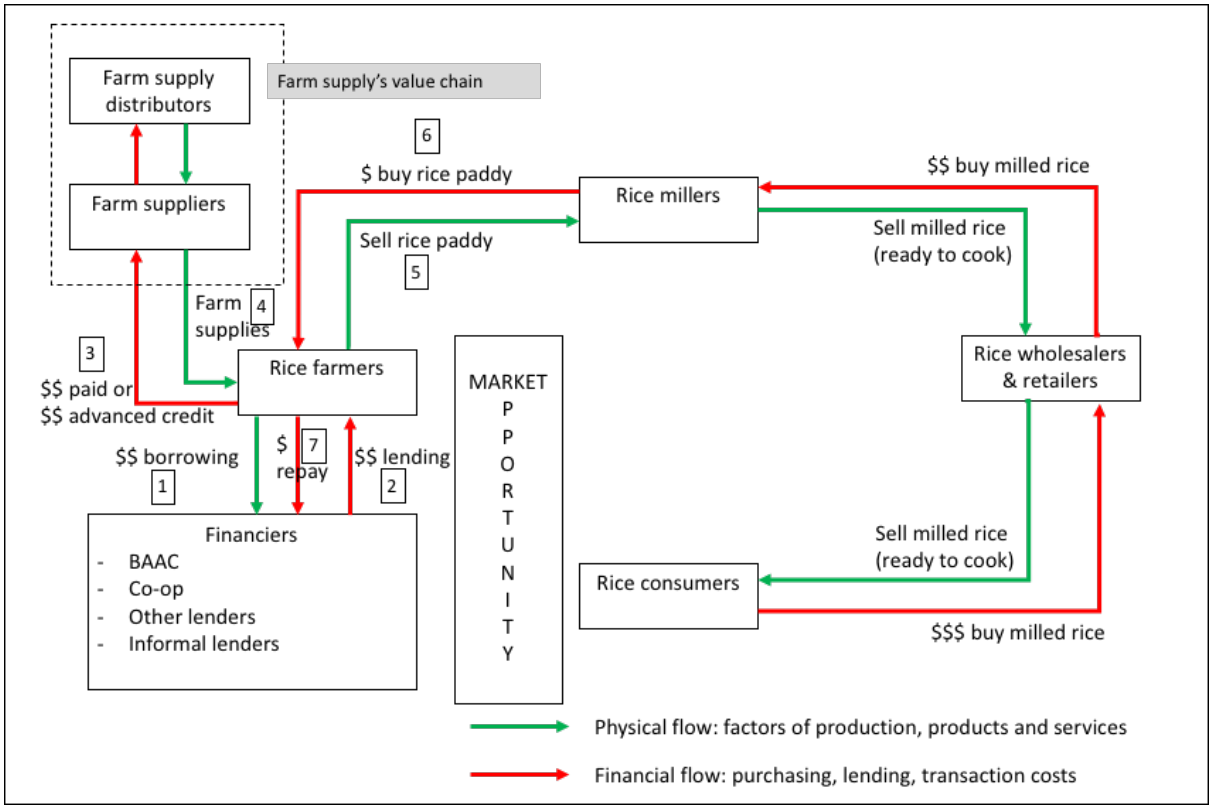

Figure 9. 3 Marketplace and market opportunity

Relationships in the figure

1 = Rice farmers borrow from financiers: the BAAC, Co-op, and other formal and informal lenders
2 = Financiers lend to rice farmers
3 = Rice farmers buy farm supplies from suppliers – payment methods can include immediate payment or advanced credit for farmers to pay after harvested.
4 = Farm suppliers sell products to rice farmers – note, farmers' suppliers are a part of the farm supply value chain. The details of farm supply value chain are excluded in this study.
5 = Rice farmers sell rice paddy to local rice millers
6 = Local rice millers buy rice paddy from farmers

The case studies demonstrate several practical methods for farmers to reposition in the value chains. One is improving the quality of the product, which allows increasing demand for the product. Such examples include rice products produced by a certified organic rice method and by purified rice seeds, as discussed in the case of the Um Sang and the BSCM dibbling initiative, respectively. Another is by upgrading farmers' roles in the value chain. This is illustrated by the way the Um Sang upgraded from a farmers' organisation to an

SME status. Upgrading to a formal business entity is a legitimate way to declare the capability to compete in the market more independently. The findings highlight that repositioning farmers can occur where the business environment includes purposeful actors with a fundamental approach towards shared value and entrepreneurism. The findings also suggest that repositioning farmers can succeed where farmers' organisational models function well in respect of productive behaviours and routines as discussed earlier. Capturing market opportunities can be difficult for individual farmers, particularly the poor. It requires some form of support to realise most opportunities. A capable farmers' organisation takes a lead role in empowering farmers to seize market opportunities as shown in Figure 9.4.

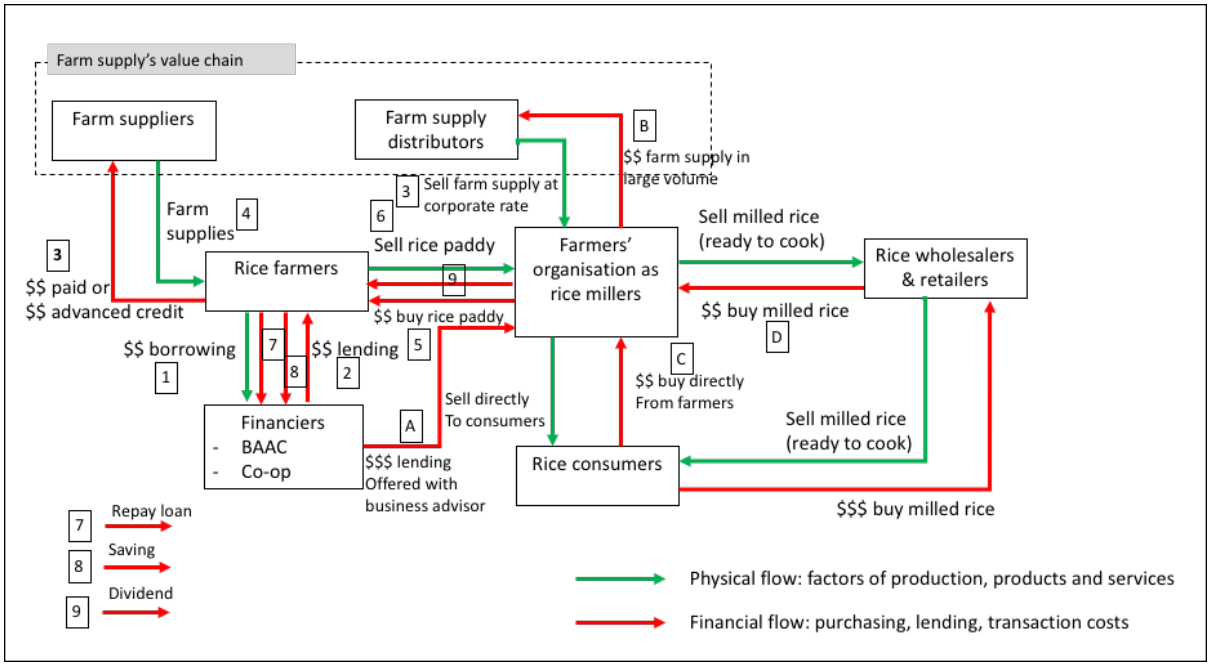

Figure 9. 4 A new marketplace landscape after repositioning farmers

Relationships in the figure

1 = Rice farmers borrow from financiers, mainly from the BAAC and Co-op
2 = Financiers lend to rice farmers
3 = Rice farmers buy farm supplies from suppliers – payment methods can include immediate payment or advanced credit for farmers to pay after harvest.
3 = Farm supply distributors sell farm supplies to the farmers' organisation at a corporate rate
4 = Farm suppliers sell products to rice farmers – note, farm suppliers are a part of the farm supply value chain. The details of the farm supply value chain are excluded in this study.
5 = Farmers' organisation buys rice paddy from farmers
6 = Farmers sell rice paddy to farmers' organisation
7 = Farmers repay loans to lender(s)
8 = Farmers deposit money into saving accounts with financier, usually the same institution where they borrow.
9 = Farmers receive dividends from farmers' organisation

A = Financiers lend to a farmers' organisation, loan comes with a business advisor
B = A farmers' organisation buys a large volume of farm supply from a distributor to distribute to farmers
C = Consumers can buy rice products directly from a farmers' organisation
D = Rice wholesalers and retailers buy directly from a farmers' organisation

c) Reconfiguring value chain finance

To reconfigure the flow of finance is a challenging task. It involves factors enabling debt settlement, repayment for goods and services, and reinvesting in the business. Findings show that precursor factors contribute to reconfiguring value chain finance. For example, microfinance has played a part in mitigating farmers' long-term debt. The findings demonstrate that the loan is too small to manage profitably for the entire cropping season and household spending. The BSCM case features a shared value partnership in a way that enables the reconfiguration of value chain finance. The main financing approach switches from cash borrowing to providing effective use of farm input supplies helping farmers to earn more profit. The novelty lies in the fact that enterprise loans can be more profitable for a group of farmers rather than each farmer borrowing individually from microfinance institutions. This is because an enterprise loan offers financial and business advice to guide and recommend farmers' business activities to become more profitable.

Finance has a connection to the means of production. For example, the Um Sang case shows that forming an organisation allows a collective group of farmers to own their means of production. Farmers have collectively started to own their means of production, which links to their market and negotiation power. The case suggests that some forms of asymmetric information could be minimised due to farmers' ownership of post-harvest facility, as shown in Figure 9.4. This explains the lender's behaviour when it lends to individual farmers and farmers' organisations. Smallholder farmers are positioned as a part of the workforce in the rice industry – they sell their labour in the form of produce. This process can be interpreted as semi-employment by the government through the policy interventions which encourage smallholder farmers to remain as a labour force for rice paddy production.

The rice industry does not face a crisis of overproduction because in Thailand demand exceeds the supply of rice in the markets. However, farmers are almost always affected from asymmetric information and price intervention influences by other actors in the rice value chain. Millers are known to stockpile paddy rice

to gain power to negotiate lower the farm-gate prices. The paddy rice price is monitored but stockpiles are not, as there is no database about the rice stock of each miller in the country. So, farmers can be manipulated by market actors that are gatekeepers to the market for milled rice (i.e. domestic and international). This locates the domestic market within another more extensive market system. For example, considering that millers are likely to have paddy rice in their stock already, buying more paddy can aim to maintain their paddy storage. That should not alter the price of paddy rice too much in the real market according to the law of demand and supply. Looking at milling capacity for the entire country, it is possible that demand disequilibrium is one reason that threatens market price. This can happen because farmers have limited negotiation power in the market.

d) Upgrading the value chain

The empirical evidence suggests that upgrading value chain which can be a change agent in the inclusive market participation. Distributional outcomes are measure empowering actors and to upgrade existing value chain activities. Such activities should result in a more effective value chain management and improve farmers' livelihood. It helps farmers' organisations to maximise value chain development benefits such as value chain upgrading and the creation of organisational partnerships. On the other hand, it helps through resource mobilisation to prevent or minimise shocks or factors that may cause deterioration in farmers' livelihoods. These activities can then result in minimising the risk of vulnerability.

Considering evidence from the BSCM case, product and process value chain upgrading enable factors of production to be employed more effectively. This particularly concerns a market where there is a large gap between the negotiation power of resourceful actors and vulnerable actors such as farmers. It is noticeable that the change process can be observed when the key actors use their market power in favour of vulnerable actors. Findings suggest that the BSCM enabled farmers to perform their business activities more sustainably. It would result in vulnerable actors successfully repositioning themselves in the value chain, as evidenced in the Um Sang and the BSCM cases. The most striking feature was

that when farmers have less financial pressure, they started to utilise the factors of production more effectively and in a responsible manner. The rice value chain upgrading enables the improvement of the business environment by progressing production and market systems.

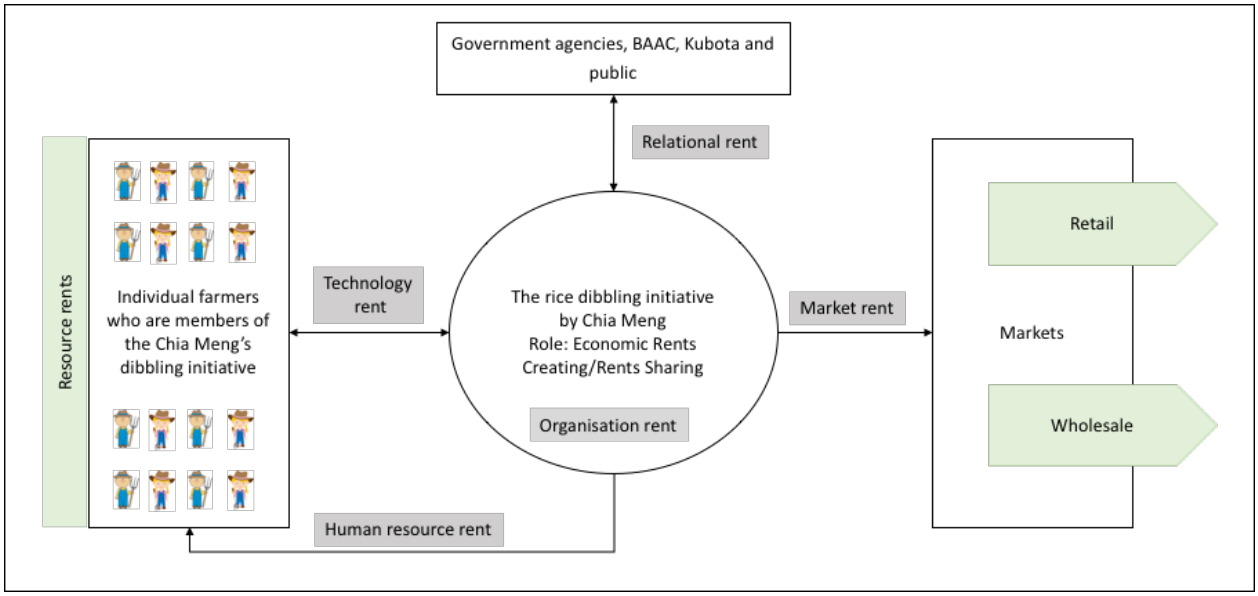

Figure 9. 5 Potential economic rents generated through the BSCM's dibbling initiative

Figure 9.5 shows potential economic rents generation using the BSCM case as an illustration. The figure indicates four types of rents: organisational, technology, human resource, relational and market. These elements of rents contribute to competitiveness of a farmers' organisation and can be described as follows:

Organisational rent – possessing superior forms of an organisation. In this case, the partnering of farmer and the BSCM is an unorthodox but successful approach. Without understanding its partnership mechanism, the partnership may look similar to a typical development project by which one big company sponsors development activities. However, on a closer inspection, the case shows a form of mutual relationship that benefits both parties.

Human resource rent – having access to better skills than at its current stage. This highlights a mutual relationship the two partners have from each other. Rice farmers have professional skills support from the BSCM, which is a scarce

resource among most farmers. The BSCM then gets access to purified jasmine rice paddy which is considered superior to typical jasmine rice grown in the area.

Technology rent – having command over scarce technologies. Purified jasmine rice seed and agricultural machinery (i.e. dibbling machine) are considered among scarce technologies for smallholder farmers due to high cost and limited availability in the market.

Relational rents – in this case, specific relationships point to government agencies, banks, agricultural machinery companies and the public. The partnership with BSCM enables farmers' voices to be heard and to be amplified by the BSCM. The latter is a leading global rice exporter and therefore impactful.

Marketing rent – farmers always have limited negotiation power in the market. Partnership with BSCM has granted them marketing capabilities that were previously largely non-existent.

From this 'rents' viewpoint, it is noticeable that these are factors that contribute to repositioning farmers in the value chain and reconfiguring value chain finance. This highlights the significant role of value chain upgrading as a crucial element to bringing success in policy implementation.

9.4 Policy recommendations

In general, Thai farmers receive cash subsidies in different forms seasonally concerning the incumbent government's policy implementations. Examples of cash subsidies include helping to pay for harvest costs and delaying paddy rice sale, as discussed earlier. Although cash subsidy is helpful, there is some pitfall due to seasonal and one-off support without offering long-term development. This thesis's recommendations focus on capacity building and post-harvest infrastructure development, aiming at immediate and long-term development. These are i) conditional offer on cash subsidy; and ii) optional offer on post-harvest infrastructure development. First policy recommendation: Conditional offer on cash subsidy link to capacity building

The objective is to use a cash subsidy encouraging farmers to participate in farm skills and capacity development programmes. Currently, Thai farmers receive cash subsidies without condition. On the one hand, it may sound fair for all farmers to get access to such support. On the other, long-term financial subsidy without career development may lead to the lack of self-confident.

For Thai jasmine rice farmers, the months after rice cropping seasons (i.e., January to May) is the optimal time to train new skills as they prepare for the new cropping season, starting around May-June. Cash payment can serve as a conditional offer as farmers have anticipated some cash subsidy forms from the government during cropping season (June – November). Therefore, skill training during the pre-cropping season can be a prerequisite towards receiving cash subsidies for the upcoming cropping season. The aim is to encourage skilled farmers to become professional agriculturalists. Such a purpose should be communicated to boost farmers' self-confidence. Having such confidence and pride, it is more likely that many farmers would develop self-esteem. In return, this may result in regular skill participation and better farm performance.

Collective training can also encourage social capital development-boosting long term participation in capacity building. It can help farmers to maintain a sustainable

livelihood. This claim is supporting by evidence and lesson learned from case studies in this thesis. Social capital is not only benefits farmers at a personal level but also is supporting farmers' organisation performance. Many agricultural development scholars have agreed with this view. For example, Uphoff and Wijayaratna (2000) and Ruben and Heras (2012) highlight the relationship between farmers' cooperative performance and bonding social capital to lift cooperatives' ability to establish trust and maintain commitment among members.

Second policy recommendation: Optional offer on switching cash subsidy to post-harvest infrastructure development.

Farmers' organisations can offer many benefits towards economic inclusion, social inclusion, and the business environment's influence (Kachule, Poole, and Dorward, 2005). Such economic inclusion has implications on the economy of scale and leverage market power, while social inclusion can advance capacity building, democratic governance, and gender equality (ibid.). These imply that working collectively offers a considerable advantage to farmers.

The reality is that the Thailand government and the BAAC carry a heavy load on financial support to farmers nation-wide. Farmers' organisations should eventually become self-sustainability. At present, some seasonal rice policies can include offering loans for aggregating and value-added activities to the agricultural institutions (Thairath, 2017). For example, during the 2017/18 cropping season, the government allocated $416 million (12,500 million Baht) budget loaning to agricultural co-operatives to buy rice paddy between 1 October 2017 to 30 September 2018. The government helped to pay 3% interest, and agricultural co-operatives organisations were charged 1% interest (ibid.). Each year, Thailand produces about 40 million tons of paddy. An estimated over $6,700 million (200,000 million Baht) feeds in markets to an aggregate rice paddy. Government support can cover only 6% of actual market spending. It highlights the need for agricultural co-operative organisations to becoming profitable and self-sufficient.

This thesis has highlighted how post-harvest infrastructure plays a central role in advancing farmers' livelihood through farmers' organisations. As discussed earlier, dryer and milling

facilities are among post-harvest infrastructures enabling high-value addition to paddy rice. Rice farmers almost always gain low farm-gate prices due to the high volume of paddy rice floods into the market during harvest season. To ease this problem, the Thai government has employed loans and a subsidy to delay the sale of paddy rice (USDA, 2017; Poapongsakorm, 2019). Thai governments have implemented it in the form of either loan or cash transfer to support rice farmers. For example, the 2017/18 cropping year under Gen Prayuth Chan-Ocha administration offered USD 33 (1,000 Baht) per ton paddy rice at the maximum of 10 tons per household (Thansettakij, 2018). They could receive a maximum of $189 per hectare for participated farmers, no more than $303 per household. However, the Chan-Ocha administration prohibited farmers and their farmers' organisations from renting privately owned facilities to store paddy rice as a corruption prevention measure. In other words, farmers' organisations that have such storage would benefit from such an intervention. As a result, many farmers and farmers' organisations could not fully benefit from such delay selling paddy intervention due to the lack of dryer and storage facilities. The lack of financial investment and the post-harvest facility's need are both obstacles and opportunities for policy development.

This recommendation builds on the policy mentioned earlier, from the prospect that farmers receive seasonal financial intervention to delay selling paddy rice. Such intervention may achieve its aim where individual farmers and farmers' organisations have dryers and storage to improve paddy quality and store them appropriately. These are essential post-harvest facilities that can help farmers delay selling paddy rice and still keep them in good quality required by markets.

This thesis recommends an option for farmers and their respective organisations to turn a seasonal subsidy into a post-harvest infrastructure to overcome such constraints. It can be made a volunteer programme in ways that farmers and their organisations can collectively choose to invest in infrastructure instead of taking individual cash subsidy. Offering counteroffers can empower farmers through such policy. This intervention approach would allow farmers to get involved in the decision-making process. It would add value to incentives and promote development for the long term. As learned from the Um Sang, a milling facility is a key to enabling farmers to participate in markets. It can ensure quality control and trade standards.

In practice, such implementation can deliver voluntary and conditional financial subsidies. It means farmers' organisations have some flexibility to choose between individual pay-outs or grants towards farmers' organisations infrastructure development. The latter would encourage farmers' involvement in their farmers' organisational development. A conditional financial subsidy can be an instrument to encourage farmers to participate in capacity development programmes. Thus, capacity building puts in place as a conditional measure to receive a financial subsidy. Such conditional measure is essential for sustainable agriculture because it supports both access to financial capital and capacity development.

Having some post-harvest facility such as dryers benefits not only to farmers but also to local millers, especially small and medium-sized millers. There are 20 Sisaket millers with a production capacity of under 200 tons per day (DIW, 2019). This group can consider as SMEs. Trading dried rice paddy could offer a new trade opportunity for SME millers, the AMC, and farmers. Typically, millers would buy wet rice from farmers, then process them. This method can involve many complications, as discussed earlier. Buying dried rice paddy can benefit millers in many ways, such as the smaller size of capital and reducing the burden to store dried rice. As a result, this would allow millers to run businesses with lower capital. Besides, it helps to reduce workload from the aggregating wet rice paddy. These activities come with costs. Buying dried rice paddy would allow millers to control cost more effectively. It would benefit the Sisaket AMC to distribute dried rice to buy the maximum quantity of wet rice from farmers. The government, through the BAAC, may offer aggregating loans for those who willing to buy dried paddy from the AMC. This recommendation would bring benefit to all relevant parties.

As this discussion takes a delayed selling paddy policy to discuss, farmers and their respective farmers' organisation will havethea flexibility to decide whether to take the subsidy amount onan individual basis or to take it collectively to improve post-harvest infrastructure. As discussed in chapter 7's the Um Sang cas, manyy farmers inquired joining the Um Sang. Unfortunately, it has reached capacity to service more members. Considering such circumstance, the implementation of such intervention can pay toward existing farmers' organisations or millers who can flourish, such as the Um Sang, the BSCM, and the Sisaket AMC. Although such a recommendation would require more

details to debate and analyse correctly, it is clear that such intervention has leverage power to build capacity and infrastructure development.

9.5 Conclusion

This thesis has examined how a capable farmers' organisation improves farmers' livelihoods. By meaning improved livelihood, the focus was on how capacity building enhancement and post-harvest infrastructure resulted in improvements in income, farm productivity, access to capitals, and market participation. With enhanced product and service linkages and finance and information flows, a farmers' organisation has potential to improve its business performance. The capability to deliver success is significant. Such development process and dynamic are what this thesis called a capable farmers' organisation.

The rice value chain framework used in this thesis emphasised three key analytical aspects. These were i) value chain governance and organisational model; ii) upgrading; and iii) distributional outcomes. This enables the analysis to narrow down to which direction the farmers' organisations would be most likely to achieve livelihood improvement. Such a conceptual framework is particularly significant in respect of academic and development practitioners contributing to effective policy formulation and intervention. The three cases of farmers' organisations were purposefully selected to represent different types of farmers' organisational models. These are the producer-driven model (the Um Sang), the buyer-driven model (the BSCM), and the facilitator-driven model (the Sisaket AMC). These cases operate in a business and political environment that largely is defined by government intervention, financial regulation, and geography.

An organisational model arrangement directly impacts value chain governance, the ability to upgrade, and the efficiency of distributional outcomes. All these lead to rice value chain development. On building a capable farmers' organisation, the discussion puts forward the pattern observed from the three farmers' organisations as a process to increase capability. It can also serve a purpose of replication. The pattern involves the precursor factors that lay the foundation for the determinants of organisational development. These precursor factors are commitment and trust,

organisational models and behaviours; shared value, and capacity development and resource mobilisation. Consequently, the process and outcomes of a capable farmers' organisation influenced by such precursors are organisational routines, repositioning farmers in the value chain, the reconfiguration of value chain finance, and value chain upgrading. The significance of each factor may vary, but the firm foundation depends on the combination of precursors and processes.

It is evident from the study of the three cases that a farmers' organisation is a means to improve members' livelihoods through leveraging power and resulting in value chain upgrading. Upgrading is a key mechanism enabling farmers to get access to capital, capacity development, and market participation. The most striking feature is that some upgrading activities such as registering a farmers' organisation as a formal business entity can turn the power of social capital into a tangible asset in the form of product value and business performance.

One of the principal outcomes is that the quality of value chain governance has a causal relationship to functional upgrading. A good relationship among value chain actors offers operative coordination towards value activities. The models of the Um Sang and the BSCM have shown good governance and effective coordination, resulting in effective results from the interdependent business relationships of the production and milling stages of the value chain. By contrast, the Sisaket AMC lacked good coordination between the farmers and miller, resulting in the lack of livelihood improvement.

Functional upgrading, where there is production and processing integration, is a powerful element for developing farmers' organisations. An integration of such chain activities adds value to products and enhances capacity development, access to capitals, and market participation—such integration results in minimising power asymmetry with other chain actors and optimising more evenly the distributional outcomes. Such integration implies coordination of management activities. As a result, a capable farmers' organisation can create more value (i.e., high-value products and make a profit) as it receives better flows of chain information.

Such knowledge about organisational capability building within value chain development processes can improve business performance as well as guide policy intervention. Based on functional upgrading evidence, the recommendation is to seek financial intervention from state sources to specific types of farmer organisation which enable them to invest in value chain functions and thus integrate these functions into the organisation, and establish interdependent business relationships with value partners, essentially buyers and distributors of processed quality rice. Post-harvest infrastructure such as dryer and milling facilities is vital to manage demand and supply of paddy rice and hence market price. Having such control, the farmers' market position would become stronger. Such an outcome would offer long-term improved livelihood.

The BSCM also demonstrates that a buyer-driven model can offer a good alternative model of interdependency for smallholder farmers instead of setting up farmers-led organisations without business experience. It emphasises that relationships and chain coordination are crucial to the integration of rice production and processing and organisation capability-building. This understanding is important because traditionally, farmers' organisations are mostly formed by independent farmer-led groups. Partnering with the business entity can enable farmers to gain market participation and narrow information asymmetry, which normally favours traders.

One of the significant outcomes of a capable farmers organisation is offering high and stable farm-gate prices to farmers. The Um Sang has demonstrated such an example. It signals to the rice markets that farmers can become independent from the unfair market arrangements. It implies that putting post-harvest infrastructure in place can offer many benefits. The high income may seem like the main outcome. Considering a long-term perspective, such investment would offer the balance of power between traders and farmers regardless of price intervention. This can offer a path towards sustainable livelihoods for farmers.

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