



The Opportunities and Limitations of Livelihood Capitals of an Urban Agricultural Households

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This study aims at investigating the opportunities and limitations of livelihood capitals of an urban agricultural. With the Participatory Action Research method (PAR) via qualitative approach, 14 agricultural households residing and working in Kra-nuan Municipal District in KhonKaen Province were interviewed in-depth and brainstormed. The data was collected from December 2017 to March 2018 and analyzed using Content Analysis approach. The result showed that urban agricultural households lived in a village located in flourish economic municipal district where accessible facilities and services were available, but they still mainly carried on a traditional agricultural occupation. Due to the expansion of the city and rising cost of living, it was necessary for them to improve their production process. They brainstormed to analyze their resources and realized that they had rich natural, physical, and financial capitals of which they could utilize and make their living out. However, human and social capitals were found to obstruct the development of their occupation. In this situation, they teamed up and changed the production process from relying on long-term corps to implementing the integrated farming in which some land was also allocated for short-term corps for additional income. This was regarded as a livelihood strategy with limited chances and capitals.

Keywords: Livelihoods, Livelihoods Strategies, Capitals, Agricultural Household, Urban Farmer

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INTRODUCTION

Changes in Livelihoods Strategies of Urban Agricultural Household

The study of community economy in Northeast region during the 11th National Economic and Social Development Plan (B.E. 2555-2559) suggested that the rural production process changes had been multiplied and complicated especially in the Northeast region, which is a part of the cross-border Greater Mekong Subregion development plan covering logistics, marketing, trading, labor and good trafficking, and energy networking. The changes conform to neoliberal markets in the millennium era. This drastically affects lifestyles and producing dynamic on a community level Ganjanapan (2010) . Considering historical changes of rural communities, it was found that the changes comprise of all four related dimensions. The economical changes in rural areas were believed to include production, distribution, relation to the market, and intra/inter-relation.

The aforementioned changes relate to the social establishment in rural areas in which

“farmer society” has become “entrepreneur society” under the shade of capitalism where the production process closely relates to the markets. The expansion in a number of rural entrepreneurs reflects the economic growth. The ratio of poverty decreased [Sattayanurak \(2015\)](#), being indicated by ‘poverty line’ that suggests the minimum living capitals or cost of living being reflected by the value of basic needs. For the past 20 years, the number of poverty in Thailand has been decreased. The number of the poor slumped down from 42.2% (in 1988) to 8.1% (in 2009), indicating better and more stable living (ThaiHealth, 2013). A number of people who used to be below the poverty line have changed their roles to become entrepreneurs of a small business with higher economic and social statuses. Therefore, the neo-production has created more economic opportunities for people both in urban and rural areas.

Kranuan District in KhonKaen Province is one of many areas that have been clearly seeing agricultural production changes and growing along with the expansion of the city. It is also located in a developmental strategic area, so it has been promoted to be a municipality. However, most of its population still make their living out of traditional (local) farming, especially those in Moo 6 Ban Nong Go, who are considered agricultural producers (entrepreneur) in an urban area. With their lifestyle contrasting with their occupational condition, they have to seek opportunities to acquire more earnings based on their knowledge and potential. This led to the research question of “With their limited abilities to access various capitals, how have the opportunities and limitations for the agricultural entrepreneurs changed?” and “Which strategies do the urban agricultural household choose to sustainably make their living?” It also brought us to the objective of investigating sustainable livelihoods strategies of urban agricultural households under their limited livelihoods capitals. At any rate, the result only primarily provided information that may result in the agriculturalist coalition and cooperation among the government, communities, and private sectors to strengthen and sustain the local economy.

[Figure 1 about here.]

Original Urban Agricultural Household

This study focused on the target groups, which were agricultural households residing in Kranuan Municipality in Ban Nong Khoe Administrative Area, Moo 6, Nong Khoe Sub-district, Kraguan District, for it has a mixture of urban and rural characteristics. That is, on an administrative basis it is considered being urban with the decent economy because it is located in the district center where various economic activities are engaged such as trading, servicing, and transporting. In addition, the community’s infrastructure has been developed; concrete roads were built, electricity and water were provided for every household. This introduced them to an urban lifestyle in which they purchase goods and services, such as food ingredients, cooked food, agricultural products, and daily-life goods and services, which is convenient and frequent. One family earns, on average, 10,000 - 20,000 THB monthly. Moreover, the consumption is encouraged by various fresh markets such as the municipal market, Paramontra (Fresh) Market, a night market, and a Saturday market. Consequently, every household can conveniently consume goods such as electrical devices, bicycles, tractors, tractor mills, etc. without going to Khon Kaen downtown.

METHODOLOGY

During the non-harvesting period, including post-harvest, some farmers earn additional incomes by becoming employees in the agricultural, service, and construction sectors where only insecure income is offered. Some moves to industrial areas, and some stays and plants short-term crops to earn extra. Unfortunately, with physical problems, about which farmers claimed that wastewater has been drained into their land, the soil is contaminated with chemicals and high humidity resulting in lower quality products and price drop. Moreover, there is also a flood in a rainy season that brings a damaging risk to the cultivation investment. To seek solutions to these problems, Participatory Action Research methodology (PAR) was utilized

for it allowed the households to contribute to the research, and the researcher to learn from all stakeholders - agricultural households, government sectors, and private sectors involving in this research activity. Their participation appeared in each stage ranging from the analysing problems, realizing needs, operating, and analysing data, to finding solutions and encouraging activities ; [Creswell \(2007\)](#); [Selener \(1998\)](#) . Fourteen households participated in defining research problems in order to establish livelihoods strategies of original agricultural households in urban areas under the limited opportunities and changing lifestyles. The in-depth interview and brainstorm were mainly employed to collect data from December 2017 to March 2018. The acquired data was analysed using Content Analysis technique [Creswell \(2007\)](#) .

RESULT AND DISCUSSION

The Concept of Sustainable Livelihood

The concept of Sustainable Livelihoods (SL) had been reviewed and used as this study's framework. SL has been developed since 1940. Initially, the African natives, Nuer's livelihoods strategies were investigated [Evans-Pritchard and Evan \(1940\)](#) . There was an attempt to elevate the concept of SL into a macroeconomics theory. Philosophers [Polanyi \(1977\)](#), [Chambers and Conway \(1992\)](#) played an important role in defining Sustainable Livelihoods involving three main factors [Phongsiri \(2014\)](#) - firstly sufficient circulation of food and saving cash to acquire basic needs, secondly stable possession of or access to capitals, activities to earn the living, and capitals of contingency reserved money and properties for unexpected situations, and thirdly sustainable production maintenance and improvement. [Carney \(1998\)](#) , [Scoones \(1998\)](#) , and [Farington et al. \(1999\)](#) later added, based on Chamber and Conway's concept, that SL included abilities to seek for material and social assets/ capitals and activities necessary to earn a living. One's livelihood would be sustainable only when one can handle and revive from being desperate and anxious, maintain and enhance their livelihoods and capitals at the present and in the future without ruin their original roots.

In 21st Century, Department of Foreign International Development (DFID) explained that the range of integration of choices and activities relying on capitals or properties to achieve the goals of living and choices that are linked to earnings, stabilities, well-being, and reproductions is based on the abilities to utilize the capitals or properties, [Chambers and Conway \(1992\)](#) [DFID \(1999\)](#) . It is considered livelihoods strategies, which is a vital factor in the concept of SL. [Ellis \(2000\)](#) encouraged further understanding and put an emphasis on dimensions of the access to livelihoods capitals. He also focused on the relation of various types of capitals including human, natural, financial, physical, and social capitals, which are dominated by institutions and social relations and affect the livelihood both on individual and household levels. [Frankenberger et al. \(2000\)](#) explained about the livelihoods capitals that the individual and the household can access in different forms - financial, human, social, natural, and physical capitals.

The study of livelihoods strategies of urban agricultural households with opportunities and limitations of changing livelihoods is presented through the concept of Sustainable Livelihoods that the households can access. Five types of capitals include human, natural, financial, physical, and social ones, which indicate the household livelihoods and provides options or activities leading to livelihoods strategies that bring about income, security, and well-being in the urban context.

Livelihoods Capitals of Urban Agricultural Households

The Results of the study were divided into two parts including 1) community background; which consisted physical background, economic background, and socio-cultural background, and 2) skipped-generation family and its economic happiness; which consisted characteristics of skipped- generation family, economy and the migrants, and happiness perspective of skipped-generation family.

Physical capital

Physical capital is the asset that human made to be used in production process. In the context of Kra-nuan Municipal, the agricultural households possess decent physical capital due to the convenient infrastructure involving roads, of which in residential areas are concrete, and in farming areas are non-asphalt, electricity and water both in residential and farming areas, and communication signals that cover the entire areas. In spite of that, most household leaders are senior and have the ability limited to receiving and making phone calls. Only some can use mediates to communicate in social media but again only limited to Line application. Moreover, due to being in an urban context, the households can reach to supports from various government sectors, medical treatments from hospitals, and goods and services. Therefore, the households seem to be able to access any kinds of production capitals that are for the household production activities in order to stimulate the circulation of goods and services that are necessary for decent livelihoods [Frankenberger et al. \(2000\)](#).

Natural capital

Natural capital is is natural resources that encourage or benefit the livelihood. Each household possesses 3-8 rais (including resident land) on average. They believe that land is the most important asset. The economists also mention that the agricultural households can manipulate or control this type of capital to benefit their production. In other words, they can take advantage of their land. The ecologists believe that natural capital brings prosperity and happiness to human's livelihood [Ellis \(2000\)](#) . The natural capital that the household possesses includes farming sandy loam land located in a river basin suitable for agriculture. Consuming water is from NongKhoe, which is a natural water resource and serves as a reservoir of Provincial Waterworks Authority, which provides drinking water for people in Kra-nuan District (apart from NongYai). NongKhoe is also a fish breeding ground of the community. However, there are two draining canals that received wastewater from the households and the district hospital in Muang Municipal. The wastewater is contaminated with garbage, chemicals (detergent/ soap), and odors, and both canals converge on the wastewater treatment plant located in the agricultural land. On top of that, the households also encounter the climate change, but they can manage to handle water insufficiency in the dry season by digging a reservoir in their farming land to reserve water. Yet, as it rains hard, water from the municipal area is drained through the canals that are narrow and usually clogged with litters causing water confinement and overflow into farming land. To solve the problems, they invest in short-term cultivation or animal domesticating in the case of being unable to grow plants.

Financial capital

Financial capital is the total financial resources that can be divided into money and assets. Money is usually in the form of saving and revolving money, deposit, and credits that the households can make use of. Most households annually earn 100,000 - 400,000 THB by selling their products such as cows, oxen, chicken, and fish. They manage to divide the money into three parts. The first one is for their daily living such as electricity and water bills and food, which comprises of 40% of their earning. The second part comprising of 40% is for their assets such as cows, oxen, cars, motorbikes, tractors, agricultural machines, and gold. The last part, 20%, is for saving for their children's education and contingency case of illness of the family members.

A financial capital is an economic capital that is most flexible due to the fact that it can be converted to other types of capital that can be used to achieve the direct goal of a livelihood [Frankenberger et al. \(2000\)](#) . The agricultural households are engaged in rice farming to acquire the rice to consume throughout the year or to sell and earn the money to buy food ingredients in order to reduce the nutrient insecurity. However, it is noticeable that they cannot earn more land in order to increase production factors, for land is increasingly expensive. Another problem is the lack of workforce because some of the family members are dependent elderly and some are employed by the industrial and service sectors. Hence, they decided to invest in the accommodation security by renovating their house, equipping their house with modern and convenient devices. Some households invest in the security of human capital by encouraging

their children to have higher education.

Human capital

Human capital covers individual knowledge and skills [Schultz \(1971\)](#). Most of the farmers are the household leaders that graduated from primary school. Only one holds a Master degree. He is a government officer who is about to retire and became a farmer. Every one of them has knowledge in traditional agriculture that has been passed on from their ancestors without further gain, participation in any trainings arranged by other organizations, or field studies that would urge the knowledge application or invention. They only have experience by doing and solving problems by themselves. Mr. Phan, a farmer, said,

“We earn so little from rice farming, so we turned to growing cassava. Later we found that growing cassava spoils the land, so we changed to sugarcane. But it took so long for it to be harvested. So, we planted short-term crops, but still, we were taken advantage of by the middle-man. Now we produce and sell our product both at the market or directly to the users, but the sale is still not that good. I have been doing agriculture for 27 years. There are ups and downs. It has never been so good that my life changes.” (Mr. Phan (alias), 2018).

Overall, although the agricultural households seem not to be able to acquire further knowledge, their experience of agriculture results in expertise and allows them to contribute to the proficient workforce in the agricultural sector. They also have more experience in solving problems and are healthy because they work and have high nutrition security. All promote the livelihoods and help them achieve their goals. Moreover, they value human capital as important and precious. They believe that the increase in human capital would lead to the presumably increasing in productivity and consequently result in more income. Therefore, they encourage their family members to enter higher education such as a diploma or bachelor degree to gain knowledge to secure their occupation. Some families even encourage their member to acquire agricultural knowledge by entering Faculty of Agriculture in a university in the Northeast region. They hope that they could apply the knowledge to developing the household agricultural production, and they would like to let the members practice and exercise their knowledge in agriculture willingly.

Social capital

is social resources such as social networks and a membership that has a relationship with social institutes. In this study, every household holds membership of the village cremation fund. The only agriculture-related membership that they hold is a membership of Bank for Agriculture and Agricultural Co-operative on purpose of receiving 20,000 THB per year of the capital loan. The households that grow sugarcane has established the sugarcane quota group in order to be subsidized with factors of production such as fertilizers, harvesting manpower, logistics, and market, but occasionally the prices are not reasonable due to the market mechanism. The ability to increase and access social capital has something to do with age, economic status, social status, gender, and kinship, which cause different supports for different households. Most of the agricultural household are 45-60 years old and considered elderly who usually have a strong relationship with the community's members. They rely on each other and share, so it is easier for them to receive assistance. On the other hand, the agricultural household of which leader is a government officer who moved in can access social capital differently. *“In the community, not many people know me. Only my relatives have helped me. Some know that I am a principal and ask for my advice.”* said the principal (alias, 2018).

While the household can maintain the relationship on a family level, they rarely have interacted with one another on a community level. Each household solely works and adequately contribute to the community. There is no official coalition, so they have insufficient power to negotiate with the middle-man, nor would they be able to ask for some support from the government, private, or civil sectors. The assistance exists only on an individual level. The comparison between the ability to access social capital of an individual and a group suggested that the coalition developed stronger power to receive assistance and negotiation power than the individual did. Therefore, social capital is considered a supplement factor that enhances and

improves human capital [Ellis \(2000\)](#) .

Opportunities and Limitations of Livelihood Capitals of Urban Agricultural Households

The analysis of urban households' capitals reflexes the opportunities and limitations that lead to a decision to identify their livelihood strategies to change the production process. The result of the study presented both opportunities and limitations.

Opportunities

Opportunities the study suggested that the urban households have rich physical and natural capitals that allow them to create opportunities for securing their livelihood. According to physical capital, farming in an urban area provides easier deliver to consumers and markets than in a rural area [Lovell \(2010\)](#) [Girardet \(2005\)](#) . Urban farming has a shorter distance between producers and consumers, so the consumers receive fresher food as can be seen in the geological map of Ban NongKhoe, Moo 6 in Kra-nuan District that shows the connection to infrastructure and markets. (Figure.2)

Meanwhile, urban agricultural encourages the development of natural capital especially of the urban agricultural ecology in which urban farming could reduce the use of energy for transporting the products from the production site to the consumers (Low-mile Food) [Deelstra and Girardet \(2000\)](#) . It also has fewer risks of pollution and damages caused by natural disasters. Most of the agricultural land is located in the water basin with canals and ponds that can keep water from heavy rain, and the biowaste that comes with the water helps enrich the soil [Lovell \(2010\)](#); [Hara and et.al \(2010\)](#) The urban agricultural area is a green area which complements the landscape and increases visual quality and happiness for the community [Koont \(2009\)](#) . Vegetable planting and animal farming are also agricultural learning resources and serve as a place to improve relationships among the people. [Lovell \(2010\)](#)

Selling the agricultural products from the urban area and managing the agricultural areas to be tourist attractions certainly stimulate the economy in an urban community [Foeken and Owuor \(2008\)](#) ; [Lovell \(2010\)](#) . It circulates the money within the community especially when it comes to an all-in-one panel such as having products from urban agriculture being new and fresh, but not contaminated with chemical or pesticide, providing cooking classes, and providing natural learning routes outside of the classroom for students. When the urban agricultural meets urban people's need, it leads to higher value product [C et al. \(2003\)](#) , which results in more opportunities to earn secured livelihoods.

[Figure 2 about here.]

Limitations

Limitations urban agricultural households have human and social capitals that impede occupational improvement. Most farmers in the project are senior that graduated from primary school. They excel in traditional agriculture but lack knowledge regarding technology and agricultural innovation. They often rely on their past experience to solve problems. They are barely motivated to improve the production process, and limitedly access new knowledge. Consequently, they lack visions to improve themselves to be smart farmers. Ministry of Agriculture and Cooperatives (2013) defined smart farmers as people who are proud to be farmers, excellent in the agricultural production process, well prepared for the risk of production and marketing, and able to professionally manage their agricultural land with enough information. Unfortunately, urban agricultural households still lack social capital that supports and improve their careers. Although they can ask for assistive workforce from their relatives, they cannot access financial capital, production technology, or knowledge provided by government or private sectors [Kaufman and Bailkey \(2000\)](#) .

Aforementioned opportunities and limitations have brought the livelihood strategies to the urban agricultural households and allow them to change their production process that leads

to secured livelihood. By brainstorming, the participants proposed various solutions such as establishing a group to process and sell the agricultural products, and building a place to sell their products (a community market). Furthermore, they agreed that they should prioritize bettering the limitations. That is to increase the limited human and social capitals. To do so, they have to establish an agricultural group in which they can exchange knowledge. Moreover, they need to coordinate with government and private sectors to expand and organize their knowledge. Firstly, they identified the problem, which was shifting the production process of relying on long-term farming or monoculture to multi-culture. The land that kept wastewater from the community was used to grow short-term crops to earn extra income, which is considered a sustainable livelihood strategy under the limited opportunities and capital.

[Table 1 about here.]

CONCLUSION

The changing economy of Thailand that reflexes the dynamic of the production process on a community level sees the change in the livelihood of the people in agricultural society. The way people earn their living has changed from producing for their own into being entrepreneurs [Sat-tayanurak \(2015\)](#). Instead of only producing the products are sold, urban agricultural households learned to foster innovation based on five livelihood capitals, which are natural, physical, financial, human, and social capitals. They realized the importance of sustainable livelihood, so they formed strong coalitions and networks that are stronger than kinship networks [Alsos et al. \(2011\)](#). In order to identify the strategies meet the market needs and access the new form of trade. The goal was for the economic activities of the urban agricultural households to expand to other forms of economic activity than side venture [Ferguson and Olofsson \(2011\)](#). This includes improving the products to meet the standards to gain consumers' confidence, possessing their own marketplaces, enhancing their capability to set the price for their products, and developing the land into learning and tourist areas. This phenomenon shows that the urban agricultural households have established their sustainable livelihood strategies to survive the neo-liberalism market and current globalization.

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Conflict of Interest Statement: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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TABLE 1 | The opportunities and limitations of livelihood capitals of urban agriculture household, according to each type of the capitals

Capitals	Opportunities of Urban Farming [UF]	Limitations of Urban Farming [UF]
Physical Capitals	<ul style="list-style-type: none"> - UF in an urban area provides easier deliver to consumers and markets - UF has a shorter distance between producers and consumers - Consumers receive fresher food 	<ul style="list-style-type: none"> - the sanitary sewer is cut through Urban Farming
Natural Capitals	<ul style="list-style-type: none"> - UF could reduce the use of energy for transporting - UF has fewer risks of pollution and damages caused by natural disasters - the biowaste that comes with the water helps enrich the soil 	
Financial Capitals	<ul style="list-style-type: none"> - UF to be tourist attractions certainly stimulate the economy in an urban community - UF circulates the money within the community especially when it comes to an all-in-one panel - UF leads to higher value product 	<ul style="list-style-type: none"> - Can not access financial resources. Production technology and knowledge from government, private sector and society.
Human Capitals	<ul style="list-style-type: none"> - Vegetable planting and animal farming are also agricultural learning resources 	<ul style="list-style-type: none"> - Most Urban agricultural households in the project are senior that graduated from primary school. - They excel in traditional agriculture but lack knowledge regarding technology and agricultural innovation. - They often rely on their past experience to solve problems.
Social Capitals	<ul style="list-style-type: none"> - UF is a green area which complements the landscape and increases visual quality and happiness for the community - Agricultural learning resources serve as a place to improve relationships among the people 	<ul style="list-style-type: none"> - The integration of people in the community is not strong. - Shortage of supporters and professional development. - they cannot access financial capital, production technology, or knowledge provided by government or private sectors.

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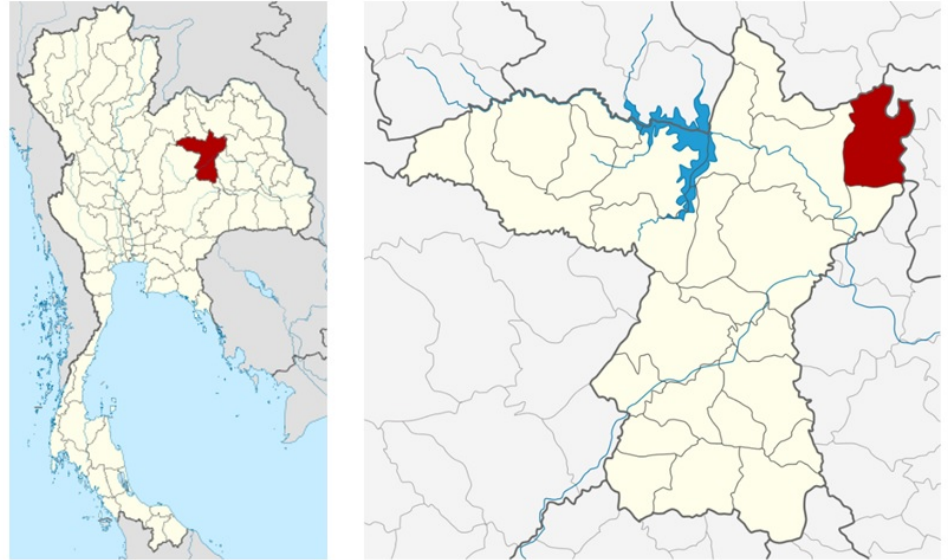


FIGURE 1 | Kranuan District in Khon Kaen Province, Northeast of Thailand

