

Overseas Fieldwork Report 2019:

Kampot Province, Cambodia



**Graduate School of International Development
Nagoya University**

Overseas Fieldwork Report 2019

Kampot Province, Cambodia

March 2020

Graduate School of International Development

Nagoya University

Nagoya, Japan

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Kampot Province, Cambodia
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Acknowledgments

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Our appreciation also goes to the advisors of the Faculty of Development Studies and the Faculty of Education of the Royal University of Phnom Penh (RUPP). We want to express our sincere appreciation to Dr. Spoann Vin (Faculty of Development Studies), Dr. Ly Kimlong (Faculty of Development Studies), and Mr. Hor Youhan (Faculty of Education). Primarily, Dr. Spoann Vin tirelessly supports us as our main counterpart. Furthermore, it must be noted that he stayed at Nagoya University for three months to teach our students about Cambodia. Participants of OFW 2019 received tremendous support from four young staff and graduate students of RUPP, Mr. Phat Chandara (Faculty of Development Studies), Mr. Eom Nakhem (Faculty of Development Studies), and Mr. No Khorry (Faculty of Education), during the field research. We are grateful for their dedicated cooperation not only as advisors and interpreters but also as co-researchers.

Last but not least, we are very grateful to Prof. Kobayashi Satoru of Kyoto University and Prof. Yotsumoto Kenji of Kobe University. Two professors came to GSID as visiting lecturers to provide valuable lectures to our participants in the preparatory seminar of OFW 2019. We also would like to thank Prof. Adam Smith for the English editing of this volume.

Shimada Yuzuru
Professor
Chair of OFW 2019 Committee
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Introduction

The twenty-seventh Overseas Fieldwork (OFW 2019) of the Graduate School of International Development (GSID), Nagoya University, was carried out in Kampot Province, Cambodia, from September 14 until September 27, 2019. Each year, GSID carries out OFW in a developing country in Asia in cooperation with a local partner university of GSID. This is the ninth OFW undertaken in Cambodia since 2005, and the GSID conducted it in close collaboration with the Royal University of Phnom Penh. OFW 2019 was a significant occasion for GSID to strengthen its relationship with this prestigious university in Cambodia.

OFW is an integral part of GSID's curriculum, designed to provide students with exposure to the “real world” development issues of a developing country. This experience will help students seeking future careers in international development obtain practical insights to complement their theoretical orientation. OFW also enables students to understand the importance of an interdisciplinary/comprehensive approach when tackling practical development issues that often arise among stakeholders with conflicting interests. Such an approach is particularly important to make the development process fully participatory and sustainable in practice, and its importance can only be well learned in the field.

Considering the relevance of topics to the context of Kampot Province and the expertise of GSID professors, we divided participating students into three working groups: economy (WG1), education (WG2) and environment (WG3), to provide an integrated survey on rural and regional development in Kampot. On September 25, a day before the departure from Kampot, students shared their research findings with resource persons and local authorities of Kampot. Reflecting comments and advice received at the presentation and on other occasions, participants elaborate their work in the final reports. The present volume is an outcome of all the efforts mentioned above.

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Program of OFW 2019

Preparatory Seminar at GSID

Date	Time	Title of the Lecture	Lecturer(s)
Apr. 24 (Wed)	14:45-16:15	Introduction & Team building	OFW Committee
May. 8 (Wed)	14:45-16:15	Overview of Cambodia and Kampot Province	Prof. SPOANN Vin, Royal University of Phnom Penh
May. 15 (Wed)	16:30-18:00	Governance and Law of Cambodia	Prof. YOTUSMOTO Kenji, Kobe University
May. 22 (Wed)	14:45-16:15	State of Environment in Kampot Province	Prof. SPOANN Vin, Royal University of Phnom Penh
May. 29 (Wed)	14:45-16:15	Characteristics of Khmer Villages	Prof. KOBAYASHI Satoru, Kyoto University
Jun. 5 (Wed)	14:45-16:15	Education in Cambodia	Prof. PHIN Chankea, Mr. CHIN Sam Ath, Nagoya University
	16:30-18:00	Research Methods: Principles and Practical Tips (Joint session with DFW seminar)	Prof. OTCHIA Christian, Nagoya University
Jun. 12 (Wed)	14:45-16:15	Community Development in Cambodia	Prof. IDO Ayako, Nagoya University
Jun. 19 (Wed)	14:45-16:15	Interim Presentation	OFW Committee
Jun. 26 (Wed)	14:45-16:15	Consultation/Group Discussion	Prof. SPOANN Vin, Royal University of Phnom Penh
Jul. 3 (Wed)	14:45-16:15	Doing Fieldwork in an Unfamiliar Culture (Joint session with DFW seminar)	Prof. KUSAKA Wataru, Nagoya University
Jul. 10 (Wed)	14:45-16:15	Presentation on Research Proposal	OFW Committee
Jul. 17 (Wed)	14:45-16:15	Risk Management	Prof. HOSHINO Akinari, Prof. SAKAI Takashi, Nagoya University
Jul. 24 (Wed)	14:45-16:15	Khmer Language	Prof. PHIN Chankea, Mr. CHIN Sam Ath, Nagoya University

Schedule of Fieldwork in Cambodia

Date	Time	Schedule
Sept. 14 (Sat)	8:15	Meet at Chubu International Airport
	11:00-15:00	Nagoya - Bangkok (TG645)
	18:45-19:55	Bangkok - Phnom Penh (TG584)
Sept. 15 (Sun)	10:00-	Leave for Kampot
Sept. 16 (Mon)	9:00-11:30	Courtesy visit to the provincial governor's office
	13:00-	Groupwork
Sept. 17 (Tue)		Groupwork (data collection)
Sept. 18 (Wed)		Groupwork (data collection)
Sept. 19 (Thu)		Groupwork (data collection)
Sept. 20 (Fri)		Groupwork (data collection)
Sept. 21 (Sat)		Free time
Sept. 22 (Sun)		Free time
Sept. 23 (Mon)		Groupwork (data collection)
Sept. 24 (Tue)		Groupwork (presentation preparation)
Sept. 25 (Wed)	15:00-17:00	Interim presentation on research findings
	18:00-20:00	Thank you party
Sept. 26 (Thu)	10:00-	Leave for Phnom Penh
Sept. 27 (Fri)	10:00-	City sightseeing
	21:15-22:20	Phnom Penh – Bangkok (TG585)
Sept. 28 (Sat)	00:05-8:00	Bangkok – Nagoya (TG644)

Interim Presentations of Research Findings

The interim presentation of research findings was held in Kampot Province on September 25th, 2019. Each working group presented for 20 minutes, followed by a Q&A session.

Presentation of Research Findings at GSID

The presentation of research findings was held at GSID by each working group to disseminate findings and collect feedback from colleagues on October 30th, 2019.

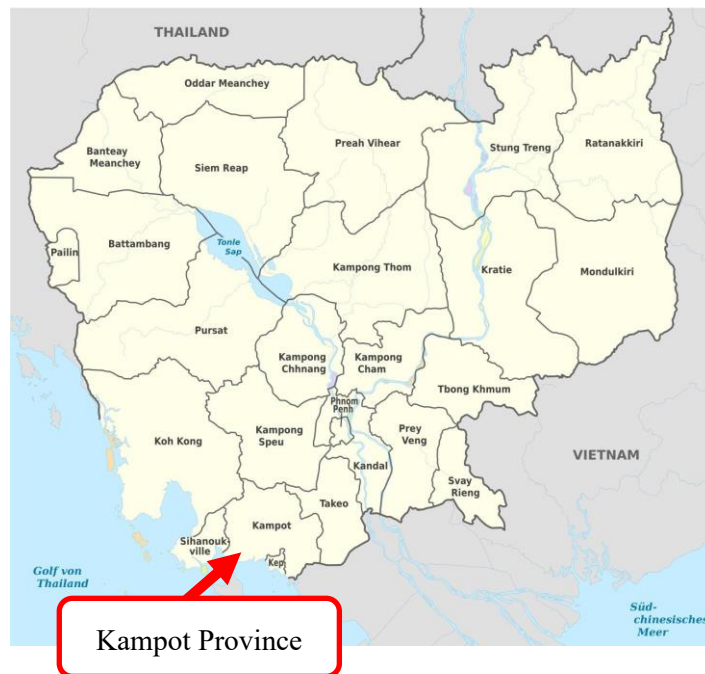
Kampot Province of Cambodia

SPOANN Vin

Faculty of Development Studies, Royal University of Phnom Penh

Geographical Area and Demographical Situation

Kampot Province is rich in low-lying land that has potential for agriculture, agro-industry, aquaculture activities, and port development. In addition, Kampot Province is the second most attractive coastal tourist area in Cambodia. The province is located in the south-western part of Cambodia at a distance of 148 km from the national capital of Phnom Penh. It has a total coastline of 73 kilometers which stretches from the borders of the Hatieng District of Vietnam to Sihanoukville Province. The area of the province is 4, 873 km², with a total population of 592,845; the annual population growth rate was 0.1 in 2019.



Economy

Kampot is a good location for access to both domestic, regional, and export markets. Given its natural resources, coastline that is ideal for ports, unique landscape, and growing international tourism, it has great development potential. Marine fishery resources contribute to the local livelihood, where the fishery resources are mainly distributed to domestic markets throughout Cambodia.

The labor force participation rate of Kampot was 81.5% (2008), higher than the national average of 76.9%. About 85% of the labor force in the province is engaged in agriculture. Recently, the economy of Kampot is fueled by tourism and special economic zone development along the coastline, and the number of hotels and restaurants has increased dramatically since 2015 while the growth of the labor force in urban areas is 5.4% per annum. The labor force engaged in industrial activities in the province will grow by up to 9% in 2020, and in 2030 will represent 19.6% of the total labor force.

Agriculture

Kampot Province is expected to be the core of “regional agriculture” where the share of agricultural land represents 45% (2011) of the total province land area. However, the percentage of labor force engaged in agriculture is projected to reduce from 75.1% in 2008 to 49.5% in 2030, with sectors such as tourism and industry absorbing the excess labor. The government of Cambodia has promoted the agro-industry through its Agricultural Sector Strategic Plan 2014-2018, of which Kampot Pepper is one of the main industrial crops for Kampot Province. The pepper production exported overseas was 102 tons in 2018.

Education

More than two decades since the end of civil war in Cambodia, the education situation of Kampot now prioritizes increasing equitable access to education at all levels. From 2000-2015, the number of pre-schools, primary, secondary, and high schools has significantly increased. As of 2019, there are 608 schools and 3699 classrooms. The total enrolment in 2019 was 129,794 for both sexes, of which 48.9% are female students. Grade repeating pupils are decreasing at all levels, from primary to upper secondary schools, representing 4.2% (primary), 2.5% (lower secondary) and 1.2% in (upper secondary) of pupils. However, over-age enrollment doubly increases from primary school (11.1%) to upper secondary school (22%). The government of Cambodia aims to increase the net enrollment rate in primary school in Kampot to 98.5% by 2023 with a projected completion rate of 86.2%.

Kampot pepper



Schooling in Kampot



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Working Group 1

Environment

Improving Livelihoods through Mangrove Conservation: A Case Study of the Trapeang Sangkae Community Fishery in Kampot Province

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1. Introduction

Cambodia is a country in Southeast Asia that is bordered by Thailand in the Northwest, Laos in the Northeast, Vietnam to the East and Southwest, and the Gulf of Thailand, where it has a 443 km long coastline. It covers an area of 181,035 km², and seasonal monsoons mark its tropical climate.

Its recent history is marked by gaining independence from France in 1953, suffering bombing campaigns by the United States as part of the Vietnam War, and the Cambodian genocide, in which the ruling communist Khmer Rouge party murdered up to 1.8 million people (around one-fourth of its population at the time) starting in 1975. The violence ended as neighboring Vietnam, which was receiving thousands of fleeing refugees, invaded the country and ousted the Khmer Rouge in 1979.

Since then, the country has slowly, but significantly recovered from the destruction and managed to achieve a period of significant growth from 2001-2010, averaging a GDP growth rate of 7.7%, later becoming a lower-middle-income country in 2016 and now boasting a per capita income by purchasing power parity of USD 4,022. Traditionally relying on agriculture, Cambodia's economy now is more balanced and depends more on manufacturing, mostly textiles for export and services, mainly tourism, which has recently seen substantial growth (Central Intelligence Agency, 2019). Besides textiles, its main products for export are rubber, cement, and wood products.

Despite possessing an impressive biodiversity in its terrestrial and aquatic ecosystems, with hundreds of mammal, bird, reptile and fish species both marine and freshwater, Cambodia, unfortunately, has a rather poor record regarding environmental protection, as measured in the Environmental Performance Index, attaining position 150 out of 180 countries indexed (Environmental Performance Index, 2019).

Deforestation is one of the most salient environmental problems in the country, and until recently, Cambodia suffered from the highest deforestation rate in the world (Mongabay Environmental News, 2005). It also faces significant challenges regarding the destruction of mangrove forests on its southern coast, which besides providing a home to many diverse species, also contributes towards the livelihood of locals.

Our research shall take place in one of these coastal areas, Kampot Province, which lies to the Southwest of Cambodia and whose coastline along the Gulf of Thailand extends for 45 km. Its population is around 600,000 (Tourism Cambodia, 2019) across eight districts, which are further divided into 92 communes with a total of 477 villages. Being a rural province, its main economic activities are agriculture, black pepper cultivation being of particular importance (Kampot black pepper being a protected appellation of origin), salt, limestone and phosphate mining, fishing, and to a lesser extent, tourism.

The issue of mangrove forest conservation has become one of particular importance in recent years, as population pressure drives locals towards unsustainable fishing practices and outright destruction of the forest, which is exacerbated further by increasing levels of pollution and the rise of industries such as sand mining which adversely affect the ecosystem.

In response to these developments, the Cambodian government has fostered the creation of a specific type of local organization called a Community Fishery (CFi), which focuses on improving fishing practices among the locals by encouraging less destructive fishing methods as well as introducing sustainable natural resource management practices such as the conservation and protection of flooded forest and mangrove areas, the

establishment and protection of fish sanctuaries, and the creation of artificial reefs.

The Trapeang Sangke CFI will be the focus of this research. The Trapeang Sangke CFI has, in recent years, encouraged eco-tourism as an alternative economic activity in Kampot in order to ease the strain fishing and its related activities impose on the ecosystem. These efforts include helping locals build lodging and bridges for tourists to explore the mangrove forest, mangrove planting initiatives that often include foreign volunteers and tourists, conduct patrols to guard against illegal fishing activities, and teaching basic English for local children, among other activities. We sought to establish how effective this CFI's efforts have been by evaluating the locals' perceptions.

2. Literature Review

2.1 Mangrove Forests and People'S Livelihood

2.1.1 The Significance of Mangrove Forests

Cambodia is home to over 650,000 fishers, most of whom operate small-scale fisheries. According to the Food and Agriculture Organization (FAO), the annual supply of fish per capita is 41.4 kg, more than the global average value of 19.7kg. It means that fish accounts for more than half of the total animal protein supply for families in Cambodia. Therefore, acknowledging the significance of the fisheries sector in Cambodia is vital as it provides the livelihoods, food security, and nutrition of the Kampot community.

Mangrove forests are scarce environmental sites, which can be found in a relatively small area of initially 17 to 20 million hectares (Govindasamy, 2011). According to Govindasamy (2011), mangrove forests have various functions worth being protected, such as stabilizing the coastal ecosystem, playing as a shelterbelt, the barrier of the sea level erosion, and a nutrient export zone to open ocean. Therefore, mangrove forests are vital resources that play essential roles in the natural environment and income and nutrition resources of fisheries. However, on the other hand, deforestation of the mangrove forests is one of the most pressing environmental issues in the world. Mangrove forests are cut down for purposes of large-scale fishing, fishing with high technology instruments, or use for firewood. It will cause severe damages to marine diversity, loss of shelterbelt, or erosion of the sea level. Therefore, it is vital to protect mangrove forests.

2.1.2 Mangrove Forests and Locals' Livelihood in Kampot

A previous research report in 2017 conducted by Community Empowerment and Development Team (CEDT) has shown that fisheries are one of the most crucial income resources for locals in the coastal areas of Kampot, and therefore mangrove forests are a critical resource for local fisheries. The report found that marine biodiversity species in these communities have been threatened and have noticeably decreased due to many reasons such as illegal fishing, overfishing, a development project for port construction, mangrove deforestation, and climate change. It also pointed out that most of the respondents did not understand what the ecosystem is, as well as the importance of restoring the ecosystem and ensuring its sustainability.

2.2 The Effectiveness of Community-based Organizations on Mangrove Conservation

Fisheries reforms begun in 2000 have shown success in terms of improving livelihoods and access to resources. Marine Community Fisheries benefit both from national fisheries policies and external development work in the coastal areas. With support from the government and external agencies like FAO, marine community fisheries engage in mangrove conservation efforts such as patrolling illegal fishing, planting mangroves, and maintaining biodiversity, and as a result, they have access to marine resources for their livelihoods and cash income, as well as having access to alternative livelihoods such as ecotourism (Davy, Paul, & Keothyda, 2017).

Another study showed that Community Fisheries practices have created a reduction in illegal and destructive fishing practices, assisted in establishing fishing sanctuaries, and resulted in environmental improvements such as an improvement of mangrove forests in Cambodia (Blomley, Tola, Dyna, & Dubois, 2010).

According to Datta, Chattopadhyay, and Guha (2012), thriving Community-Based Mangrove Management (CBMM) initiatives can become an appropriate example of intelligent adaptation strategies in mangrove conservation. This study suggests that there should be more socially equitable and community-controlled marine cultural practices in CBMM in South Asia.

Community Empowerment and Development Team (2017) conducted research with a sample of 456 households in Trapaing Sangke, Kampong Samaky and Boeung Touk Communities, Teuk Chhou District, Kampot Province, aiming to map usage of natural resources and loss of biodiversity resources as well as to provide knowledge about biodiversity and to promote its value and participation in maintenance and development of coastal ecology. According to this research, although fishing is the primary source of income for community people and 74% of people use biodiversity for their income, knowledge of the ecosystem in the communities remains low. Biodiverse species have been threatened and have noticeably decreased for many reasons, including illegal fishing.

3. Problem Statement

Continuous, sustainable development of settlements located in vulnerable ecosystems, such as mangrove forests in Cambodia, depends upon the involvement of locals in environmental conservation efforts. However, locals may not possess the necessary knowledge or means to undertake such efforts, which can lead to environmental deterioration and become a detriment to their livelihoods in the long term. Local, community-based organizations could provide a solution to this issue by enabling locals to collectively access knowledge and resources that allow them to conduct sustainable conservation activities. We propose that researching the effectiveness of Community Fisheries working in the Kampot province of Cambodia may constitute an essential step towards sustainable development.

4. Research Objectives

Our primary research objective for our fieldwork was to assess the effectiveness of the Trapeang Sangkae CFI in improving the locals' livelihoods through mangrove conservation efforts. To this end, we evaluated locals' perceptions regarding changes to their quality of life, income level, involvement in environmental conservation activities, perceptions regarding the CFI, interactions with different Cambodian government authorities, and community dynamics, among others.

5. Research Questions

Given our research objective and considering material constraints to our research, such as time and budget, the relevant research questions are as follows:

- 1) How has the involvement of the Trapeang Sangkae CFI affected locals' perceptions of living conditions in the coastal area in Kampot Province – namely:
 - a) Has there been any impact on locals' income-generating activities?
 - b) Has there been any impact on locals' income?
 - c) Have there been any changes in community dynamics?
- 2) How has the involvement of the Trapeang Sangkae CFI affected locals' perceptions regarding mangrove conservation?
- 3) Has the Trapeang Sangkae CFI contributed towards the sustainable development of the local community?

6. Hypothesis

We established as our working hypothesis that: the involvement of the Trapeang Sangkae Community Fishery in mangrove conservation activities had led to (i) an improvement in the livelihoods of locals and (ii) a greater appreciation of the importance of mangrove conservation activities, representing a positive movement towards sustainable development of the community.

7. Methodology

To answer these research questions and test our hypothesis, this research applied to the following methodologies.

7.1 Data Collection Method

The primary data was collected by in-depth semi-structured interviews (see Appendix) and a focus group

discussion in Trapeang Sangkae community, from September 16 to 20, 2019. The interviews were designed to assess locals' perceptions regarding the roles and activities of CFI, changes in the environment, and livelihood before and after the CFI establishment through mangrove conservation efforts. The focus group discussion was designed to elicit respondents' perceptions on mangrove conservation and changes in their livelihood. Further primary data was collected in the Trapeang Ropov community to serve as a contrast to the Trapeang Sangkae community.

All interviews were conducted in a face-to-face setting using interpreters who belong to the Royal University of Phnom Penh (RUPP). First, we visited the Fisheries Administration (FiA) in Kampot Province and the Commune Council of the Trapeang Sangkae Commune. Then, we visited the Trapeang Sangkae community and conducted interviews with several stakeholders. We also visited the Department of Environment (DoE) in Kampot Province. A focus group discussion was conducted with ten CFI members, consisting of two males and eight females. Trapeang Ropov community was selected as a sample to contrast the situation and outcomes of the Trapeang Sangkae CFI.

Respondents to interviews are categorized into the following three sectors: (1) Government, (2) Non-governmental organizations (NGOs), (3) Locals (both members and non-members of the Trapeang Sangkae CFI).

Government: We held interviews with Deputy Director of FiA and Deputy Head of DoE in Kampot Province to assess the background of CFI establishment, law and policies to support CFI activities, collaborative relationships between these local government entities and CFI, the current situation, and challenges.

NGOs: We made appointments with two NGOs; one was Children and Women Development Center in Cambodia (CWDC), and another was Samarky Organization. We interviewed the Executive Director of CWDC and the Provincial Coordinator of Samarky Organization. The primary purpose of these interviews was to understand the relationship between these NGOs and CFI.

Locals: We conducted an interview with the Head of Trapeang Sangkae CFI to assess the history of the CFI, the vision and purposes of the CFI, the composition of members, management structure, activities, outcomes, challenges, and future visions. We also interviewed CFI members focusing on their perceptions. Interviews aimed to examine how their perceived livelihood had changed before and after the establishment of CFI and involvement in CFI members. We tried to assess their changes in knowledge and behavior towards mangrove conservation, as well.

7.2 Scope and Limitations

Given the time constraints faced in Cambodia, our sample sizes were by necessity relatively small, which is also one of the reasons why we favored a more qualitative approach over a quantitative one. Furthermore, despite our desire to conduct in-depth interviews with all involved, we were unfortunately restricted by translation limitations, given how we relied entirely on our assigned interpreter to communicate with most

interviewees (some government officials and NGO representatives spoke English, but all locals' interviews were conducted exclusively in Khmer language, which nobody in our team understood). Thus, some nuances might have been lost in translation. Given how our research focus is the impact of the Trapeang Sangkae CFI in the living conditions of the locals, ideally, we would have analyzed hard before/after data, but since we had no access to such information, this obstacle was dealt with through the analysis of locals' own perceptions of change in living conditions, which is inherently subjective.

8. Findings

8.1 Perspective from Fishery Administration

The Fishery Administration provides capacity building training to CFI. The contents of training are various, such as fishery law and how to conserve mangrove forests. These sorts of training helped local people to understand what are legal and illegal acts, how to deal with illegal activities, and what they can do to protect the marine environment in their community. In particular, moreover, Trapeang Sangkae CFI also received a lecture about the concept of ecotourism from the Fishery Administration. They also play an essential role in terms of monitoring of CFI. CFI has to submit a monthly report to the Fishery Administration, which contains information such as how many members attend meetings, how many times they do patrol, how many mangrove trees they plant, or how many visitors come to the community.

Interviewer:

Since the establishment of the CFI, what changes in livelihoods and perceptions have perceived?

The Head of the Fishery Administration:

There are big changes before and after the Trapeang Sangkae Community Fisheries has been established. Before, in the area, Trapeang Sangkae was very poor in terms of marine species. And also, there were only a few villagers, we can say only villagers in Trapeang Sangkae come to fishing because there was a very limited number of fishes. And also, a lot of illegal activities. But after the Trapeang Sangkae has been established, everything changed. Biodiversity increased. People can have catch more marine species, especially fishes. They can observe that there are more fishermen come. More and more fishermen come to do fishing because there is more fish. People start changing their perceptions from using illegal activities to do some protection. Because they see more benefits of protection of biodiversity in the community. And if they continue this kind of protection activities, marine species in the community will be sustained.

According to the interview, the head of the Fishery Administration perceived that the establishment of Trapeang Sangkae CFI led to significant changes and improved both local people's livelihood and natural environment conditions. First, she pointed out the improvement in the number of fishes in the area. Before the establishment of CFI, there were few fishes in the area, and therefore few fishermen, only villagers, came to

fish. However, after the establishment of CFi and efforts of mangrove conservation, the number of fish observed increased. Furthermore, more people now come to fish in this area, that is not only villagers but also people from outside.

Second, due to the change of perception of villagers over environmental protection, the behaviors of community members have changed. Local people used to cut down mangrove forests for firewood, even though some of them understood this was not good for mangrove conservation. However, after they received education about the importance of mangrove forests and restoration efforts, they experienced a significant improvement in biodiversity in the area. Through this experience, they learned that mangrove protection is more beneficial than cutting down trees. The interviewee explained that if the community keeps on protecting the marine environment there, they will achieve sustainability in terms of marine resource management.

8.2 Perspective from CWDC Staff

The Children and Women Development Center in Cambodia (CWDC) is an NGO working mainly in Kampot Province. This organization was established in 2005 to improve the lives of vulnerable people, particularly women and children. They are working with CFis, Community Forestries, Agricultural Associations, and women groups, as well as the education sector. In coastal areas, they work with CFis in terms of protection of mangrove and seagrass, natural resource management, and climate change and natural disaster management.

In order to achieve these objectives, they firstly support the community to protect their boundary of fishing areas from illegal fishing. According to the interviewee, illegal fishing is a severe problem there because many people coming from outside of the community use modern fishing gear, which destroys seagrass and enables them to catch a lot of fish. It significantly affects poor local fishers. They mostly use their hands and traditional fishing gear to catch fishes for family (earning 5 to 10 dollars per day). Also, they fish in shallow water because they do not have the modern electrical engine in their boat. At shallow water, there are abundant seagrass and mangrove forests which raise many fish, crabs, or shrimps. Thus, seagrass and mangroves in shallow water are very important for these poor fishermen. Illegal fishing is problematic because they not only catch many fish but also destroy the marine environment.

In order to solve this issue, CWDC supports patrol of illegal fishing to protect the community fishing area. Another activity is that CWDC helps the CFi to restore mangrove forests. They understand that mangrove is essential to increase marine biodiversity, as well as it is beneficial for combatting climate change, global warming, and natural disasters.

They held a campaign called “100,000 Mangrove Campaign” with all Community in Kampot Province. This campaign is that each community grows mangrove at their place until it reaches 100000 mangroves. Furthermore, CWDC works to define a seagrass conservation area with the cooperation of the Fishery Administration in the community. A conservation area means that any fishing activities which will destroy seagrass are not allowed in the area. There is also an effort of mangrove conservation areas in this community. As a result, this community succeeded in growing 400,000 mangrove trees.

CWDC provides capacity building training to local people. For example, in order to improve their skills in how to manage eco-tourism, they offer cooking skill training, hospitality class, support to construct

infrastructure such as toilets and bridges. They also provide awareness-raising programs regarding human rights, fishing law, and criminal courts.

Interviewer:

What kind of difficulties women in this community face?

CWDCC staff:

One problem is that women tend to stay at home and men are the main position to earn income for families. Then sometimes, women do not have resistance power. They do not have resistance power for the family because they do not earn income by themselves. In most activities we provide, less women participate than men. Only men participate in the meeting, mangrove plantation. But now we see that women can go fishing like men. Women can go to plant mangroves. They can join activities like cooking groups, support men running eco-tourism businesses here. Also, they understand their rights and they just participate in advocacy activity to protect their land from grabbing from destroying. Here are many development projects from other countries' companies. They want to build land on the sea, build new resorts, build a new island, build hotels, or residential houses in the shallow water. That will destroy the fishing areas of the community. So, women in this campaign advocate the land back from these companies. And men are happy that we provide supports for women because they sometimes need women's help. So, there was no resistance from men. But we still have some problems. Some women still do not want to stand their rights, participate in activities, engage in community. They just want to stay home. But overall, the participation of women has increased. We see that many women participate in the meeting.

According to the CWDCC staff, there has been a significant improvement in terms of women empowerment. Women used to stay at home, had no income resources, and had less power in the family. However, since CWDCC involved in this CFi, their situation gradually changed. CWDCC provides financial support for CFi itself, as well as providing a variety of training for women. They provide skill training, awareness-raising activities. They also encourage women to participate in the CFi activities and meetings, start income generation activities, or stand up for their rights and voice. It was welcomed by men members in the community. Therefore, women can go fishing, involve in mangrove conservation, earn income through various jobs, such as fishing and eco-tourism related business. They also engage in the community and CFi through participating in the meetings, planting mangrove trees, patrolling the community fishing areas, or by receiving training. One concern raised by the interviewee was about development projects around the area.

8.3 Perspective from Trapeang Sangkae Commune Council Member

According to the Commune Council member, the primary purposes of the Commune Council are threefold. First is to provide proper knowledge and education for local people. Second is to create cooperation with local NGOs. Third is to help local natural resource management. Regarding education, NGOs come to this commune, and they provide training to improve local people's knowledge, such as income generation activities or

environmental protection. The Commune Council then inform about these support activities and encourage local villagers to join training sessions.

Interviewer:

Are there any current mangrove conservation efforts taking place in your Commune?

Commune Council member:

The Commune Council provides legal support if it is needed by community. The initiative of support is to provide legal support to community trying to protect mangrove forests. Previously, without community involvement, there was a lot of cases of mangrove cut for firewood. But since CFI has established, they had own management plan, and the area of mangrove had been restored and had been protected.

Currently, the Commune Council is working on providing legal support to protect mangrove forests. The Commune Council tries to build a good relationship between the commune and the government. Furthermore, for people from outside coming to community areas for fishing, the patrol system plays a significant role. A patrol group comes from community members. Every time the community does a patrol, the chief of patrol group needs to request cooperation from the Commune Office. Then the Commune Office provides legal support: that is, they send one or two police to the patrol group. When they find any illegal fishing activities, if that is the first case, the patrol team teaches the outsiders that there is a community area where illegal fishing is not allowed and make them sign a contract stating that they will never commit illegal fishing anymore. If the person committed illegal fishing several times, the patrol team reports it to the Fishery Administration, and then the Fishery Administration will take action.

8.4 Perspective from the Trapeang Sangkae CFI Leader

The Trapeang Sangkae CFI is a community-based organization that sets a vision to ensure the sustainability of natural resources and protection of existing marine biodiversity, as well as to promote the capacity and awareness of local people about conservation of marine biodiversity in this community. The main activities of this CFI are restoring mangrove forests, patrolling around boundary areas to prevent illegal fishing, and education for local people. Trapeang Sangkae CFI was established in 2005. There were 18 fishermen as founders. At that time, this group was just a group of people sharing a common interest, that is, environmental conservation in the area, with no legal status and no governmental and financial support. In 2008, an NGO, CWDC, came to the community and started providing financial support. Nevertheless, they did not have legal status as well. In 2009, they started to prepare for a formal election to be approved by the government. Then after the election, the government approved them as a CFI in 2011. CWDC had financially supported the Trapeang Sangkae CFI, but in 2015, the funding ended. Therefore, the CFI needed to fund themselves. In order to solve this arising issue, the Trapeang Sangkae CFI decided to start eco-tourism activities in 2014. The reasons why they chose eco-tourism are, first, they thought eco-tourism would give benefits to all members, and second, because eco-tourism was thought to open doors for new job opportunities including tuk-tuk driving

and working at or owning souvenir shops or small restaurants. Increasing available job opportunities in the community is beneficial in terms of improving and sustaining local livelihoods. According to the interviewee, there are about 3,000 tourists per month on average. According to the most current information, there are 507 households in the Trapeang Sangkae community, and 734 members live there.

Interviewer:

What kind of changes do you perceive since the establishment of and the involvement in the CFi?

The leader of the Trapeang Sangkae CFi:

There are many changes. One important change is the behavior of Commune officials. Before, they did not support the community. But now, they saw strong collaboration with the community because they saw benefits from the community. Also, they saw the powers of the community. Second, mangrove areas. In 2005, there were only 31 hectares of mangroves. But now, 56 hectares. So the area of mangrove has been increased because of plantation. And also, biodiversity observed has increased. And also, before people migrate to other countries or other provinces, but now they stop migrating. They stay here and do some fishing because a lot of fishes are here. Within supports of the community, the dropout rate scores low and more children go to school. Because people find more opportunities that people come to this area. One example, in the beginning, people looked strange seeing foreigners. But now, it is very common because tourists increases, and many researchers come to learn from this community.

According to the leader of the CFi, the establishment of the Trapeang Sangkae CFi brought several positive changes to the community. First, he mentioned the relationship between the community and the commune officials. Both the commune and community find it beneficial to build a good relationship in mangrove conservation efforts in the area of Trapeang Sangkae. He also mentioned that the CFi is now invited to join the monthly commune meeting. In the past, there was no invitation from the Commune, and the commune and the community had their specific directions. However, the leader feels that now the commune and the community are well combined, collaborated, and working together for the sustainable development of the community.

Second, he explained that the coverage areas of mangrove forests in the community significantly increased. This also means the biodiversity in the area has enriched as well. The increase in the number of fish, a variety of fish species, and fish catch has been observed.

Third, regarding the migration pattern in this community, he found it has changed. There used to have population outflow to other countries or other provinces due to low job opportunities and low incomes. A fisherman was the foremost job opportunity, while there were fewer fish and inadequate marine resources existed. Therefore, many villagers had to migrate to cities to earn income. However, after the mangrove conservation efforts, enrichment of marine biodiversity appeared, and it brought a change in people's choices. More people stop migrating and found job opportunities in the community.

Forth, he raised that there was an improvement in terms of education as well. More family can send their children to school, and therefore, the dropout rate in primary school improved. As eco-tourism became one of

the community's job opportunities and income resources, some families started to let their children garner further education, such as English class. The acceptance and growth of eco-tourism in the community also bring changes in local peoples' attitudes for foreigners, from seeing it as strange to feeling it to be ordinary.

8.5 Perspective from the Trapeang Sangkae CFi Members

8.5.1 Improvement of Livelihoods

Member A: Female, housewife

Income before mangrove conservation activities was 10 dollars per fishing trip, whereas after it is 15 dollars per fishing trip. Income from renting boat service around 20 dollars per day. Before, my husband would travel far for the fishing catchment, but now fishing is closer to the shoreline.

Many respondents mentioned the positive impacts of the establishment and involvement of the CFi on their livelihoods. They reported an income increase. Since the CFi engaged in mangrove conservation efforts, the coverage of mangrove forests increased. Following this outcome, the number and variety of marine life species increased because mangrove forests are the living bed of these marine creatures. Therefore, fishermen's fish catches increased. It can be said that mangrove conservation efforts brought improvement in terms of both the financial aspect and the environmental aspect.

8.5.2 Diversification of Economic Activities

Member B: Male, shareholder

I was a fisherman before, but since the CFi established eco-tourism, I built four bungalows for rent. I also have one boat that is used by tourists. During the low season, I could get 150 dollars but 200 to 250 dollars in high season per month.

Member C: Female, store owner

I own a small shop while my husband drives a taxi. I run both wholesale and retail shop, and from this, earn 70 dollars per day, and my husband earns 70 dollars per two days, so, in total, our income combined is more than 100 dollars per day.

Not only was there improvement in the fish catches of fishers, there have also been significant effects of CFi activities. As described above, several respondents answered that thanks to the introduction of eco-tourism within the community, they started new businesses relating to eco-tourism. It means that researchers observed diversification of economic activities among the community. Local people then acknowledged the positive outcome of mangrove conservation as a new income resource of eco-tourism. It motivates members to engage in mangrove conservation more proactively. Furthermore, due to great availability and the possibility of various job opportunities in the area, the total number of fishermen is slightly decreasing. This will be helpful to sustain marine biodiversity.

8.5.3 Change of Migration Patterns

Member X: Male, a boat driver

Many people return from migration and prefer to work near the community as they have seen how fish catches have improved.

The change of conditions in the community also resulted in making an impact on migration patterns. In the past, because they had inadequate marine resources in the community fishing area, people had to migrate outside of the community to find jobs and earn income. However, as their efforts for mangrove conservation changed the economic and the environmental situation of the community, some people came back to the community and restarted to work there.

8.5.4 Awareness and Behavior Changes Regarding Mangrove Conservation

In terms of the awareness of the importance of mangrove conservation, all respondents understand it. Some people referred that they used to cut mangroves for firewood, though, after they received education about the role and importance of mangrove forests on their lives, they stopped cutting down the trees and became involved in mangrove restoring activities.

8.5.5 Concerns

Regarding concerns and challenges the community face, many respondents referred to illegal fishing committed by people from outside of the community. They complained about illegal fishing because it destroys mangrove forests and marine biodiversity of the fishing area in the community. They know that the CFI conducts patrols to protect the environment from illegal fishing, while some of them said that they need more support from officials because local villagers do not have the power to punish those who committed illegal fishing.

Another concern is future development projects around the community. They knew there had been development projects which would harm their sources of livelihood: that is mangrove forests and marine biodiversity. They mentioned that in order to protect their community, cooperation, and support from government administrations are necessary.

8.6 Summary of Findings

First of all, we saw that the CFI maintains close ties with other involved stakeholders. Most importantly, this includes government agencies, such as the Fisheries Administration (FiA) and the Department of Environment (DoE). Close work is conducted with the Trapeang Sankae Commune (not to be confused with the CFI, a different community-level organization). We also found that NGOs such as the CWDC (Children and Women Development Center in Cambodia) play a supporting role in developing the community with activities such as child fostering and support for education. To give one example, the Fishery Administration helps the CFI conduct patrols to combat illegal fishing activities, like fishing from non-members of the community or with prohibited methods, by providing logistic support and training. Afterward, the CFI refers the cases of illegal

fishing to the FiA for sanction.

We also found that there has been an improvement in living conditions for the locals since the creation of the CFi. Said improvement had come about through different means. CFi conservation efforts, which include mangrove planting campaigns which typically involve not only locals but also foreign volunteers and tourists (part of the eco-tourism attraction for many foreigners is contributing to local conservation efforts) and the education of locals regarding the importance of mangroves, as well as policing deforestation, have all resulted in a steadily increasing mangrove coverage for the region.

A higher mangrove coverage means there is a more abundant habitat for aquatic life to flourish in, and thus crustacean and fish populations increase and thus catch rates for fishers increase in parallel, which leads to higher incomes. All forms of life benefit from this enlarged ecosystem, but crustaceans and fish are the most economically important for locals. A particular interviewee reported a doubling of his income from \$5 to \$10 a day.

Likewise, the promotion of ecotourism activities like mangrove planting and ecological tours has provided an alternative source of income to locals, who become less dependent on daily fishing and can now afford to send their children to school or take specialized courses such as English classes held by volunteers who stay at the CFi, opening new opportunities for social and economic development. The growing number of tourists also means that local businesses have seen an increase in activity and thus income. A decreased dependency on fishing yields a double bonus, since not only does it lend resilience to the community from diversified economic activity, but it also eases pressure on the mangrove ecosystem, which makes ecotourism more attractive and fishing more lucrative (more fish for fewer fishers).

Community social dynamics have likewise been affected, as respondents reported changes to migration patterns. Before establishing the CFi, many emigrated to Thailand or Vietnam in search of jobs, but recently, as new opportunities arise in Trapeang Sangkae, some people are returning and settling down in the community.

Another of our findings pertains to awareness of the issue of mangrove conservation. Even though many of the locals expressed their awareness regarding the importance of mangrove conservation, they did not take any action towards this end until the CFi was established and gave them an organized structure to work with and cooperate towards conservation efforts.

While our research revealed the Trapeang Sangkae produces many benefits for all the community, particularly with regards to mangrove conservation and its attendant positive externalities such as increased fish populations, growing tourism activities and natural disaster mitigation, some community members expressed reservations about the distribution of benefits, believing the CFi leadership receives a disproportionate amount. This perceived gap seems to have limited the growth of the CFi membership as some people have not joined under the belief that the community will not be of benefit to them.

Finally, we learned that the most pressing concern for the community members is future development projects from large companies that may encroach on the borders of the CFi and affect the livelihoods of locals. Most if not all of the respondents mentioned this, which at least means the community is united in their concern and may more effectively deal with it.

9. Conclusion

After conducting our research, we concluded the following:

- 1) In line with the stated hypothesis, the involvement of the Trapeang Sangkae CFI has (i) produced a positive impact on the livelihoods of locals as per their own perception of their situation, which includes for many a diversification in their income-generating activities as well as an increase in their regular income. Given how this diversification rests directly upon mangrove conservation activities, (ii) we can also say that it constitutes a significant step towards ensuring sustainable development of the community.
- 2) Furthermore, community dynamics have been affected by the Trapeang Sangkae CFI:
 - a) Migration patterns have changed as more see the local community with hopeful eyes and return from abroad in search of opportunity.
 - b) There is lingering skepticism regarding the CFI's work, as its benefits are perceived by some to be unduly monopolized by a few. This may limit the membership growth of the CFI.
- 3) Finally, regarding community sustainability, there is still work to be done and which can be addressed by the CFI:
 - a) Many locals expressed interest in further diversifying the community's economic activities. Some suggested developing food processing activities, home gardening, aquaculture, animal husbandry, and souvenir shops.

Given the above, we can say that while there are still challenges to be surpassed, the CFI has been an overall force of positive change for the members of the community, and it constitutes a good practice that can be replicated with regards to mangrove conservation and local, sustainable development.

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Appendix: Questionnaire for CFi Members

1. GENERAL INFORMATION

- 1-1. What is your name?
- 1-2. How old are you?
- 1-3. How long have you lived here?
- 1-4. What is your marital status?
- 1-5. How many and who are the members of your household?
- 1-6. What is your occupation? (Specify different sources of income if any)
- 1-7. What is your average daily/weekly/monthly income?
- 1-8. What is the occupation of the other members of your household?
- 1-9. What is the total average daily/weekly/monthly income of your household?
- 1-10. What are the daily/weekly/monthly expenses of your household?

2. CF PERCEPTION

- 2-1. Since when have you been a part of the CF?
- 2-2. What was your occupation before you became a member of CF?
- 2-3. How has your life and livelihood changed since you became a part of the CF? (Specify changes if any)
- 2-4. What kind of activities provided by CF are you involved in?
- 2-5. Do you receive any training from the CF? If so, what are they?
- 2-6. Do you find the training effective?
- 2-7. How often do you participate in training?
- 2-8. What kind of training would you like to receive to improve your living conditions?
- 2-9. What concerns/issues/challenges have you encountered since joining CF?
- 2-10. Has the CF given solutions in solving these issues/concerns/challenges?
- 2-11. What do you think about the development projects ongoing around your area?
- 2-12. How supportive is the CF in addressing your aspirations to the government about development projects?
- 2-13. Do you know if the funds are being used responsibly by CF?

3. AWARENESS & ENGAGEMENT IN MANGROVE CONSERVATION

- 3-1. From your own understanding, what are the benefits of MC?
- 3-2. Were you aware of the benefits of MC before you joined with CF?
- 3-3. What are you doing to ensure sustainability for MC?
- 3-4. Has your involvement in CF changed your perception of MC?

4. CHALLENGES AND ISSUES

- 4-1. Are you aware of any conflicts in the area?
- 4-2. If yes, what type of conflict (conflict of interest, conflict of position, conflict of information, others)?
- 4-3. What is your response when a conflict occurs?
- 4-4. What solutions have been established by CF in order to solve the conflicts mentioned?

5. Comments and recommendation for CF Trapeang Sangkae

- 5-1. What is your suggestion for the improvement of the CF (recommendations)?

Working Group 2

Economics

The Importance of Cooperatives to Small Farmers: Case of Kampot Pepper Farming

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Appendix

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1. Introduction

Cooperatives are said to be some of the most effective tools for economic development and are implemented amongst various industries. Their advantages range from higher attainments of income (Sokchea & Culas; 2015; Ton, Velleman Desiere, Weituschat & D’Haese, 2018), increased bargaining power (Sivramakrishna & Jyotishi, 2008), and improved savings, to reduction in input costs (Getnet & Anullo, 2012). Although the literature has pointed to the overall improvement of farmers’ livelihoods from contract farming, the beneficial impact of cooperatives has yet to be fully established. This is especially true for small farmers, considering the balance of bargaining power between contracting parties.

Thus, this study aims to further investigate this phenomenon and focus especially on the effects of cooperatives on the welfare of small farmers engaged in contract farming. Furthermore, understanding the channels through which cooperatives impact the small farmers and their effectiveness is of much interest. Lastly, from the literature, the implied “non-rational” economic behavior of small farmers benefiting from secured high prices for their produce suggests the need for a further inquiry into the propensity of small farmers to expand production while the high price for the product is guaranteed, along with the underlying reasons.

In this report, we intend to show that cooperatives are beneficial for small farmers in the context of pepper farming in Kampot Province, Cambodia and should, therefore, be supported. This will be done through a discussion of results from interviews as well as a quantitative analysis of secondary data received during the course of the study.

This research document is therefore structured as follows: First, we will provide a review of the literature on contract farming and cooperatives. Then some contextual background information on Cambodia to establish the motivation of this study will be presented. Methodologies used and data collection methods will then be

described before the findings are discussed. Lessons learned during our study are thenceforth set forward and some recommendations are provided for decision-makers' consideration.

2. Contract Farming and Cooperatives

Contract farming has been recognized as a major agrarian institution that provides several benefits to farmers, and especially to small farmers. It is viewed as a key mechanism for the improvement of small farms, predominantly contracted to produce for large trading and processing firms (World Bank, 2007). Ton et al. (2018) showed based on their meta-analysis of 26 previous studies, that contract farming generally had positive effects on farmers' welfare. They found that contract farming increased income by 63% on average. Out of the 26 studies they included in their analysis, only two reported negative effects on income but these effects were not statistically significant.

However, the effectiveness of contract farming has not been proven systematically, mainly due to several market failures (Ton et al., 2018). Ferrier and Porter (1991) found that in milk processing cooperatives in the US, both cooperatives and non-cooperatives were relatively inefficient but non-cooperatives were somewhat more efficient in every dimension (cost, technical and allocative efficiency) than cooperatives. Sivramkrishna and Jyotishi (2008) attributed the negative impacts of contract farming on the presence of monopsony power of contracting firms, which prevents small farmers from securing better prices for their produce. Therefore, it suggested the organization of farmers in the Association of Farmers (cooperatives) control or eliminate this market distortion.

Sokchea and Culas (2015), in their study on contract farming in the rice production sector in Cambodia, showed that contract farmers within farmers' organizations (cooperatives) earned 87% more income than contract farmers outside farmers' organizations and non-contract farmers. The study argued that the difference was due to the increase of bargaining power to secure a better price and input cost benefits gained from joining the cooperatives. However, Bernard, Taffesse, and Gabre-Madhin (2008) found in their study in Ethiopia that participating in cooperatives did not necessarily lead to an improvement in livelihoods for small farmers. This was because smaller farmers tended to reduce their production due to the higher prices they received, whereas the opposite was true for larger farmers, implying a "non-rational" economic behavior of small farmers. Hernandez-Espallardo, Arcas-Lario, and Marcos-Matas (2012) also argued that reduction of transaction costs plays a more important role than higher prices in explaining members' satisfaction with cooperatives and their desire to continue.

Getnet and Anullo (2012) found in their study of agricultural cooperatives in Ethiopia that cooperatives improved the livelihoods of service user farmers through increasing income and savings while reducing input costs. Thorng and Chao (2015) also stated in their descriptive study of contract farming in Cambodia in the pepper industry that contract farming in the presence of cooperatives benefited small farmers by improving their livelihoods, securing access to new markets, and facilitating access to credit, other inputs, and production services.

However, other authors have also suggested other factors that need to be taken into account when

evaluating the impacts of cooperatives on farmers' welfare. Sebahtu (2012) found that gender and year of cooperative membership are also important variables that affect the saving pattern and welfare of cooperative members. Ruben and Heras (2012) also found that differences in performance were related to the structure of social networks which tends to favor remotely located cooperatives.

As such, the impact of cooperatives on small farmers' welfare is still debatable. There is also a dearth of studies done on pepper cooperatives in the literature. As far as we know, this is only the second study done on pepper farming in Cambodia. Therefore, this study seeks to contribute to the literature by studying and empirically proving the positive impacts of cooperatives on small farmers specifically in the context of pepper farming in Cambodia.

3. Cambodian Context

After spending much of the last century and a half under foreign power or in civil unrest, modern Cambodia was finally established in 1993. Since then, the Kingdom of Cambodia's economy has grown at a very rapid pace. The World Bank 2018 estimates that Cambodia's GDP grew by 7.5% and has grown, on average, 8% in the last two decades. GDP estimate for 2018 stands at US\$24.6 billion with per capita GDP at US\$1,502, which makes Cambodia a lower-middle-income country. According to preliminary results from the 2019 census, Cambodia's population is 15,288,489. With much of its population in the rural area, agriculture plays an important role in the Cambodian economy. Cambodia's 2013 Agriculture Census found that about 85% of households are engaged in agricultural activities. The Food and Agriculture Organization (FAO) estimated that agriculture employed approximately 64 percent of the workforce in 2012 (FAO, 2014). As such, the government has highlighted the need to promote the agricultural sector and to strengthen Cambodia's capacity to integrate into the regional and global economy in its Rectangular Strategy Phase IV (2019-2023).

One of the agricultural products to come out of Cambodia that has gained worldwide fame for its taste and quality is Kampot pepper. The pepper is grown under the World Trade Organization's Geographical Indication (GI) status, which it gained in 2010. It is grown primarily in the Kampot Province, which has a total population of 592,845 or 138,374 households (Census, 2019), because of its unique richness in soil and climate. Plantations are inspected by the Kampot Pepper Producers Association (KPPA) and an independent certification body Ecocert.

KPPA, established in September of 2008, has two objectives. They are to protect and conserve the name and geographical location of Kampot Pepper through comprehensive quality controls and to promote Kampot Pepper and make it known to the world. Anyone who wishes to sell high-quality pepper under the Kampot Pepper brand with its geographical indicator (GI) certificate needs to be registered and monitored by KPPA. The KPPA also promotes and encourages the engagement of farmers in contract farming, which is in line with government objectives and the sub-decree on contract farming 2011.

The importance of cooperatives was duly recognized by the Royal Government of Cambodia by passing a Law of Agricultural Cooperative. Its purpose is to promote the establishment and development of agricultural cooperatives to augment their members' socioeconomic status. The Law on Agricultural Cooperative was

clearly seen as a tool to enhance the agricultural sector and foster rural development, which aligns with pillar #4 of Cambodia's Rectangular Strategy Phase IV (2019-2023). One of such cooperatives, established in 2009, was the Kampot Pepper Agricultural Cooperative (KAMPACO) under the KPPA to help achieve these goals within the pepper industry.

This report will, therefore, strive to answer the following questions:

- Does joining the pepper cooperative (KAMPACO) benefit small farmers?
- Are services KAMPACO provided and used efficiently?
- What are the impediments for small farmers in KAMPACO to expand their pepper?

4. Methodology and Data

Our study combines both qualitative and quantitative approaches. The qualitative approach allowed us to conduct a value chain analysis of pepper farming in Cambodia. It also helped us gather some key information to be tested empirically.

4.1 Data Collection Method

We conducted in-depth interviews of key informants in the Kampot Pepper value chain in order to understand its structure and how it works. Interviewees were picked through convenience sampling. Representatives from three provincial government departments were interviewed to ascertain the government's involvement and policies with regards to the pepper value chain. They were from the Ministry of Land, Ministry of Agriculture, and Ministry of Commerce. We also interviewed the president of the Kampot Pepper Promotion Association (KPPA) and Kampot Pepper Agricultural Cooperative (KAMPACO) to find out what these organizations do and the services they offer their members. Furthermore, 14 farmers, two companies, three local market sellers, and one middleman were also interviewed to examine the process of pepper production through marketing and selling of the final product. The farmers were also asked about the benefits and services they received from the other stakeholders.

We also took advantage of published documents such as the Government's Master Plan and the Book of Specification to understand the pepper situation in Kampot. In addition, we were fortunate enough to receive data collected by Mekong Institute in 2014 through the New Zealand Aid Program in Kampot Province on pepper farming. The data were collected in three villages located in Kampot Province which covered 134 pepper farmers.

4.2 Analytical Methodology

Through the in-depth interviews of key informants and the study of published documents received during the study, we were able to conduct a value chain analysis of pepper farming in Cambodia which will be presented hereafter. Information received during this analysis was also used to establish a threshold for what it means to

be a small pepper farmer. We then use this definition in our empirical analysis using the secondary data collected by the Mekong Institute.

We test the hypothesis of the beneficial impact of KAMPACO on smallholder farmers by estimating the Average Treatment Effect (ATE) on the population of smallholder farmers. The treatment group consists of small farmers who are members of KAMPACO, while the control group is made up of small farmers who are not part of KAMPACO. The small farmers joining the cooperative and those not joining the cooperative generally differ in years of farming experience, age, and farm productivity. These factors are also related to the ability of the small farmers to meet the requirements of joining the cooperative and obligations of quality and quantity of pepper to produce, therefore influencing the decision of small farmers to join the cooperative. To avoid the self-selection bias of small farmers into KAMPACO, we use propensity score matching (PSM) estimator to find a “comparable” control group to the treatment group.

Several other matching estimators (regression adjustment, inverse probability weighting, and nearest neighbor matching estimator) were also applied to test the robustness of our PSM estimate. We use farmers’ income as the indicator of farmers’ welfare and our dependent variable. Our model can thus be represented as follows:

$\text{LogIncome} = \alpha + \beta\text{Coop} + \mu_i Z_i + e$ where Z represents a list of control variables. Table 1 gives a summary of the variables used in our models.

Table 1: Description of variables used in the analysis

Variables used in the analysis	Description	Type of variable in the models
LogIncome	Logarithm of net income	Dependent (main)
Yrsfarmi	Farming experience	Independent (main & treatment models)
YieldPep	Pepper farm productivity	Independent (main & treatment models)
PepLand	Pepper farm size	Independent (main & treatment models)
Age	Farmers’ Age	Independent (treatment models)
Coop	Dummy variable. Whether a small farmer is a KAMPACO member or not	Treatment variable

Source: Authors’ compilation

5. Findings

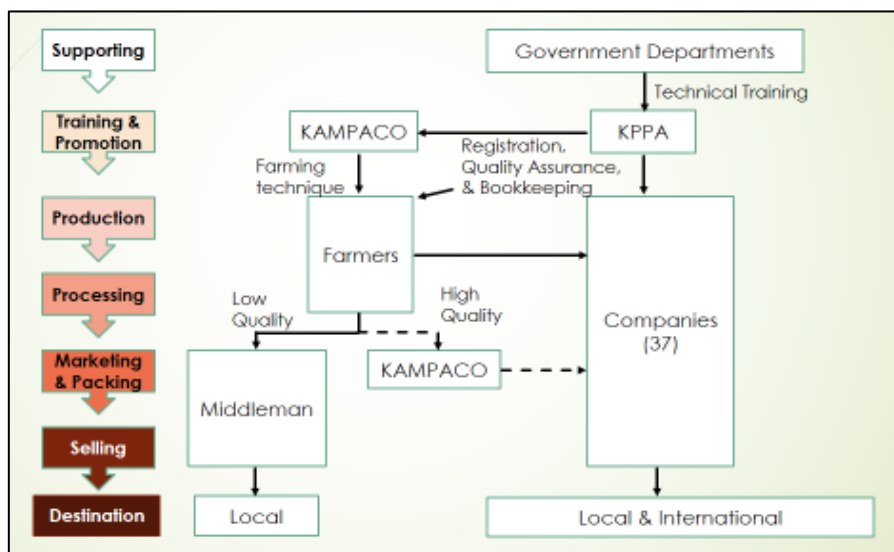
This section outlines the key findings of our study. Compiled from our qualitative interviews, we will first endeavor to describe the processes and the interactions between the various key stakeholders in the pepper value chain. We will then detail the price value chain before providing a case study of the current situation in the pepper industry. From our study, we found that KAMPACO has been inactive since 2017. Therefore, the second part of this section, or the quantitative analysis part, attempts to uncover the impact contract farming—through the cooperative—had on small farmers’ welfare when KAMPACO was still fully active using data collected by the Mekong Institute in 2014. It will do so by applying a definition of small farmers acquired through our qualitative analysis to the empirical model.

5.1 Kampot Pepper Value Chain

A snapshot of how the key informants that were interviewed work together within the pepper value chain can be seen in Figure 1. A description of how each of these players works within the value chain will be discussed hereafter. According to the interviews with government officials, the government provides technical training in the form of record-keeping to the KPPA but leaves the management, promotion, monitoring and all other activities regarding high-quality pepper to the discretion of KPPA. The officials indicated that the government does promote pepper on its website and at occasional international fairs, but could not identify any other government activities or policies that would promote the production and exportation of Kampot pepper.

KPPA had 450 households, 37 companies, and one cooperative registered under the association. Members contribute US\$0.50 per kg to use the Kampot Pepper brand and export its products. In addition to ensuring quality control and promotion of pepper, KPPA also provides bookkeeping training to its members.

Figure 1: Kampot pepper value chain



Source: Authors’ compilation based on interviews with key informants

KAMPACO, the farmer's cooperative was established in February of 2009 with four objectives. They were to buy and sell its members' pepper production, provide training on farming techniques, supply agricultural equipment, and provide cash advances to its members. The cooperative had 239 members which also included the 37 companies. To join the cooperative, one simply had to pay a US\$25 one-off payment for a lifetime membership. However, since its inception, the cooperative has only been able to fulfill the first two of its objectives. This was because the cooperative lacked the capital to invest in agricultural equipment or provide cash advance to its members.

KAMPACO is responsible for the provision of training and sharing of farming techniques with its members. However, there is a detailed description of what farmers need to do and what techniques are to be used in order to meet the GI status readily available in the Book of Specification provided by KPPA to every farmer. Checking and monitoring that farmers follow these specifications is also done by KPPA. Furthermore, the President of KPPA is also the President of KAMPACO. They have the same office and share the same staff. Therefore, a distinction between who is actually providing the training is often hard to make even for farmers. Thus, KAMPACO can be seen as being reduced to playing a middleman role in which they would buy its members' production and on-sell it to companies with a margin. Unfortunately, they have also ceased doing so and have been inactive since 2017. Several reasons were identified as causes for this cessation. Firstly, the companies that KAMPACO were selling to withdrew from KAMPACO and became direct competitors to KAMPACO. Companies bypassed KAMPACO and bought the pepper straight from the farmers at the market price. Because KAMPACO was on-selling with a margin, it was cheaper for companies to buy straight from the farmers. Additionally, companies also started producing Kampot pepper themselves which reduced the quantity they demanded from the other producers to fulfill the demand from their respective markets. Thus, the number one problem given by all farmers is that they do not have market access for their products. They were producing more than what is being demanded by the companies and therefore had a lot of leftovers in storage for several years.

The inactivity of KAMPACO is also affecting its members' (the farmers') livelihood. This is especially true for new entrants to pepper farming. In the industry, there are essentially two markets. One market is for high-quality pepper or pepper that satisfies the GI specification and the other is for the leftovers that don't meet the specification and are therefore classified as low-quality pepper. As can be seen in Figure 1, farmers usually have only either the companies or KAMPACO to which they sell their high-quality pepper. Pepper farmers who did not have a standing relationship with companies before and were reliant on the cooperative to buy their products were left stranded with nowhere to turn once KAMPACO became inactive. As such, some of them were forced to sell their high-quality pepper in the low-quality pepper market. Thus, farmers have to settle for selling to a middleman at a much lower price. Some were also forced to sell their livestock in order to sustain themselves as much of their money was invested in the pepper farms.

In the value chain, the farmers grow and produce green pepper. They are then processed into three types of pepper under the GI status. These are black, red and white pepper. Farmers also do a preliminary quality sorting before the products are sold to either the companies or KAMPACO. The companies would again sort the pepper to ensure only high-quality pepper is packed, branded and sold in the market. However, as mentioned above, the companies have also started producing pepper themselves leading to an oversupply of

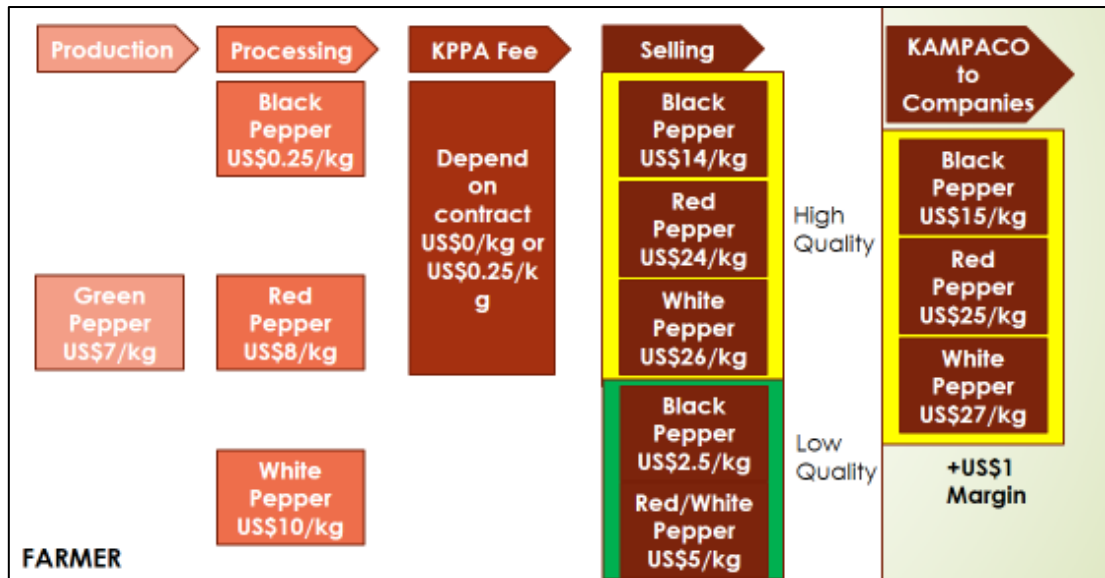
pepper. Since it is mainly companies that market the high-quality pepper, farmers are usually left with an excess supply of products in storage while they wait for companies and others to find more markets for Kampot pepper.

The middleman deals in the low-quality pepper market with pepper that is sorted by the farmers for not meeting GI specifications. This is usually sold to local restaurants and local markets at a very low price. The middleman would buy all pepper that other farmers are willing to sell at the same low price because low valued pepper can be easily sold. Surprisingly, the middleman has a strong network within Cambodia and also with neighboring countries for the sale of low-value pepper. However, the middleman is discouraged from exporting Kampot pepper because adding the KPPA fee on the price would disadvantage the product. Due to this, the middleman sells to other provincial middlemen and often to foreign middlemen within Cambodia and lets them bear the KPPA fee if they are to export the product back to their own countries.

5.2 Kampot Pepper Price Value Chain

Figure 2 shows the cost and price of pepper at each point in the value chain. Producing Kampot pepper requires a lot of capital in the beginning. On average, it would cost a farmer US\$7 dollars to produce a kilogram of green pepper. Also, it takes three years after planting for pepper to start yielding any produce. This is why it is common to find pepper farmers who started out with just a small production base despite its profitability. The most expensive thing when starting pepper farming is the poles required to grow pepper. They are on average US\$6 dollars per pole. Pepper must also be processed manually or by hand to meet the GI requirements and so labor cost is also important. Black pepper is the cheapest to process and on average costs only US\$0.25 to process a kilogram. Red and white pepper take a bit more time and effort to process and so are more expensive. So, on average, to process black, red, and white pepper, production costs are US\$7.25, US\$15, and US\$17 respectively. Farmers then sell the pepper to either KAMPACO or the companies at US\$14, US\$24, and US\$26. KAMPACO, when it was active, would on-sell the products to companies with a US\$1 margin. Additionally, depending on the contracts, the farmers and companies would either share the KPPA fee or the companies would bear it all.

Figure 2: Kampot pepper price value chain.



Source: Authors' compilation based on interviews of key informants.

After processing the peppers, farmers would perform a quality sort and sell the high-quality pepper to the companies and the low-quality pepper to the middleman. The prevailing price for low-quality pepper is US\$2.5 for black pepper and US\$5 for red and white. However, as aforementioned, farmers who were reliant on KAMPACO to buy their products were also forced to sell their high-quality pepper at a low-quality price in order to survive.

5.3 Farmers' Characteristics

During our study, we found that smallholders were the ones most affected by the inactivity of KAMPACO. A smallholder pepper farmer according to definition amongst decision-makers is a farmer with 300 poles or less. However, during our study, we found that even up to 600 poles, these farmers were vulnerable. All were forced to sell to the middleman as they could not form a relationship with companies, as can be seen in Table 2. The year they joined the cooperative also played an important role as those who joined after 2012 were not able to sell to KAMPACO as well. As mentioned before, it takes three years for pepper to start producing, but by 2015-2016, KAMPACO had already run into difficulties securing contracts with companies. There was only one large farmer who sold to the middleman, but it was not out of necessity. Rather, he had a fair amount of low-quality pepper from his sorting that he wanted to sell as well.

Table 2: Interviewed farmers' characteristics

ID	Beg. Year	Beg. # of Poles	# of Poles Now	Production (kg)	Sold to KAMPACO	Sell to Companies	Sell to Middleman
1	1962	300	200	100 KGs	NO	YES	YES
2	2012	100	269	250 KGs	NO	NO	YES
3	2016	-	300	NA	NO	NO	YES
4	2012	100	350	260 KGs	NO	YES	YES
5	2002	50	380	250 KGs	YES	NO	YES
6	2014	100	400	200 KGs	NO	NO	YES
7	2013	200	460	250 KGs	NO	NO	YES
8	2011	50	550	600 KGs	YES	NO	YES
9	1987	20	600	200 KGs	YES (ONCE)	YES	YES
10	1996	30	650	300 KGs	YES	YES	NO
11	1998	300	1115	1 Ton	NO	YES	NO
12	1999	-	1400	1 Ton	YES	YES	YES
13	2000	200	2000	2 Ton	YES	NO	NO
14	1997	-	4000	4 Ton	NO	YES	NO

Source: Authors' compilation

5.4 Case Study

Taking farmer ID number 5 in Table 2 as an example, we will now show some numerical figures based on our interviews to illustrate the monetary effect the inactivity of KAMPACO has on the livelihood of smallholders. This specific farmer was chosen as he is one of the few farmers interviewed that has been farming pepper for quite some time (over a decade) but had only sold his products to KAMPACO. Table 3 below shows how much the farmer used to gain from selling his produce to KAMPACO and shows how much he had foregone once he was forced to start selling to the middleman when KAMPACO ceased to function.

Table 3: A case study of a smallholder pepper farming (farmer ID: 5)

Farm Size: 380 poles Land Cultivated: 0.15 ha		Black Pepper	Red Pepper	White Pepper
Cost (US\$) per Kg	Production Cost	7.00	7.00	7.00
	Processing Cost	0.25	8.00	10.00
	KPPA fee	0.25	0.25	0.25
	Total Cost per Kg	7.50	15.25	17.25
Selling to KAMPACO	Quantities sold	150	50	50
	Price	14.00	24.00	26.00
	Total Revenue	2,100.00	1,200.00	1,300.00
	<i>Less Cost of Goods sold</i>	-1,125.00	-762.50	-862.50
	TOTAL PROFIT	975.00	437.50	437.50
Selling to Middleman	Quantities sold	50		
	Price	2.50		
	Total Revenue	125.00		
	<i>Less Cost of Goods sold</i>	-362.50		
	TOTAL PROFIT/LOSS	-237.50		

Source: Authors' compilation based on interviews with farmer

When the farmer was selling to KAMPACO, he was making a total profit of about US\$1,850 from his products. In terms of land production, it is equivalent to US\$1.22 of profit per square meter of cultivated land. However, since KAMPACO became inactive in 2017, he has not been able to sell his products to any company and was forced to sell 50 kg of black pepper to the middleman for a loss of US\$237.50. He is storing the rest of his products in the hope that demand will pick up again, and he would be able to secure a contract for his products. To see the impact that joining the cooperative may have had on his livelihood while it was running well, we will now turn to the next analytical section.

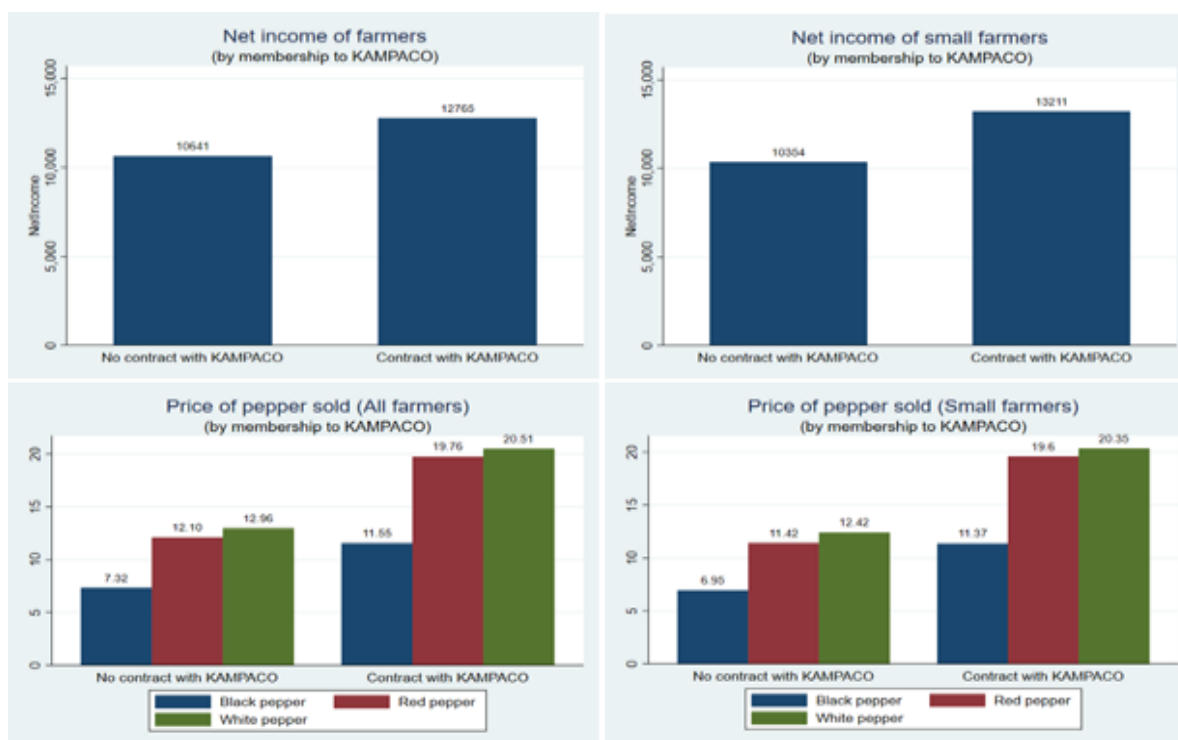
5.5 Quantitative Analysis

So far, we found that the number of years in pepper farming and farm size are important factors to consider when evaluating the impact of cooperatives on farmers' welfare. We found that farmers who hold less than or equal to 600 poles were the most affected when KAMPACO became inactive. Therefore, for the purpose of this study, we will define small farmers as farmers with less than 600 poles. With each pole being located about 2 meters apart as per requirement under GI specification, this is equivalent to about 0.24 hectares of cultivated land. We will use this definition to test the impact of contracting through the cooperative during the period

when KAMPACO was still active in the market. Thus for this section, we exploit the data collected in 2014 from the Kampot pepper industry by the Mekong Institute to test the welfare effect of being part of the cooperative, especially for smallholder farmers.

Firstly, Figure 3 shows that on average, farmers who were members of the cooperative (KAMPACO) earned more income and were more productive than farmers who were non-members of KAMPACO. The prices that members of KAMPACO were paid for their produce (black, red, and white peppers) were higher than what the non-members were paid. It is also noticeable that the standard deviations of the income and the prices for the members of KAMPACO are smaller than those of non-members of KAMPACO, suggesting more stability in terms of revenue and prices, and to some extent less vulnerability for the former group. Based on these descriptive statistics, one can hypothesize that KAMPACO has a beneficial effect on farmers, especially small farmers, by securing higher and stable prices for their produce. The differences in productivity between members of KAMPACO and non-members of KAMPACO could be related to services provided by KAMPACO increasing productivity of its members, or due to the self-selection for joining the cooperative, i.e. more productive farmers and had more farming experience decided to join the cooperative.

Figure 3: Net income and prices of pepper



Source: Authors' calculation based on Mekong Institute data

Controlling for other variables, we estimated the impacts of contracting through cooperatives on farmers' welfare through ATE estimations. The results of the estimations are compiled in the following table. Model 1 is our main PSM model, and the other models are for robustness check and verification.

Table 4: Regression results

Dependent variable: Income (log)						
Average Treatment Effect (ATE)						
Number of observations: 98						
	Coefficient	Standard error	z	P>|z|	[95% Conf.int]	
Model 1	0.471***	0.162	2.96	0.004	0.153	0.789
Model 2	0.466***	0.104	4.46	0.000	0.261	0.671
Model 3	0.482***	0.132	3.66	0.000	0.223	0.740
Model 4	0.475***	0.131	3.62	0.000	0.218	0.733

Notes: Abadie–Imbens standard errors provided, *p<0.1 **p<0.05 ***p<0.01.

Source: Authors' compilation

As can be seen in Table 4, the Average Treatment Effect estimates from the different models are very similar and statistically significant at the 1% significance level. The results confirm the beneficial impact of being a member of KAMPACO for a small farmer, earning on average 47% more than the small farmers outside the cooperative.

6. Discussion and Conclusion

The present research was carried out to answer the following research questions in the case of pepper farming in Kampot Province, Cambodia. Is joining the Cooperative good for small farmers? Is there efficient provision and utilization of cooperative services? And, what were the main factors hindering farmers from expanding if they had wished to do so? We were able to answer these questions by analyzing a combination of in-depth interviews of key stakeholders in the pepper value chain and secondary data kindly made available by the Mekong Institute.

Regarding the impacts of cooperative membership on small farmers, we found that smallholder members of the cooperative earned 47% more income on average compared to smallholder non-members when the cooperative was running pre-2017. These results were produced through the application of Propensity Score Matching and the Average Treatment Effect. Several other matching estimators were applied, so the results have a high degree of robustness.

Results from our interviews also supported this assertion. Members of KAMPACO said that the cooperative used to buy all their products at the prevailing high market price, which encouraged them to produce more. On the other hand, contracts with companies included negotiations for a desirable price, which at most times was the same but sometimes was lower. Additionally, contracts with companies usually would have a pre-determined quantity and several farmers would be left with excess production in storage when demand from companies was low.

As for post-2017, we also saw the effects of the inactivity of KAMPACO on the livelihood of small farmers. Our study found that farmers with pepper holdings of up to 600 poles found it difficult to establish a contract with contracting firms and so were forced to sell their products at a loss or sell their livestock in order to get some income to survive. Larger farmers were still able to establish contacts with firms. Though some were not able to sell all their products to the contracting firms, nevertheless, they were able to sell enough to satisfy their daily needs and have more to spend on their farms. That KAMPACO's inactivity in the market has strong negative implications for small farmers also points to the beneficial impacts and importance of reviving the cooperative.

We also found that although KAMPACO still provides farming technique training to its members, it has been inactive in the market for the past two years. This was due to companies no longer forming contracts with KAMPACO. Companies directly linking up with farmers and bypassing KAMPACO due to price differences was a driving factor. However, companies have also started farming pepper themselves, which has led to an oversupply of pepper in the market, which is also leading to a decline in the farm-gate price of pepper. However, even before 2017, the cooperative was not able to deliver on all four of its objectives. Due to a lack of finance and capital, the cooperative could not provide cash advances to its members or invest in agricultural equipment that could then be lent to its members. These are important objectives. A review of the literature reveals them as two of the main benefits of creating and participating in a cooperative (Hernández-Espallardo, Arcas-Lario, & Marcos-Matás, 2012; Ruben and Heras, 2012). Access to finance and a reduction of input costs could further benefit the members of the cooperative.

Before 2017, demand for pepper from farmers was booming and farmers were optimistic about the market and the future of pepper farming. The number one factor given by farmers that stalled the rapid expansion of their pepper holdings was the cost of the poles required for growing pepper. In order to join the cooperative, one needed to have a minimum of 100 poles. With each pole costing about US\$6, a lot of capital is required in the beginning in order to start and then maintain the pepper farm. Considering as well that it will take three years before one sees any return from this investment, one has to have enough finance to survive until then. Secondly, the cost of labor was also a consideration. Given that pepper production and processing are all done by hand, an increase in holdings would also mean a need to spend on labor costs. Farmers indicated that a pepper holding of 100 poles can be done by themselves with no need to hire extra workers. However, when you have more than 200 poles, extra finance would be necessary to pay for laborers.

However, the number one factor that all farmers say they need right now is market access. All farmers had called for support of the market expansion. Production is not an issue as almost all farmers have excess stock in storage due to low demand from companies and the inactivity of KAMPACO in the market. When asked about future plans for expansion, all farmers indicated that they will not expand given the current situation with some saying that they are planning on quitting pepper farming. When asked if they would recommend pepper farming to any new entrant, the answer was a unanimous and resounding 'No'.

7. Recommendations

7.1 Strengthening KAMPACO

Though KPPA and KAMPACO have defined roles and responsibilities, it is sometimes difficult to determine who is carrying out those responsibilities due to their overlapping structures. It is recommended that management and staff be separated whereby each office could carry out their tasks diligently and in the best interest of their members. Operating as separate entities would enable higher degrees of transparency and accountability, and would be useful for determining the true position of each entity. On the one hand, KPPA would be managing the Kampot Pepper geographical indication, and on the other, KAMPACO would focus on providing financial, capital, and technical support for its members.

KAMPACO needs to be revived and strengthened. The government can support KAMPACO in its efforts to secure more capital to fulfill its objectives. This can be done either through donor-funded projects or by providing government-guaranteed finance. It is, however, important that both parties agree on the solution and work together to establish KAMPACO in the market.

Both parties can also work together to find returning migrants from overseas that may have connections to the outside market. KAMPACO can and should develop itself to become a marketer instead of depending on the local companies to buy its products. However, capacity training is needed in both the processing and marketing of its products. Again, this can be achieved through a donor-funded project. One way that KAMPACO can start developing these capacities is by establishing domestic stores itself where it would sell Kampot brand pepper to tourists and foreigners who visit the country. It could then slowly develop into internationalizing its businesses. However, this would mean that KAMPACO needs to do more value-added activities and acquire the capabilities required by different stages in the value chain. This would include high-quality sorting, processing, packaging, and marketing of products.

7.2 Further Government Support is Needed

There is much push from the national government for KPPA and KAMPACO to play an active role in assisting pepper farmers. However, maybe because of a government market-oriented strategy, there seems to be limited government support on the ground provided to these institutions. However, this study shows that being a member of KAMPACO benefits small farmers, and its inactivity has a real negative monetary impact on small farmers' welfare, which should validate the need for the government to provide the necessary support for the reactivation of KAMPACO.

Line Ministries such as the Kampot Department of Cooperative Promotion and Kampot Department of Commerce need to work more collaboratively with KPPA and KAMPACO. The role of actively looking for markets should be shared amongst line departments and KAMPACO. Moreover, pepper farmers should be included in pepper promotion activities. The president or board members of KAMPACO and KPPA should also participate in the international fairs that the government participates in. This would enable better engagement with their end customers and increase the prospects of expanding their market share.

Furthermore, foreign pepper farming companies should be monitored. It is good that these companies are bringing in investments and providing job opportunities for local people. However, they are doing so to the

detriment of some of the local producers. Though they engage some local farmers in contracts, the demand from the farmers is usually very low as they are also increasing production. Because of limited market access, there are farmers who are not able to sell their products and are affected by the increasing number of companies also producing.

7.3 Market Diversification

As market access was the number one problem given by all producers, it is recommended that Cambodia diversifies its export markets. Based on export data, the main export countries for Cambodian pepper are Vietnam, Germany, France, Chinese Taipei, and Poland. As for Vietnam, Poland, and Chinese Taipei, the market for pepper has been saturated. However, Germany still has a vast untapped potential market for pepper, which Cambodia can focus their attention on.

Apart from the major current export destinations, other countries with high untapped potential export markets for pepper from Cambodia are the United States of America, Singapore, and Thailand. Singapore has the largest potential market in Asia. However, Thailand is a growing economy with a growing middle class, so the potential for high-quality pepper export into Thailand in the future is there. Therefore, the responsible Ministries in collaboration with KPPA and KAMPACO are encouraged to explore untapped markets in Singapore, Germany, and the United States of America now while keeping an eye out for Thailand as a potential market in the near future.

7.4 Supporting Farmers

Besides market access problems, several farmers stated that the pepper poles were costly. Farmers could be assisted in this aspect with financial support from donor countries, grants, or NGOs. Finding a way to reduce the input costs for farmers will be beneficial to them.

Farmers can also expand their value-added activities along the value chain. Providing training for farmers to improve their quality sorting can be done. The provision of capital or infrastructure that would allow farmers to also pack their products would see farmers gain more of the profits from pepper farming. Again, this can be done through a collaboration of all stakeholders in the pepper value chain.

7.5 Defining Small Farmers

The main argument for cooperatives is that it is beneficial to small farmers who need the supporting infrastructure that larger farmers generally enjoy. Through our qualitative interviews, we found that saying farmers with pepper holdings of 300 poles or less are the small farmers who need cooperatives is an underestimation. Our study found that even farmers with up to 600 poles were vulnerable after KAMPACO went inactive. The quantitative analysis also shows that under this definition, contracting through the cooperatives impacts farmers' income significantly. Therefore, the definition of what is a small farmer needs to be re-evaluated and established by decision-makers when considering the impacts of cooperative memberships on farmers' income.

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Appendix

Table 1: Characteristics of pepper farmers

Variables	Farmers members of KAMPACO			Farmers non-members of KAMPACO			All Farmers		
	# of obs	Mean	Std. Dev.	# of obs	Mean	Std. Dev.	# of obs	Mean	Std. Dev.
Net income	55	12764	8894	79	11155	12738	134	11815	11309
Farm size	55	0.27	0.35	79	0.26	0.18	134	0.26	0.31
Farm productivity	55	1.03	0.63	79	0.79	0.96	134	0.89	0.85
Years of farming	55	10.38	5.84	79	6.38	5.72	134	8.02	6.08
Years of education	55	4.56	2.34	79	5	3	134	4.80	2.80
Age	55	47.75	11.27	79	45.02	11.71	134	46.14	11.57
Price of black pepper	55	11.55	1.63	79	7.59	6.33	134	9.22	5.33
Price of red pepper	55	19.76	2.57	79	12.54	10.49	134	15.50	8.94
Price of white pepper	55	20.51	2.54	79	13.46	11.24	134	16.35	9.43

Source: Authors' calculation based on Mekong Institute data

Table 2: Description of models used

	Type of estimation	Estimator	Outcome model	Treatment model
Model 1	Treatment effect	Propensity score matching	Matching	Logit
Model 2	Treatment effect	Regression adjustment	Linear	none
Model 3	Treatment effect	Inverse probability weighting	Matching	logit
Model 4	Treatment effect	Nearest neighbor matching	Matching	logit

Source: Authors' compilation

Working Group 3

Education

Parents Perspective on School Dropouts at the Lower Secondary Education Level in Kampot Province, Cambodia

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1. Introduction

1.1 Background of the Study

The Cambodian government has the goal to upgrade human resources that have not only basic knowledge but also creativity, competence, skills, innovation, entrepreneurship, moral and spiritual responsibility, and patriotic and professional consciousness. One of the actions to reach that goal is to decrease the number out-of-school children in Cambodia. According to the data from UNESCO (2019), the number of dropout students is still significant.

Table 1: Out-of-School Children in Cambodia

Out of school children	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total	117,131	40,924	40,982	...	84,830	82,584	134,186	180,125	186,109
Female	66,232	...	...	...	51,484	28,714	65,975	90,079	91,265
Male	50,899	...	...	...	33,346	53,870	68,211	90,046	94,844

Source: UNESCO, 2019

As shown in Table 1, the number out-of-school children in Cambodia has increased compared to 2010, even though there have been decreases some years. Based on the data from the Ministry of Education, Youth and Sport's Education Sector Plan 2014-2018, in the lower secondary area, the dropout percentage is still quite high, and at the lower secondary level, there has been no improvement in several years.

The importance of parental contribution in education has been researched and proven in many cases. Wendy (1994) conceptualized three components of parental association hypothesis dependent on how parent-child collaborations influence students' motivation and studying.

- 1) Social inclusion incorporates parents' open activities like going to class gatherings, actively participate in school activities, and so forth.
- 2) Individual inclusion incorporates parent-child cooperation that conveys inspirational perspectives about school and the significance of education to the child.
- 3) Parental association influences student motivation, their feeling of capability

1.2 Problem Statement

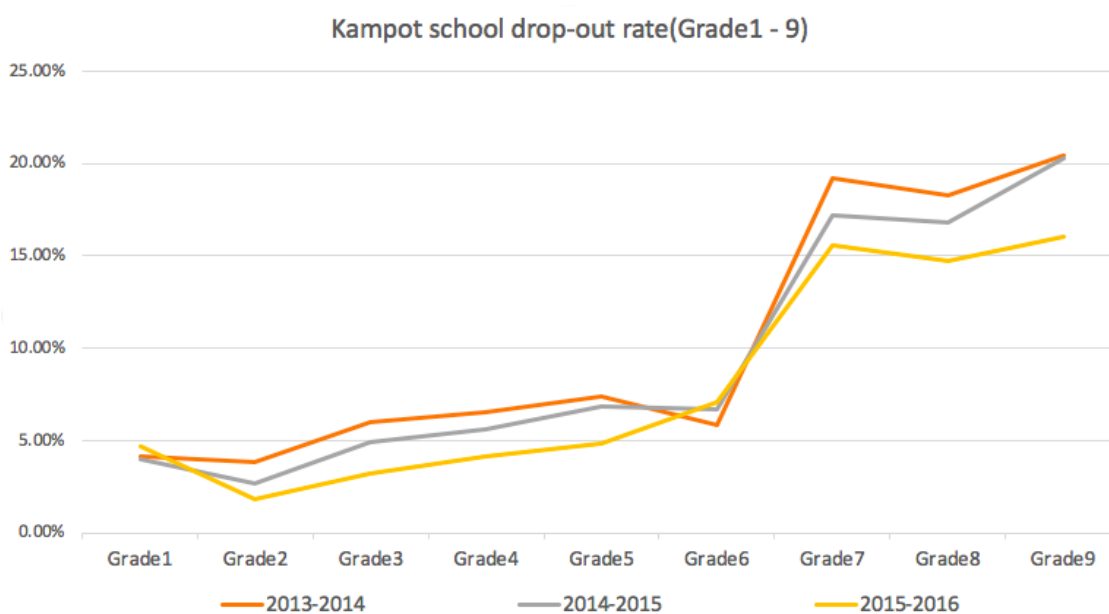
The Government of Cambodia sets the National Strategic Development Plan (NSDP) every four years. To achieve the goals, The Ministry of Education, Youth and Sport (MoEYS) has set priority programs which are:

- 1) School establishment and development program,
- 2) School quality system and quality assurance program,
- 3) National and international student assessment systems strengthening the program,
- 4) Scholarship program,
- 5) Teacher performance management and appraisal program for quality teaching,
- 6) The higher education development program,
- 7) Result based management system development program,
- 8) Education financial management reform and financing program,
- 9) Literacy and lifelong learning program,
- 10) Cross-sector and sector coordination program.

Despite the fact that numerous projects have been actualized, based on the audit of the education policy that has been executed from the education sector plan 2014-2018, in the lower secondary area, the set objective has not been accomplished. Net enrolment rate (NER) at the lower secondary level has stayed stable at a (small) level of around 55 percent in recent years. In 2016 to 2017, enrolment in secondary education was low at 57.6 percent (UNICEF and MoEYS, 2018). All through the time of 2007/08 – 2015/16, dropout at lower secondary school (grades 7-9) stayed high, at around 20 percent, and has not demonstrated any critical improvement over the previous decade. Given this circumstance, progress in regards to the fulfillment of lower secondary education has been trudging (UNICEF and MoEYS, 2018).

Kampot is one of the regions in Cambodia that has a high out-of-school number in lower secondary school. As shown in Figure 1 below, dropout of students has been increasing every year.

Figure 1: School Drop-Out Rate in Kampot Province



Source: MoEYS, 2015-2017

According to the Cambodia Socio-Economic Survey 2017 and 2018, there are several reasons that students decide not to attend school, as shown in Table 2 below.

Table 2: Reasons for not attending School

Reasons for not attending school	Women	Men	Both sexes
	Number		
Don't want to	36,046	43,098	79,144
Did not do well in school	17,987	43,841	61,828
No suitable school available/school is too far - No teacher/Supplies	4,336	1,638	5,974
High cost of schooling	-	-	-
Must contribute to household income	122,264	118,537	240,800
Must help with household chores	62,838	46,816	109,654
Too poor	28,868	19,759	48,627
Due to disability - Due to long term illness (over 3 months)	16,762	13,162	29,924
Too young	40,210	35,292	75,502
Other	4,353	1,700	6,053
Total	333,663	323,843	657,507

Source: (Cambodia Socio-Economic Survey 2017, 2018)

The two primary purposes behind students to not go to schools are identified with family issues. In recent decades, investigate parental contributions in schooling has expanded impressively. As the quantity of studies dedicated to this theme has developed, so has the gathered assemblage of proof exhibiting the connection between parental contribution and a broad scope of education results. Given the education circumstance in Kampot Province, which has a high number out-of-school students and the past examinations about parent contribution, this research will concentrate on the parents' perspectives on school dropout at the lower secondary education level in Kampot Province.

1.3 Research Objectives

Based on the background study and the research problems, the research purposes are the following:

- 1) To understand parents' perspective on the education of their children and school dropout at the lower secondary education level;
- 2) To find out what factors are leading to school dropout in Kampot Province, Cambodia, from the parents' perspective; and,
- 3) To explore what the local government and schools can do to prevent students from dropping out of school from the parents' perspectives.

1.4 Research Questions

- 1) How do parents perceive their children's education and school dropout at lower secondary school?
- 2) What are the factors leading to school dropout from the parents' perspective?
- 3) What can the government and schools do to prevent students from dropping out from the parents' perspective?

1.5 Significance of the Study

The results of this research can be used for education stakeholders, and future studies as outlined below.

1. The school (school principal and the teachers): to provide the information on what kind of problems cause their students to decide to dropout from school—from a parent perspective—and determine how well the communication is between parents, students, and the schools. Moreover, it can provide a solution for the school to prevent further dropout cases in the future.
2. Local government: to provide information—from a parent's perspective—on children's dropout. The government of Cambodia is implementing many programs and policies to decrease the number of dropouts, but if the parent awareness is low, it will have low efficiency. By doing this research, it can provide information about how modern-day parents perceive the education of their children, their thoughts on the dropout, and how it affects their children. It also provides solutions to strengthen the program that has been implemented.
3. Future studies (academic background): Theoretically, it is expected to be able to contribute to further studies, especially regarding the dropout case in Cambodia. Also, it is expected to enrich the study area because there are still limited sources of literature regarding the perspectives of parents on education in Cambodia.

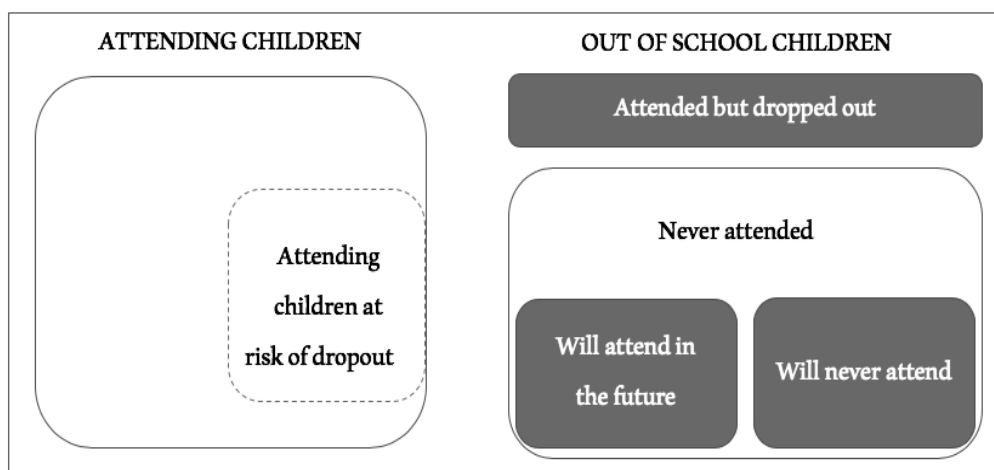
2. Literature Review

2.1 Definition of School Dropout

School dropout is withdrawal from the study or training program before its finish. Furthermore, school dropout may refer to (a) both the procedure (early school leaving) and the people (early school leavers) who neglect to finish a course; (b) besides early school leavers, dropouts may also include learners who have completed education or training but failed their examinations (CEDEFOP, 2008).

Out-of-school children are divided into “children who used to attend school” and “children who have never attended school.” The latter also can be divided “children who will attend in the future” and “children who will never attend.” It is also essential to prevent the risk of dropout among current school attending children. This research will focus on parents who have “children who used to attend school but dropped out” to investigate the perspective on dropout (see Figure 2).

Figure 2: Out-of-School Children Definition



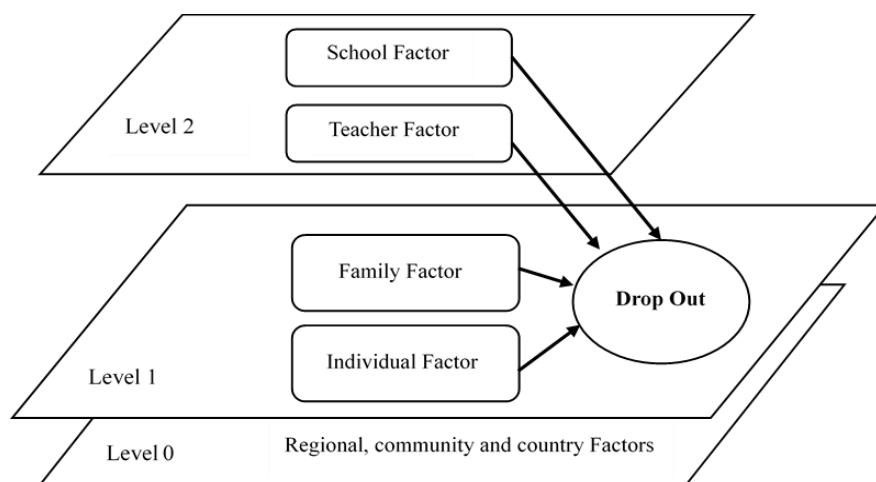
Source: UNESCO (2014)

2.2 Factors Leading to School Dropout

UNESCO (2012) profiled children who leave school early as “dropouts,” and found that one of the factors affecting dropout is “long distance from home to school.” This is often caused by living in a remote or rural area. Household poverty is also an important determinant when it comes to dropout. Students needing to work while going to school, low education level of parents, and living in a conflict-affected region increases the likelihood of early school leaving.

Researchers have also investigated the causes of dropout. Ban and Kim (2015) considered the determinants of dropout in Cambodia. They highlighted the factors into three-level, Level 0 (Regional, Community and Country Factors), Level 1 (Family and Individual factors), and Level 2 (School and Teacher factors), as can be seen in Figure 3. From the Figure 3, Level 1 and Level 2 seem to have more influence to lead student dropout or not. According to Ban and Kim (2015), in Level 1, which are Individual Factors and Family factors, Individual Factors include ethnic, racial, peer context characteristics while Family Factors, such as family size, poverty, and parental education. In Level 2, which are Teachers Factors and School Factors. Teacher Factors are concerned about teacher quality. The shortage of teachers and a high workload for teachers are also what can affect the quality of the teacher. Meanwhile, School Factors include school quality, curriculum, school regulations. Other points that other researchers consider are applicable for School Factors include the distance from school to student’s house, local infrastructure, political stability, economic crisis, recession government supports.

Figure 3: Factors to Dropout from School



Source: created by author
c.f. Ban and Kim. (2015), Taniguchi, K.(2017).

As shown in Figure 3, that Family Factor is in Level 1, which means it is a primary influence to become the reason for children to dropout of school. This study will strengthen research on this factor.

2.3 Effects of School Dropout

First of all dropouts' negative influence is in the aspect of the economy. Education has been considered a pivotal factor in economic growth. According to the Solow Model, besides the increase of labor and capital input, the increase in productivity level is regarded as a crucial component of economic growth. Education is directly linked with productivity growth by accumulating human capital.

As said by Catteral (1985), from an individual point of view the person who dropped out of school probably going to battle with poverty, violence, or disregard in their homes. Generally speaking, in the short term, dropouts have a high income than their classmates because their classmates spend more time in school, which cost more, however, in the long run, the additional value of high education degree gradually emerges. The graduates usually earn more money, and the increasing speed of salary is faster than dropouts. Or worse of all, dropouts face higher unemployment rates than the graduates. Thus, for dropouts, they are likely to struggle with poverty.

Dropouts also bring a burden to society. Dropouts have less chance to get a full-time job; usually, they do a part-time job, which means they have less income compared with their graduating classmates. The part-time jobs are characterized as physical work and high fungibility, which imply it is hard for dropouts to accumulate job experience for brainwork, which is considered as a high-income job. Therefore dropout earns less money over their lifetime than their graduating classmates. The less income they receive, the high possibility they will ask for help from the government or welfare institution. Furthermore, dropouts are at high risk of being involved in criminal and violent activities.

2.4 Intervention of School Dropout

We interpret the expression "dropout prevention program" to mean a particular intercession intended to expand the school graduation rate. A dropout prevention program can have various program components or measurements and can be portrayed from multiple points of view. As indicated by Harmon (2017), there are fifteen applicable dropout prevention methodologies represented by the programs shown in Table 3 below.

Table 3: The Fifteen Applicable Methodologies for Dropout Prevention

<i>Category: School and Community Perspective</i>	
Strategy	Definition
Systemic renewal	Consistent methods for accomplishing objectives and focuses on school policies, assessment, and structure of the school progressive system since they influence various groups of learners.
School-Community Collaboration	At the purpose of gathering all groups in a network that offers general help to schools, a solid establishment brings issues to a mindful, steady condition where youth can prosper and exceed expectations.
Safe Learning Environments	A comprehensive violence anticipation plan, including compromise, must arrangement with potential viciousness just as an emergency the administration. A protected learning condition gives daily experiences, at all evaluation levels, which upgrade constructive social perspectives and pragmatic relational aptitudes in all students.
	An inclusive abusive prevention designs that are made, including compromise, must be managed with potential viciousness just as government crises. Bolstered learning conditions give day by day encounters, at all degrees of assessment, which improve valuable social points of view and pragmatic relational aptitudes in all learners.
<i>Category: Early Interventions</i>	
Strategy	Definition
Family Engagement	Dependable research found that family engagement has immediate and useful outcomes on kids' accomplishments and is the most right marker of student accomplishment in school.
Early Childhood Education	Birth-to-five intercession shows that giving extra kids advancement can improve psychological wellness. The best strategy for decreasing the quantity of kids who will, in the end, dropout of school is to give ideal classroom direction from the earliest starting point of their school experience through the primary school level.
Early Literacy Development	Initial mediation to help low-achieving learners improve their reading and writing skills build up the fundamental establishment for dynamic learning in every other subject.

Category: Basic Core Strategies

Strategy	Definition
Mentoring/Tutoring	Tutoring is an organized and mindful connection among instructors and understudies who rely upon trust. Mentoring, just as a joint activity, centers around academics and is a significant practice while watching out for specific needs, for instance, writing, reading, or math capabilities.
Service Learning	Service-learning joins relevant community services that apply to scholarly learning. This instructing/learning procedure progresses individual and social advancement, proficient improvement, and network work and can be an inventive vehicle for viable school change at all levels.
Alternative Schooling	Elective schooling gives learners at risk, different choices that can empower graduation, with programs that give uncommon consideration to the social needs of the community, for example, academic requirements for secondary school acknowledgment.
After-School Opportunities	Numerous schools give after school and summer improvement programs that bring about data costs and invigorate eagerness for different fields. Such encounters are significant for learners at risk since they possess "time breaks" with productive and involving activities.

Category: Making the Most of Instruction

Strategy	Definition
Professional Development	Teachers who work with youngsters who are at risk for academic frustration need to feel maintained and have a route by which they can keep on making abilities, strategies, and get some answers concerning leap forward procedures.
Active Learning	Active learning catches the teaching and learning methodology that is associated with and includes learners for the learning strategy. Learners find new and inventive ways to deal with issues, make progress, and become lifetime learners when teachers give them that there are different ways to deal with learning.
Educational Technology	Technology offers the perfect chance to pass on a manual for drawing in learners in genuine learning, watching out for different bits of knowledge, and changing under learners' learning styles.
Individualized Instruction	Each learner has a decent interest and learning involvement with the past. An individualized instructional project for every learner thinks about the capacity to adjust in demonstrating persuasive strategies and systems to think regarding these individual contrasts.
Career and Technical Education	Career and Technical Education programs and related direction programs are primary for all learners. The school-to-work program sees that youngsters need extraordinary capacities to orchestrate them to fit the more elevated level of requests of the present workplace.

Source: Harmon (2017)

2.5 Parents Perspectives on Education

According to Gorman (2017), he mentioned that "the impact parents have on their children's educational aspirations and occupational success has long occupied center stage in the sociological literature" (p.104).

Research by sociologists and financial analysts indicate that parents' contribution with education significantly affects their kids' educational goals and effectively raises student's accomplishment and limits the dropout level. Wendy (1994) conceptualized three components of parental association hypothesis dependent on how parent-child collaborations influence students' motivation and studying.

- 1) Social inclusion incorporates parents' open activities like going to class gatherings, actively participate in school activities, and so forth.
- 2) Individual inclusion incorporates parent-child cooperation that conveys inspirational perspectives about school and the significance of education to the child.
- 3) Parental association influences student motivation, their feeling of capability.

As indicated by Akyeampong (2009), financial help and enthusiasm from the parents' point of view impact kids' investment and level of progress accomplished in education, particularly female students. The worth appended to learning from the parents' point of view was a huge factor that affected kids' enlistment, maintenance, and graduation; it has close connections with the issue of dropouts in schools. Expounding on the Maasai Kilian (1996, referred to in Anastasia et al. 2011) noted parental obliviousness doesn't permit pastoralist communities to comprehend why a kid ought to go to class as opposed to taking care of domesticated animals. It is because of the misperception of the importance and estimation of education from the parents' viewpoint.

3. Methodology

3.1 Research Method

This research uses a qualitative approach as a method to conduct the research. Qualitative data used to investigate in-depth information, which helps understand the complexities of the social phenomena. This will help to interpret some points which are not be clearly explained in statistical data that have been provided by the Ministry of Education, Youth, and Sport (MoEYS) of Cambodia in their annual reports.

3.2 Instruments for Data Gathering

As a part of the qualitative approach, a semi-structured interview is used as instruments for data gathering. The open-ended question is made to find more information on the objectives of this research. It divides into five different types of open-ended questions based on the respondents, which are open-ended questions for parents, students, teachers, school principals, and local government.

- 1) For parents, it contains 19 questions that aim for: investigating the out of school factors; parents' perception of their children's schooling, the condition of the family.
- 2) For students, it contains 16 questions that aim for: the identification of characteristics related to school and family; the children's perception of their parents' and school's interference in their schooling; their motivation to schooling.
- 3) For a teacher, it contains 13 questions that aim for: investigating the in-school factor of dropout, examining the relationship between teacher, students, and parents; the prevention of dropout as a school institute.
- 4) For the school principal, it contains ten questions that aim for: clarifying the perception of the dropout issue, the identification of the relationship between the school, government, and parents.
- 5) For the local government, it contains seven questions that aim to understand how they try to implement plans to prevent students from dropping out, investigating their perception on the issue of dropout.

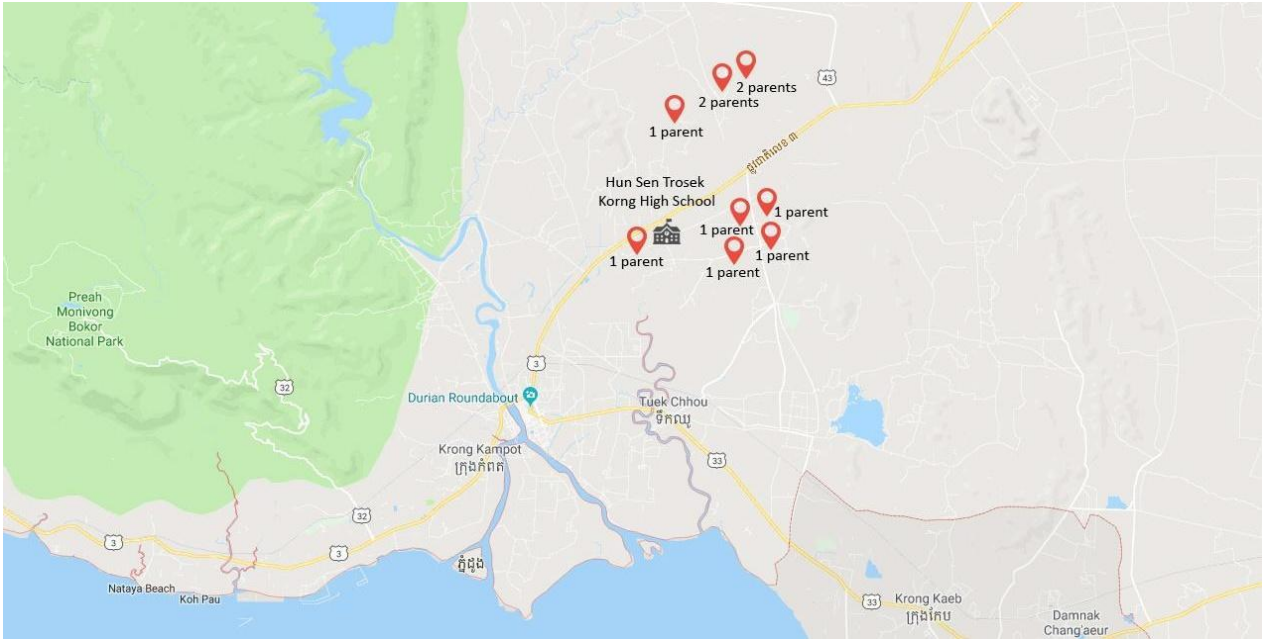
3.3 Site, Sample Size, and Sampling Method

This research is conducted in Kampot Province, Cambodia. Kampot is a city in southern Cambodia and the capital of Kampot Province. The number population of Kampot is number 10th in Cambodia. According to the MoEYS (2017), dropout the school of lower secondary school case is still a concern for the local government in the education field as the number of outs school children are increased by year (See Figure 1).

Based on the data from the local government, the number of dropout students in Hun Sen Trosek Korng Public High School in Tuek Chhou District, Kampot Province Cambodia, is higher in the district. The school has the following characteristics: the school is far from town, approximately 10 km; there are six classes and 40-50 students, 34 students of whom dropped out of the school. According to that reason, this school became this research site.

The interviews were conducted to 23 participants in total by purposive sampling method and snowball sampling method: 10 parents, eight students, two school teachers, school principal, and two government officials from 17 to 21 of September 2019. Other than parents are chosen for participants to have a full view of the objectives of this research. All of these students who participate the interview has dropped out at grade 7 in the last academic year (from November 2017 to July 2018), it has been over a half year since they stopped going to school, or they are recognized as dropout students by school because they did not take a final exam to continue to higher grade. The area of research is shown in the figure below.

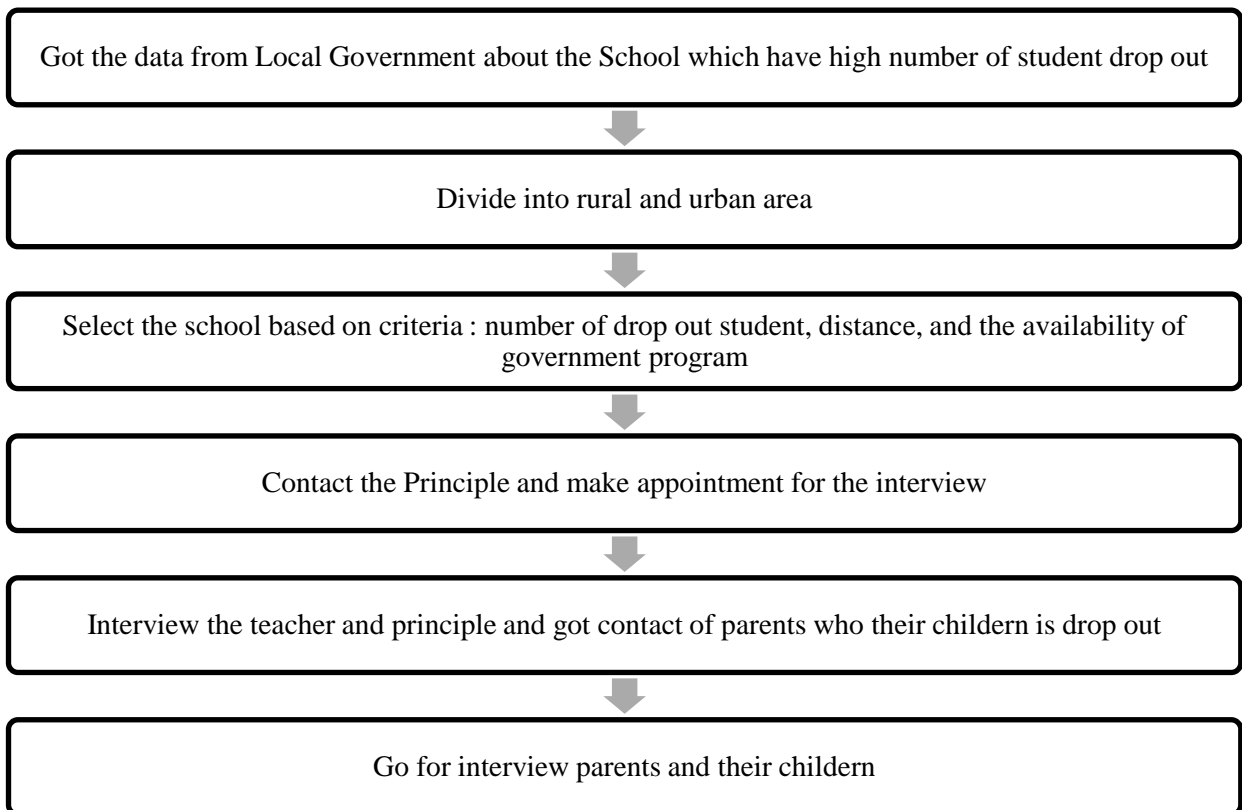
Figure 4: Map of Fieldwork



3.4 Data Collection Process

The process of the data collection is explained in Figure 5 below.

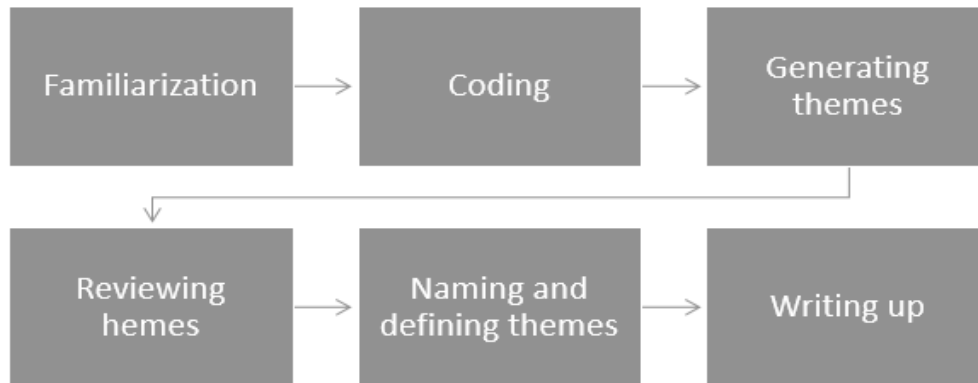
Figure 5: The Data Collection Process



3.5 Data Analysis

This research uses thematic analysis to analyze the findings to answer the research questions. Thematic analysis is a method of analyzing qualitative data. This kind of type is used to carefully examine the data to identify common themes – topics, ideas, and patterns of meaning that come up repeatedly. In this research, there are six types of process conducted while analyzing the findings, which are the six-step process in Figure 6.

Figure 6: The Six-Step Process Data Analysis



4. Findings and Discussion

4.1 Findings

In this chapter, findings from the interviews that have been conducted from 17 to 21 September 2019 will be explained and discussed. The total number of interviewees was 23 people, ten parents, eight students, two teachers, one school principal, and two local governments. This variety of interviewee to elaborate more the research object.

4.1.1 Parents Perspectives on Dropout Student

This section shows more how parents perceive the importance of education for their children, their involvement in their children's school life, their expectations, and the program from government and will be focused on the parent. Thematic analysis is used to identify the parent's perspective, and we have divided the findings into seven themes, which are explained in the table below.

Table 4: Parents perspective in their children education

No	Theme	Description
1	Education is essential to their children	because education can enhance their children's knowledge
		because studying is essential for their future (e.g., job)
2	Parents motivate their children to go to school	by inducement to buy something (e.g., motorbike)
		By good words
3	The one who has responsibility for the education of their children	Parents
		School Principle
		Teacher
4	A high expectation to their children to complete junior education	until 12 grade
		until 9 grade
5	Parents involvement in a school activity (campaign)	Never: because they do not know the information
		Yes, I have joined
		Never: because school is far from their house
		Never: because they have to work on the day or were busy
6	Information about government to decrease school	No, I don't know
		Yes, I know a little
7	Parents did not apply for the scholarship	because they were afraid of refusing
		because they did not know the information of scholarship

Each theme tells its characteristics:

1) Education is essential to their children

Most of the parents think that education is essential for their children. However, the background and reasons are different; there are two reasons to be explained. First is that parents think education can enhance their children's knowledge and for a better future. Some parents concerned for the children's future based on their experience since they also dropped out in the lower secondary grade, and now they must bear with the difficulties of their life because of lack of education. One parent said, "Because he dropped out, my son will get the job which cannot acquire a high salary, and probably can work only at the place where the academic background is unnecessary, like construction. He can get only like the job in the future." Most parents we interviewed are worried about their children's future.

2) Parents motivate their children to go to school

Based on the answer from previous questions, parents know that education will help children's futures, so they tried to motivate them to go back to school in various ways. Some parents motivated their children with the right words, and the others motivated them with inducement to buying goods. For example, one parent said, "If you go to school again, we will give you motorbike!". However, according to the parents' answer, they prioritized children's decisions by themselves about drop-out and did not interfere even though they understand the importance of education.

3) The one who has responsibility for the education of their children

Most parents have a perspective that the one who has responsibility for education is a parent themselves. Some of the parents said: “classroom teacher and the school principal have responsibility for their children's education because they know the children’s academic performance,” However, this parent has never asked their children school life. Most parents pointed out that teachers and school principle have never come to their homes to check their children.

4) A high expectation to their children to complete junior education

The answer to this question is divided into two groups, which half of the parents said that they expect their children to complete their study until grade 12, and the other halves think it is good to complete the study only until grade 9.

5) Parents involvement in a school activity (campaign)

The nine parents except one parent have never joined any school event or campaign. There are four reasons as mentioned above chart, and they tend not to know information about them. The one who joined the campaign about school dropout because he has transportation and the distance from school still can be reached.

6) Information about government to decrease school

8 out of 10 parents did not know about the government program, and the rest of the two know just a few information about the scholarship program. The parents who got information about the scholarship got the information from their neighbors. Most of the parents did not know the information because their children, even some of them know it, did not tell the parents.

7) Parents did not apply for the scholarship

One of the reasons is due to a lack of information about the scholarship, as explained in the explanation above. However, some parents did not apply it even though they knew because they were afraid that they would be unaccepted.

4.1.2 Parents Perspective on Factors Leading to School Dropout

In this point, this research is explained by comparing to the answer from parents, students, teachers, school principals, and local government staff. This is used to find the board perspectives from various stakeholders to support the explanation of factors leading to school dropout from parent perspectives. It is divided into five themes to make it understand, which are explained below.

- 1) Geographical Factor is the factor related to the geographical condition where student lives and the school.
- 2) The student factor is the factor involved in the student’s decision and student’s life.
- 3) The family factor is the factor related to the student’s family condition.
- 4) The school factor is the factor that contains teacher and principal school behavior toward school dropout student and family, school facilitation in, and school environment.
- 5) The social factor is the factor that involved the society around the school and where the student lives.

Table 5: Factors that are leading to the school dropout

No	Factors	Parents	Student	Teacher and School Principal	Government
1	Geographical	Lack of Transportation	Lack of Transportation	Lack of Transportation	
		Dust and Smog	Too far from home		
		Bumpy Road	House Environment (Flooded)		
2	Student	Overage	Overage	Overage	Overage
		Poor Academic Performance	Poor Academic Performance	Poor Academic Performance	Poor Academic Performance
		Low Motivation	Low Motivation	Low Motivation	
		Student Characteristics		Student Characteristics	
				A lot of Absence	
				Female	
3	Family	Financial Problem	Financial Problem	Financial Problem	Financial Problem
		House Chores	House Chores	House Chores	Low parents involvement
			Low parents involvement	Low parents involvement	Migration
				Migration	
4	School	Program for Slow Learner is Expensive			
		Lack of contact with the school			
5	Social	Gambling around the school in the community			
		Lack of Job Opportunity			

1) Geographical factor

In the parent perspectives, geographical factors become one of the background reasons that their children dropout of school. The road condition, which is bumpy, dusty, and has much smog, becomes the parent's concern with their children's safety. Most of the students had to go to school by bike, and according to them, it is hazardous since there are many cars and trucks pass the same road. This statement support by the other perspective form school, and student that the geographical condition and the distance that far from their house become factors leading to dropout. This becomes worse when there is an insufficient number of public transportations.

2) Student Factor

In the parent perspectives, the background reason that their children dropped out because their children's age compares to the other children who have the same grades are over age. It affects their children to be unconfident with other classmates, and their poor academic performance also made it more unconfident to go to school. Most of the parents stated that their children have low motivation and tend to be shy, careless, and lazy — this perspective in a way with other perspectives from school and government.

3) Family Factor

In student, teacher, and government perspectives, the financial problem becomes the main issue to leading student dropout from school. This statement is emphasized in the parent's perspective. They realize that their poor finances become a factor for dropping out. Some parents let their children go to work to help this problem. Also, to keep their family living well, while the parents go to work, their children need to do house chores such as take care of another family member (siblings, grandparents), take care of their cows, and other house chores.

4) School Factor

Parents think that the amount of money that they should pay for an extra class for the slow learner is too expensive. It becomes the issue that their children cannot follow the study in the class and affect the decision to dropouts from school. Also, the parents think that schools should be more proactive in giving information about the school activity and their children's academic performance by visiting them in the home. Even though it is the same problem mentioned from the school perspective that there is a lack of communication between school and teacher, but in the school perspectives, the parents tend to not care about their children's school activities; they have never involved in the school activities.

5) Social Factor

Parents think that the environment around the school, which is gambling, can be had a negative impact on their children so that they decide to let their children stop school. However, only a few parents concerned about this situation. The others are more concerned about the possibility of job opportunities for their children.

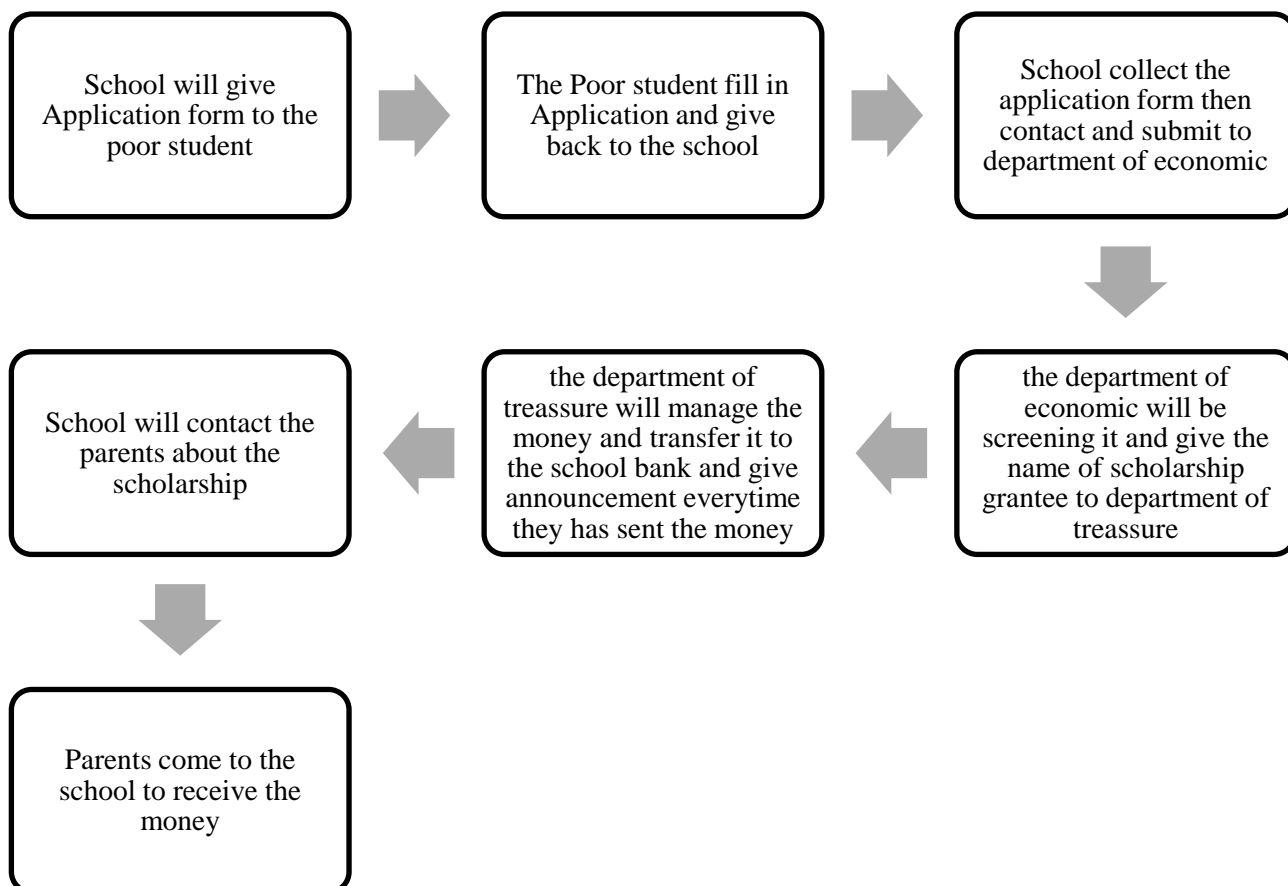
4.1.3 Parents Perspective on 'School Dropout Prevention' by Government and School

At this point, the school dropout prevention that has been run by government and school is explained below first to make it connected to the following findings, which is the school dropout prevention from parent's perspective.

1) Action from the Government

Three programs implemented by the government to decrease the number of school dropout students at the lower secondary level. The three programs are explained below.

A) *For the student*, the government provides a scholarship program. This scholarship is for the student with poor background family. They will get 60 dollars per year, which divided into three steps. These three steps mean trimester (every four months). Students who got scholarships will get 20 dollars in the early first trimester, at the end second trimester, and in the early third trimester. The selection process of the scholarship program is explained below.



There is a requirement for a scholarship grantee.

- a) The school is responsible for recording the scholarship grantee's academic performance while in the school, including their attendance and report it to the government every four months or trimester.
- b) Based on those reports, if the scholarship grantee's performance is excellent, they will receive the money in the next trimester, but if the government thinks that the scholarship grantee's performance is not match up with their requirement, the scholarship will be cut off.
- c) For the scholarship grantee who doesn't get the money because they stop going to school before the money transferred into the school bank account, the money will be transferred back to the government.

B) *For School*. The government builds some infrastructure like a toilet or lavatory according to the number of classes in the school. For example, if the school only has two classes, they will build only one toilet. The government also provides furniture and textbook to the school. But according to this year's budget, the

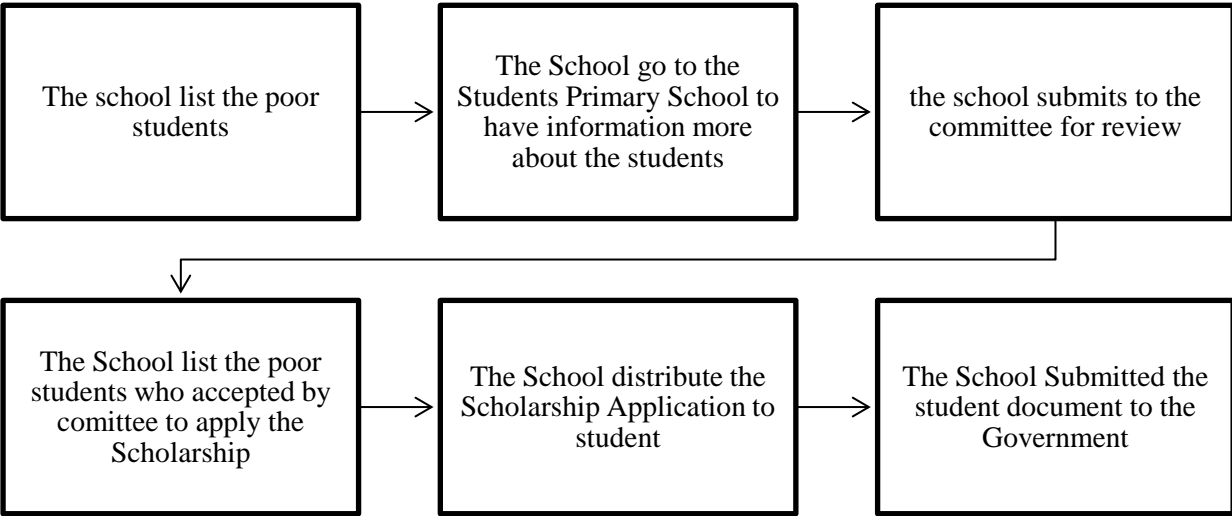
textbook is not enough to be provided. The local government has to provide 200 textbooks, but because of the budget from the central government, they only can provide 150 textbooks. The government also provides money to the school to manage its necessity. The amount of money that will be provided is based on the total number of students that school recorded. For the school located in a rural area, one student is counted for 8.5 dollars, while for the school located in the town, one student is counted for 7.5 dollars. Some schools are still underfunded will ask rich people or community to help them support what they are needed for managing the school like repair broken furniture, etc.

C) There is an education campaign or socialization for parents to increase their awareness of education importance. The school collects students and parents to go to school in the new academic year from November. The principle must encourage parents to motivate their children to go to school and explain how the school runs for an academic year.

2) Action from School

School has given the effort to prevent school dropouts in various ways, which are explained below.

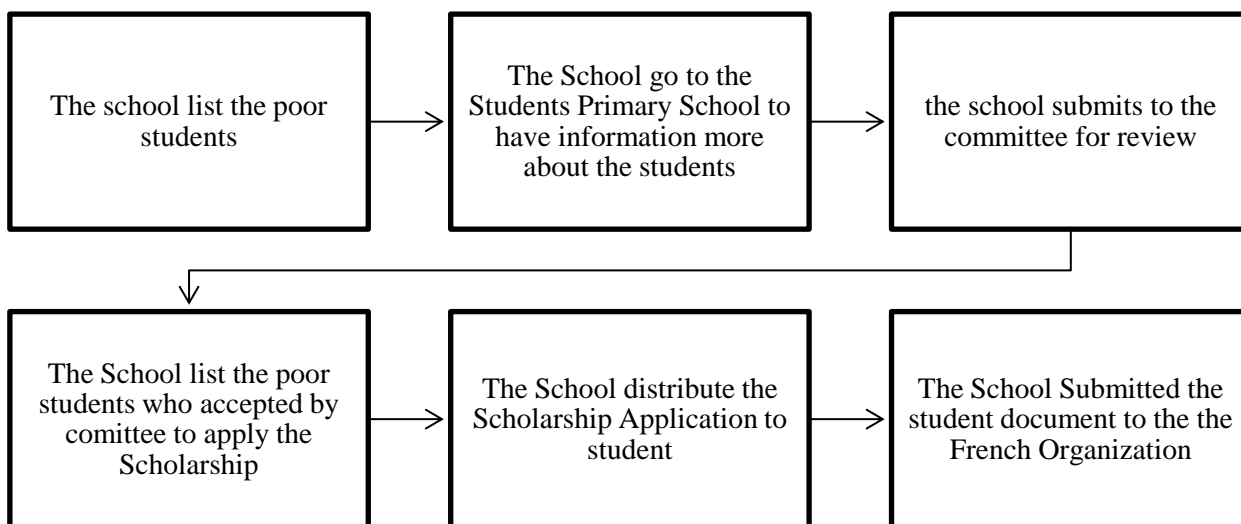
A) Schools actively contribute to the Government program, especially in the scholarship program. Below is the process of selecting scholarship students in the school.



The scholarship program from the government requires:

- a) For Grade 7, student performance and attendance while in the primary school to apply for this scholarship
- b) After they got a scholarship, they will be evaluated by their performance in the class and their attendance.
- c) If the scholarship grantee does not come to school for three consecutive days, the school will report it to the government, and the scholarship will be revoked.

- B) The school sends the teacher to the teacher training program held by the Institute National of Education. This program is a two-year program that equals the bachelor program. Moreover, this Institute National of Education also conducts a program for principle.
- C) The school cooperates with the community where the students live to encourage the students to always go to school and give free private class to students.
- D) For poor male students, with cooperation with the community in Pagoda, male students can stay in Pagoda, and they will provide them food and transportation to school. While for female students, there is a female dorm with help from Marico (Japanese organization mentioned above), so female students can stay in the dorm inside the school.
- E) The school also created a community whose members consisted of school principals, teachers, parents, head of a commune, head of the village, and head of the district. This program serves to make communication between schools and the community. The Principle sometimes will invite the head of commune or village to come and see how is the learning and teaching process and other activities in the school as well as parents.
- F) The school coordinate and cooperate with other organization such as the French Organization to provide scholarship for poor student. The Process for Scholarship Program by The French Organization.



This scholarship requires

- a) For Grade 7 student performance and attendance while in the primary school to apply for this scholarship
- b) After they got a scholarship, they will be evaluated by their performance in the class and their attendance.
- c) If the scholarship grantee does not come to school for three consecutive days, the school will report it to the government, and the scholarship will be revoked.
- d) This scholarship provides until students graduate from grade 12
- e) If the scholarship grantee has an excellent performance, the organization will give them the opportunity to continue their studies at university. If they want to continue to study for a bachelor's degree but want to work, the organization will support as well.

3) School Dropout Prevention from Parents Perspective

Although there are various good programs provide and implemented either by government or school, in the parents of school dropout student's perspectives, the programs do not reach them or not well implemented because of some factors.

- A) They do not get enough information, especially about the scholarship program.
- B) They are too busy to attend parent's socialization, and transportation is insufficient for them to go to school.
- C) They are afraid of becoming failed if they apply for the scholarship, so they decided not to apply it.
- D) Both the Government and the school side do not know precisely what the student need, which is transportation.

According to the parents, there are some ways that might prevent school dropout from their perspectives, and they emphasize the role of school, which should

- Provide students and parents with more support. Give them more information; if it is possible, the teacher should do home visiting.
- Increase scholarships to needy students. The number of scholarships that provides either from government or NGO is not enough to cover all poor students in the area near the school.
- Contact the students' parents who are absent a lot in class. There is no communication between teachers and parents. Most parents do not know that their children are dropped out.
- Create more programs for the students. Schools should provide an additional class for students who difficult to understand particular subjects.
- Improve teachers teaching the way. By improving teacher teaching ways, it will become more innovative and can motivate students to learn more.
- Monitor teachers' attendance carefully. Some teachers are often absent and cannot teach. So, if school monitor teacher attendance, the teaching and learning process will become active.
- Monitor students' attendance regularly. It is the school responsible for school to monitor their students and report to the parents about student's performance and attendance in the school.
- Transportation to go to school. Most of the students were dropped out because of a lack of transportation. Not only because of distance but also the concern of safety.

4.2 Discussion

Based on the findings, most of the parents recognize that education is important for their children. They concerned about their children's future because the lack of education will affect the job opportunity ahead. As Catteral (1985) mentioned, education could increase employment opportunities, and dropout students will find it challenging to compete to have higher-paying occupations. Most of the parents understand this condition and try to motivate their children in various ways, like give good words to motivate them and promise their children to buy something that their children want. However, their children's situation is affected by factors that can be divided into five groups: geographical factor, student factor, family factor, school factor, and social factor.

Geographical factors and school factors, according to Ban and Kim (2015), are in one group, which is school factors. But in this research, it is divided into two groups to make it easy to understand. Among five groups of factors, geographical factors, and family factors become the main issue to lead these children to stop from going to school. The parents are afraid about the safety of their children because of the road condition, and there is no public transportation. This statement support by the student perspective and school perspective, which lacks transportation along with difficulty in reaching the school because the minimum of infrastructure becomes the main issue.

Moreover, family factors also play a crucial part in led children to dropout. All the families said that financial problems made them have no choice to make their children help the house chores like take care of the family member (siblings or grandparents), take care of the cows, and work in the Chinese industry. Based on figure 3 explained by Ban and Kim (2015), family factors in level 1, which have a strong influence on making children dropout of school. Otherwise, the geographical factor which is included in school factors is level 2.

As shown in the findings part, to decrease the number out of school children, the government, along with the school, is implementing some programs. According to Harmon (2017), there are 15 most effective dropout prevention strategies represented in programs divided into four groups: School and Community Perspective, Early Interventions, Basic Core Strategies, and Making the Most of Instruction. But in Cambodia, especially in Kampot province, the government does not implement all 15 effective strategies in 4 categories but only in categories which are school and community perspective and early interventions have been implemented. In the school and community perspective category, the government, especially with initiative from the school principal, made a program School-Community Collaboration which all groups in a community provide mutual support to the school. Also, made Safe Learning Environments, a safe learning environment provides daily experiences at all grade levels, which enhances positive social attitudes and practical interpersonal skills in all students. In the early intervention category, either government or school invited parents to engage more in school activities with the parent's campaign program. This program is expected to increase the awareness of parents to the importance of education. Also, the government makes scholarship program to ease the burden of the low-income family to give them education access for their children, in a way with that; the school also try to find more cooperation with others NGO to provide the scholarship for their student. However, this government and school prevention program did not achieve success because of certain situations.

- 1) Low education from parents made them not aware of their children school life
- 2) The minimum information that parents got about the programs
- 3) There is limited communication between school and parents.

In the parent's perspectives, they emphasize the role of school to have more concern about their student performance. Most of the parents agreed that the best way to do to prevent dropout cases if the school can make a bridge between parents and the school itself. They want the school to communicate and give the information more about education and make more attention to their student performance as well as their problem. However, to be highlighted to these findings, the parent engagement in school activities seem to have a role to become factors of dropout case. Akyeampong (2009) mentioned that Socio-economic support and

interest from the parents' perspective have a great deal of influence on children's participation and level of success attained in education, especially female students.

5. Conclusion and Recommendations

5.1 Conclusion

From the parent's perspective, Education still becomes an essential thing for their children. They do not think that dropout of school is a good thing, and they tend to be afraid of their children's future since they dropped out. However, there are not so many things to do because of certain factors that lead their children to decide to drop out and stay to not continue their studies.

The geographical factors which are the long-distance between their home and the school with insufficient transportation make it the main reason for most of the students to dropout of school. In addition, there is not so much support from the family, especially parents, even though they think education is needed for their children. Most parents make difficult choices by prioritizing the work of their children over education because of the financial problem. Some of their children even have to work to support their families.

The government, together with the school, has tried to implement some prevention to decrease the number of schools. But the programs, for example, scholarship, did not reach these families who have school dropout children. Lack of concern to their children's activity and communication with the school, made the parents did not know about the program and afraid to apply for the scholarship. To be highlighted, in the parent's perspectives, the school must be proactive in making a bridge between parents and school to have better communication and to prevent further dropout cases.

5.2 Recommendations

Based on the findings, there are some recommendations that can be concluded for parents, schools, and government.

1) Recommendation to parents

To prevent school dropout, parents should pay more attention to their children's school life by:

- 1) Make sure that their children attend class regularly.
- 2) Contact the class teachers regularly to talk about their children's studies and performance at school.
- 3) Check their children's homework, books, and help them with their studies.
- 4) Discuss with their children about their problems facing in school.
- 5) Discuss with their children about their future.

2) Recommendation to School

There are some actions has done by the school to decrease the number of dropout students at their school, to make it more successful, here are some recommendations that schools can apply.

- 1) Provide a more comfortable environment to learn and more books to read
- 2) Hold extra classes more often and make it free of charge, if possible, to help with slow learners catch-up
- 3) Contact students' parents often to let them know about their children's academic performance, attendance and school life
- 4) Hold more school events to keep the students engaged in school life, for example, extracurricular activities
- 5) Keep holding more community involving events

3) Recommendation to the Cambodian government

The government has so many efforts in a whole country to make the number of school dropout students smaller, and to support the government action, here are some recommendations explained below that can be implemented.

- 1) The government should explore and investigate the core problem. Most of the problems are because of the infrastructure, especially road conditions to the school. The parents are afraid of the safety of their children. The government should provide transportation or build good roads.
- 2) The government should provide enough budget for teacher and school
- 3) The government should provide sufficient scholarship because there are still many students who have poor background cannot get the scholarship.
- 4) The government should hold more campaigns about education for parents. This kind of campaign can improve parents' awareness and motivate them to order their child to go to school.

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