

Mukdahan's Special Economic Zone: Potential Impacts and Local Knowledge as Social and Environmental Safeguards



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List of acronyms

SEZs	Special Economic Zones	1
ASEAN	Association of Southeast Asian Nations	1
RRAFA	Foundation of Reclaiming Rural Agriculture and Food Sovereignty Action	4
LocalAct	Local Action Links	4
TPBS	Thai Public Broadcasting Station	4
NHRC	National Human Rights Commission	4
MCC	Mukdahan's Chamber of Commerce	5
EIA	Environmental Impact Assessment	5
CPD	Council of Political Development	7
NCPO	National Council for Peace and Order	8
NESDB	National Economic and Social Development Board	8
NGOs	Non Governmental Organizations	8
SEZPC	Special Economic Zones Policy Committee	8
EWEC	East-West Economic Corridor	9
FMI	Federation of Mukdahan Industries	9
BOI	Board of Investment	10
SEA	Strategic Environmental Assessment	25
OTOP	One Tambon One Product	30

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Introduction

The establishment of the Association of Southeast Asian Nations (ASEAN) Community makes the Mekong sub-region an interesting site of business investment. It not only supports cooperation but also increases the competition within Southeast Asia, especially in the economic realm. One of the ways the Thai government has responded to this is through the declaration of ten Special Economic Zones (SEZs) in ten provinces in Thailand. Through the SEZs, the aim is to reduce the tax for investors to become parts of the East-West Economic Corridor strategy – an international path for trading that extends from Vietnam to Myanmar. However, the SEZs have caused several questions to be raised by local people and different sectors who are concerned about the possible impacts on the local livelihoods and the environment. This research project emerged as a part of this concern, with an aim to create a more inclusive economic policy within Thailand and the Mekong sub-region.

This research project aimed to study the environmental and socio-cultural impacts and local responses to the SEZs in order to support the development of local safeguards in one of the first five SEZs: the Mukdahan's Special Economic Zone. The acquisition of land to build the first industrial estate in Mukdahan's SEZ, part of a mega economic project implemented by the government to increase the national gross domestic product (GDP), has so far been carried out without undertaking an Environmental Impact Assessment.¹ The research attempts to describe and explain the impacts of the industrial estate to determine the main factors which should be of central consideration in the decision-making process.

The research sought to address the question: How can social and environmental safeguards lead to better land governance in the Mukdahan SEZ? To answer the question, the process of establishing Mukdahan's SEZ was examined, and how it has, or has not, responded to the concerns of local people. The local conceptualisations of Three Thams – namely, thammachat (environment), thamma (justice), and watthanatham (culture) – was used as the main framework to analyse the project. Local people are most concerned about how these three areas are affected by the formation of the SEZ² as they shape the core beliefs and life of the community. The benefit of the research is not only to contribute to the understanding of the impacts of large-scaled projects, but also how academic work can support the consideration of local forms of social and environmental safeguards in government policies.

The research used a qualitative approach, and employed the methods of action research and in-depth interviews. Action research was used in order to involve local groups and stakeholders as part of the research design, data collection, and analysis. The duration of

¹ According to the Ministry of Natural Resources and Environment's Announcement on August 31, 2009, any plan to construct an industrial estate requires an EIA. However, so far no EIA has been conducted.

² Tungkulwattana, Kittirat. Interviewed by Nattapon Sukprasong. Mukdahan, 12 November 2015

the research was six months, from May to October 2016. Concepts such as social justice and public participation were used in understanding the processes of land acquisition, equitable economic opportunities, local expectations and local responses of development projects.

II. Research Approach

The research employed qualitative methods, and integrated the knowledge of several social science disciplines, namely sociology and anthropology, development studies, ecology, economics, and political sciences. This interdisciplinary approach was handled by a research team who have different social science backgrounds.

A method of action research was used to encourage public participation in research planning, data collection, and analysis. In the initial stages of the project, local groups and relevant stakeholders were invited to a meeting to inform them of the project plans and encourage them to be part of the research process. The research framework was also shared with participants to ensure that they could provide input with the view of making the research relevant and useful to the local communities.

In particular, the following methodologies were employed in the research:

1. Studying and developing the research framework

2. Developing connections and data gathering

2.1 Meetings with different groups and stakeholders to introduce the research project and objectives, and receive feedback on the research questions and guidelines.

2.2 Data gathering on local knowledge and perspectives on SEZ, the three tam's concepts and other related concerns.

2.3 Data gathering on perception of different stakeholders on SEZ.

2.4 Data gathering on focused research areas and concrete impacts of SEZ, including strengths and weaknesses.

2.5 Interviews with small and big business groups.

2.6 Interviews with academics and government staff at local level.

2.7 Interviews with academics and government staff at policy level in Bangkok.

2.8 Analysis meetings with local groups.

3. Field work in Ao Udom community and Laem Chabang Industrial Estate, Bang Lamung, Chon Buri province to allow participants to better understand the SEZ and positive and negative impacts, as well as share experiences with groups working on SEZ. This formed part of the action research component of the project which aimed to raise awareness and knowledge of participants.

During the field trip, the participants had a chance to discuss the capacity of local people and local knowledge on social and environment safeguards for Mukdahan SEZ and the industrial estate with the resource persons.

4. A workshop was conducted to present the first draft research outcomes to all stakeholders, the local community, government officials, civil societies and the private sector. The aims was to discuss and receive feedback on the research outcomes and gather recommendations from local groups and other stakeholders. Following the workshop, a second stage of data collection took place to gather more information in response to the feedback and reflections.

5. A public conference was organized to raise the issue with people in Mukdahan and the public media. The conference opened with a panel composed of the Mukdahan Vice Governor and the Vice President of Chamber of Commerce, as well as representatives from a local community, the National Human Rights Commission, academia and the mass media. Most of the participants were affected local people. Also in attendance was the Secretary General of Chamber of Commerce, the Vice President of the Federation of Mukdahan Industries, and representatives from the local and provincial governments.

6. Research analysis and report writing

A consortium was established to support the research, formed of:

- Foundation of Reclaiming Rural Agriculture and Food Sovereignty Action (RRAFA)
- Local Action Links (LocalAct)
- A lecturer from Rajapatra Sakonnakhon University
- Local Government representative from Kham Aa Huan Municipality, Muang, Mukdahan
- A reporter from Thai Public Broadcasting Station (TPBS)
- A member of a sub-committee on Community Rights under the National Human Rights Commission (NHRC)

III. Description of the Site

The site of interest covers three districts in Mukdahan, Thailand that are declared as Special Economic Zone – namely, Muang Mukdahan, Wanyai, and Dontan District.

3.1 The Scene

Over the past several years, economists in Thailand have been raising the topic of the “middle-income trap”. The middle-income trap refers to the status of the countries formerly categorised as “poor” that have rapidly moved up to be “middle-income” countries. However, after the quick improvement, the countries’ economic growth becomes stagnant and the rate of improvement slows down. There are several factors that contribute to such a “trap” – for instance, the rise of the national minimum wage without improvements of labour quality. Economists have been trying to understand this phenomenon and find ways to avoid the stagnancy by advocating for a creative economy (Public Policy Institute, 2013).

Current government policies aim to increase the national GDP through advancing large-scale investment projects, including new Special Economic Zones (SEZs). For this research project, the subject of concern is the establishment of the SEZ in Mukdahan. Mukdahan is one of the five border provinces where the Thai government declared a SEZs on June 19 2013. The area of Mukdahan’s SEZs currently covers 361,524 rai (approximately 578.5 square kilometres) of the province’s three districts, and there is a very high possibility that it will expand to two other districts in the future. The prosperity of the border economy of Mukdahan is owed to the construction of the Second Thai-Lao Friendship Bridge that has been supporting the provincial and regional economy since January 9 2007. Mukdahan possesses a geopolitical advantage that encourages the flow of finances and labours as it stands on the Mekong river bank across from Savannakhet, the second largest city in Lao People’s Democratic Republic (Lao PDR). According to Board of Investment (BOI) of Thailand (2015), there are five types of investment that Mukdahan’s SEZ is suitable to support – namely, 1) agriculture, fishery and related industries, 2) electric and electronic industries, 3) logistics, 4) industrial development, and 5) tourism.

At the time of conducting the research, the government had marked an area of 1,085 rai (1.736 square kilometres) within the zone as space for establishing an industrial estate. According to Mukdahan’s Chamber of Commerce (MCC), a small part of the area was formerly used for agriculture and was occupied by one family, while the rest of the land had been used by the Mukdahan’s Agricultural Research and Development Centre, and Animal Nutrition and Development Station. The marked 1,085 rai is considered state’s land. Until now, the process of prospected industrial estate establishment has not included an Environmental Impact Assessment (EIA).

Kittirat Tungkulwattana (2015), the Secretariat of MCC, said that the fast pace of Mukdahan’s SEZ development deserves more careful attention. The original plan on the entry fee for the concession grantee that would take managerial legal rights of the industrial estate was set at 320,000 Baht per rai. The amount was to be paid after the first five years.

However, a regulatory plan to lower the fee to half the price - 160,000 Baht per rai – has now passed to the cabinet, and it is very likely the cabinet will approve such plan to improve the competitiveness of Mukdahan's SEZ. According to the Secretariat of MCC, the province stands low in the rank of investment attractiveness among investors³. Due to the lack of transportation infrastructure, such as an airport, the SEZ of the neighbouring city of Savannakhet - Savan-Seno, can attract more investors. Furthermore, Mukdahan is less favourable among investors because of the higher minimum wage of Thailand in comparison to Lao PDR or other countries in the ASEAN Community.

The governmental and business sectors both realise the limitation of Mukdahan in transportation and other general infrastructures. According to the local people, there is a high possibility that the government may attract more investors by expanding the area of the indicated industrial estate. Furthermore, from the evaluation of the Chamber of Commerce, the industrial estate needs over 45 percent of the whole area to build the infrastructure. If the plan to expand the area becomes a reality, the extended area will impact many people's land. There has not yet been a concrete consideration about the environmental impacts on the villages and land surrounding the industrial estate.

According to the Secretary General of the Chamber of Commerce, the central government cannot provide a budget specifically for SEZ's infrastructure development because of the country's economic recession. The responsibility thus falls onto Mukdahan's provincial government to manage the state's annual budget, which now has to be shared between the SEZ and other existing sectors that depend on their regular share of the annual budget. Furthermore, the plan of constructing an airport has also created a debate among the leaders of the governmental and business sectors. The debate involves some controversies about the rise of the cost of the land that each leader owns, and the benefit one would receive from the airport's location.

At this point, it is evident that there is currently a lack of inclusion of the public's opinions. The realities of the local people are often different from those being portrayed by the leaders of different sectors. Currently, there are three main groups that are negotiating their visions of the SEZ in Mukdahan – namely, the governmental sector, the business sector, and the people sector.

First of all, the governmental sector comprises of those who work in the provincial hall, such as the provincial governor and the district officers. They are the people who are, according to their job responsibilities, obliged to follow the orders of the central government. More specifically, in the establishment of the SEZ, the governmental sector has the duty and is expected by the business sector to communicate with the local people, or – in the words of the secretariat of MCC, to “make people understand” SEZ. Secondly, the business sector represents those who run small- and large-scale businesses. The main organisation to louden

³ Kittirat Tungkulwattana, interviewed 12 November 2015.

their voices is the MCC. Despite some diversities in opinion within the sector, the board of the Chamber of Commerce is the main actor in the debate regarding Mukdahan's SEZ. Although the Chamber claims that they also consider the economy of all small-scaled businesses, such as those of mobile vendors, the reality is that they are often overlooked. It is also important to note that the business sector mainly aims to protect the benefits and commercial growth of the province as a whole, and not specifically those of the local people who do not own a business. Thirdly, there is the "people sector". The leaders of the people sector claim to guard the well-being of the locals. Although not registered as a formal organisation, the people sector is supported by the funding of the Council of Political Development(CPD), an institute that aims to support people participation in policies and development under the law of CPD. The roles of the CPD include organising public debates and inviting those who might be affected by the SEZ in order to understand their concerns.

It is important to recognise that each sector is not homogenous, for example, a person who officially has a position in the Chamber of Commerce may also support the people sector. Furthermore, even in the same sector, there are conflicts of interests and opinions. Therefore, each sector's interests may overlap one another depending on the specific policies of the SEZ.

The planning and negotiations usually only involve the representatives of each sector – not the public themselves. Initially, when the provincial government communicated with the public about the SEZ, they concluded that there would be "only positive impacts" on the local communities. The promises of economic prosperity and more job opportunities overshadowed the negative environmental, social, and small-scaled economic impacts on the locals and the higher chances of land confiscation from multi-national companies and the governmental agencies. According to the local people, the views and ideas of Mukdahan's SEZ were not only diverse, but also ambiguous. The single-sided communication from the governmental and business sectors did not seem to convince the locals, but instead created doubts regarding the impacts of the SEZ. Only later, when the people sector formed itself as a stronger actor in the area could the representatives form concrete opinions to represent "mutual" concerns. Nevertheless, there is still a big gap of information sharing between the people sector's leaders and the local people.

In late May 2015, the Thai Public Broadcasting Station (TPBS) broadcasted the concerns of the local people over the rights to the land they inhabit. The portrayal of a local community leader who shed his tears on television caused a striking controversy within Mukdahan. Sector representatives emphasised the inefficiency of communication between the government, the business, and the people. It was also questioned by the reporters whether the implementation of Mukdahan SEZ has overlooked the underlying issues of insecurity and powerlessness of poor people in the development project.

Capital flow also needs to be considered. The fast growing economy of the Mekong Region inevitably attracts multinational companies to expand their market to Southeast Asia. Especially since the establishment of the ASEAN Community in 2015, interests for

investment in the area have risen significantly. For example, according to the secretariat of Mukdahan's Chamber of Commerce, the SEZ has been attracting significant attention from Japanese multi-national companies that wish to trade their goods across Southeast Asia, from Vietnam to Myanmar. Unfortunately, it is likely that much of the investments in the area will not adequately benefit the local people.

It is also important to recognise that the people sector and the local groups in Mukdahan are not a static structure. They are dynamic and trying to mobilize themselves by seeking more facts on SEZ with the support of the Council of Political Development. These actions are also empowering the people's agencies to move towards more inclusive economies and policies.

3.2 Mukdahan Special Economic Zone: Development Processes

The Concept of Border City Development

The announcement to establish the SEZs from the order of the National Council for Peace and Order (NCPO) number 72/2557 on June 19 2014 was another turning point of land management in the neoliberal economy of Thailand. An important purpose of the SEZ is to attract more investments from both national and international investors and to develop the border economy. The aim is also to modernize and improve the living quality of the non-central provinces as a way to develop sustainably and to advance the local's competition capability in terms of the economy (National Economic and Social Development Board, 2016). In other words, it is a plan to elevate the area from being merely a border province to have a wealthy border economy and trading province.

The policy to establish SEZs along the border provinces is not new in Thailand. A draft "Special Economic Zone Act" was issued on January 11 2005, and set Mae Sot as an example of both a SEZ and border economy zone. The plan was heavily criticized then rejected by the civil society, Non Governmental Organisations (NGOs) and academics because it was seen as degrading to the locals' land rights and freedom, especially in terms of the environment. It was also seen as over-prioritising international investors' privileges. The draft act remained forgotten until Yingluck Shinawatra became the Prime Minister when, on July 24 2013, the Office of the Prime Minister issued a Prime Minister Regulation on SEZ. This Regulation expanded the definition of SEZ to the areas that were not necessarily demarcated as border economic zones (Rawadee Kaewmanee, 2005). Following this, the National Economic and Social Development Board (NESDB) inspected the areas suitable for establishing the new SEZs and a decisions was then made to establish twelve SEZs. Of the twelve SEZs, three SEZs were established in the North-eastern region of the country, namely: Nong Khai, Nakhon Panom, and Mukdahan (Land Watch Thai, 2016).

Approximately one month after the NCPO announced the establishment of SEZs, there was a reconsideration to adopt the SEZs establishments plan. Under order number 72/2557, the Special Economic Zones Policy Committee (SEZPC) was founded. The Committee, which Gen. Prayuth Chan-ocha is the head, is responsible in encouraging the

trading and investments in the SEZs (Mukdahan Provincial House, 2015). The Committee granted permissions to establish six SEZs in the first phase of the plan (2015-2016). These are all border provinces, namely: Tak, Nong Khai, Songkhla, Sa Kaew, Trad, and Mukdahan. January 1 2015 marked the first day of enacting the plan (see picture 2).

Mukdahan as an SEZ Province

The conditions and factors that made Mukdahan a suitable province for the first phase of the SEZ are the following:

1. The border economy of the province has been on the rise since the opening of the Second Thai-Lao Friendship Bridge. The total trading value in 2013 was at 109,564 million Baht. Even though the opening of the Third Thai-Lao Friendship Bridge in Nong Khai affected Mukdahan's economic growth in 2014-2015, the growth was expected to be as high as 47,587 million Baht in the first quarter of 2015 (Rungpech Kantabutr, interview 27 July 2016). It is seen that the export rate in Mukdahan is higher than the import rate. The main exported goods are electronics and automatic machines, while the imported goods are mostly copper. The growth rate increased significantly after the Free Trade Agreement of the ASEAN was started (Kittirat Tungkulwattana, interviewed 12 November 2015).

2. Mukdahan is on the East-West Economic Corridor (EWEC), which extends from Mohlameng, Myanmar to Mukdahan (via Mae Sot), and then further to Nanning, China through to Savannakhet, Laos and finally to Danang Port, Vietnam (see picture 1). The total distance of the Corridor is 1,347 kilometres. The advantage of the EWEC is for Mukdahan to become the processing zone. Furthermore, the 212 Road in Mukdahan also leads to Laem Chabang, another important industrial estate zone.

Apart from the economic growth that Mukdahan SEZ may bring if successful, it is believed that it will also help in fixing national security problems such as drugs, human trafficking, and illegal labour. Thammarak, the vice governor of Mukdahan, claims that the economic policy of the government tries to improve the overall well-being of the province. This point of view is on a par with the aims of the business sector leaders such as Somsak Sriboomruang (Secretary General of Mukdahan Chamber of Commerce), and Kittirat Kultangwattana (Vice President of the Federation of Mukdahan Industries: FMI).

Picture 1 Mukdahan located on the East-West Economic Corridor (EWEC) with connection to Lao PDR and Vietnam



Source: <http://thedevelopmentadvisor.com/news/myanmar-thailand-laos-vietnam-east-west-economic-corridor/>

Mukdahan Special Economic Zone comprises of 11 sub-districts in the 3 districts of Mukdahan Province, as follows: (see picture 3)

- Muang Mukdahan District: 5 sub-districts including Si Bun Rueang, Mukdahan, Bang Sai Yai, Kham Ahuan, and Na Si Nuan.
- Wan Yai District: 4 sub-districts including Bang Sai Noi, Chanot, Wan Yai, and Pong Kham.
- Don Tan District: 2 sub-districts including Pho Sai and Don Tan.

There are five target industries that Board of Investment (BOI) suggests for Mukdahan SEZ, namely: 1) agro- and fishery industries, and related activities, 2) electronics and electrical appliance industries, 3) logistics, 4) industrial zones or industrial estates, and 5) tourism promotion service and activities to support tourism (Board of Investment BOI, 2015). In addition to the five industries, an announcement (number 4/2558) by the SEZPC included ten more target industries. These are plant drying and silo, production from agricultural wastes, metal structure for construction and factories, printing, animal food or ingredients production, construction tools and pressed concrete for public utilities (except ceramic tiles for roof, floor, and walls), body products, plastics for food packing, products from paper pulp, and factory and storage constructions (Mukdahan Provincial House, 2015).

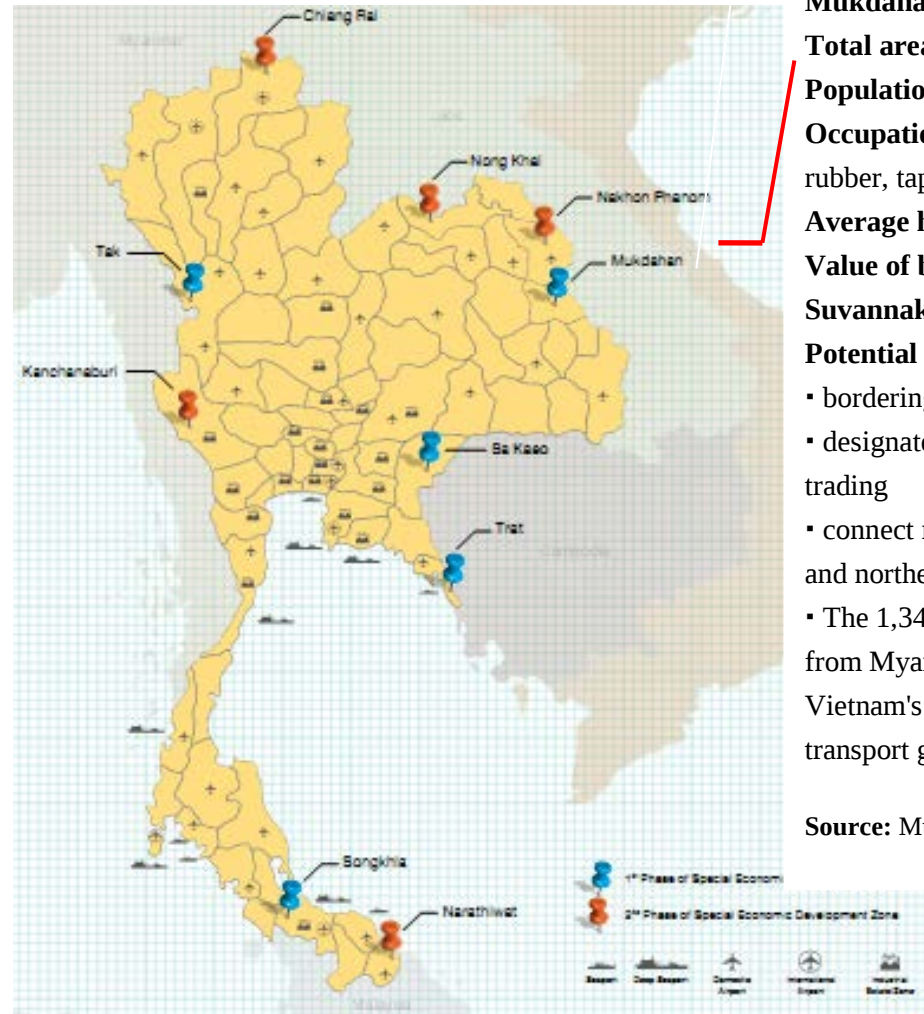
The main functions of Mukdahan SEZ are around “Trading Center and Multimodal Transportation”. In addition to this, the Industrial Estate Authority of Thailand plans to establish a logistics center and a small-scale industrial estate in Mukdahan. Possible activities to be encouraged would include agricultural and food processing, as well as production of household consumer items, automotive parts and motorcycles, and agricultural machinery and equipment for export to the Lao PDR and Viet Nam (see picture 2).

Picture 2: Overview of Mukdahan SEZ

→ The Special Economic Zones are scheduled in two phases. The first phase SEZ are located in the provinces of Tak, Mukdahan, Sa Kaeo, Songkhla, Trat and Nong Khai.

→ The Board of Investment (BOI) announced that Mukdahan Province was appropriate for activities from 5 industrial groups as follows:

1. Agriculture, fishery and related industries
2. Electrical appliances and electronics
3. Logistics
4. Industrial estates
5. Tourism-related industry



Mukdahan Province

Total area: 4,340 sq.km.

Population: 346,016

Occupation: Mostly farmers who grow rice, rubber, tapioca and sugar cane.

Average household income: 197,928 baht (2013)

Value of border trade between Mukdahan-Suvarnakhet: US\$5.4 billion (2014)

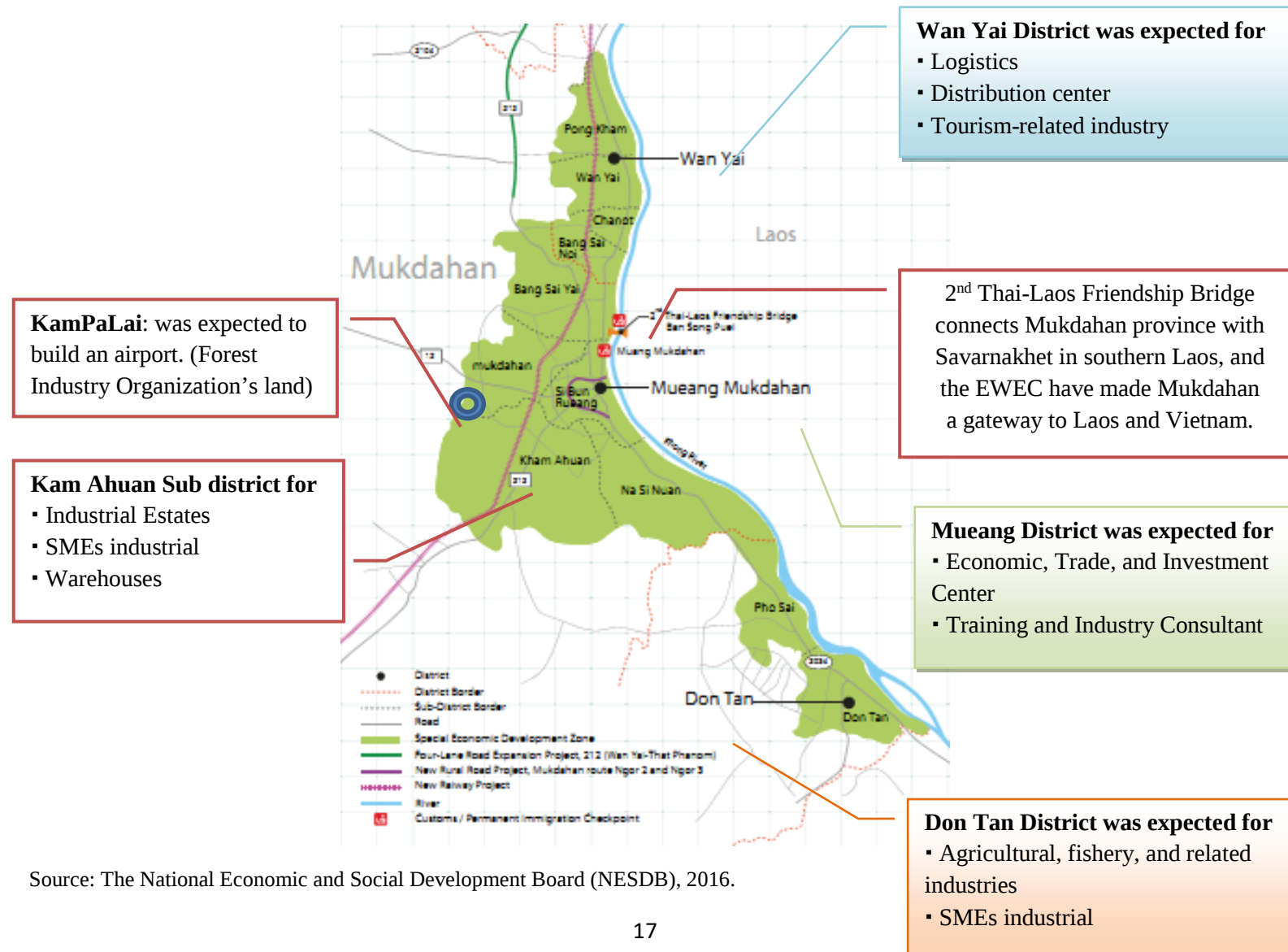
Potential areas

- bordering Laos
- designated for logistics services and cross-border trading
- connect major economic zones in Laos, central and northern Vietnam, and southern China
- The 1,347-kilometre EWEC route, which starts from Myanmar's Mawlamyaing state and runs to Vietnam's coastal city of Da Nang, will help transport goods and services.

Source: Mukdahan Provincial House

Source: www.thaigov.go.th

Picture 3: Assignment of Mukdahan's Special Economic Zone areas



Source: The National Economic and Social Development Board (NESDB), 2016.

The Progresses of Mukdahan SEZ

The preparation for establishing the SEZ has been supported by the central and local governments. A total of 21,333,659,302 million Baht has been approved for SEZ development between 2016-2020, to implement basic infrastructure, public utility, and other related areas such as environment, health, and labour improvements (National Economic and Social Development Board, 2016).

According to the Mukdahan Provincial House (2015), the following are on-going infrastructure constructions for the SEZ in Mukdahan:

1) The planning to construct Road Number 12, which will go through Na Krai Village, Amphur Kuchinarai, Kalasin, Amphur Kham Cha-ee, and Mukdahan, is underway. Currently, a consultant is being sourced to design the road plan according to the budget issued in 2015. The road will involve the acquisition of land for construction in 2016-2019. The decision to undertake the project was part of a Cabinet's order on December 1 2015 to construct roads that connect Mae Sot, Phitsanulok, Phetchaboon, Khon Kaen, and Mukdahan as a part of the East-West Economic Corridor (EWEC). This is also planned in accordance with the construction of the railways connecting these provinces (Mukdahan Provincial House, 2015).

2) Budget for waterwork improvements (see picture 4) was issued in 2015. The plan includes the establishment of a mobile plant (7,200 cubic metres per day) for a budget of 113 million Baht. It is expected that in 2016, the waterworks would be able to produce 7,200 cubic metres of water per day. In addition to this, the officials are looking for land to construct a new water distribution station (Mukdahan Provincial House, 2015). It is also planned that 6-kilometre pipelines will be built in the area of the industrial estate which will pass by the Pran-on and Kud Ngoong villages (see picture 5).

Budget 113.649 million Baht

New HDPE pipeline of 4.8 kilometres long

The mobile plant

พื้นที่ 1,080 ไร่

ท่อส่งน้ำดิบ HDPE 400 มม.
PN6 ความยาว 16.5 กม. (ใหม่)

กบด ได้รับจัดสรรที่ดิน
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ชม. พร้อมตู้ควบคุม

ท่อส่งน้ำดิบ 630 มม. PN10(เดิม)

จุดผ่านแดนที่แม่น้ำโขง

ต.บ้านทรายใหญ่

สะพานมิตรภาพ 2

ค.มุกดาหาร

ต.ศรีบุญเรือง

ถนนสาย 2

ถนนสาย 1

ถนนสาย 3

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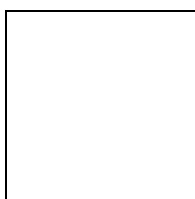
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Picture 5: Pipeline construction, supplying Mekong River water to the future industrial area



Source: Photo by Kittima Khumthong, 25 July 2016.

3) Construction of the Office of One Stop Service at Damrong Tham Centre at the Provincial Hall. The Office, however, would not have the authority to give special privileges to investors as it still depends on the BOI.

4) There has been an order from the Cabinet (according to the cabinet resolution on August 30 2013) to revise the city planning of Mukdahan to support the establishment of the new SEZ. However, the new draft on the new city planning has not yet been enacted.

There are also several other development projects in relation to the establishment of the SEZ such as:

5) There is a plan to construct the Mukdahan-Nakhon Panom 4 lanes highway. This is still waiting for approval.

6) There are plans to construct a double-track railway connecting Khon Kaen, Maha Sarakham, Roi Ed, Yasothon, Mukdahan, and Nakhon Panom as a part of the “Double-Track Railways to Develop Isaan Economy” project. The railways are expected to be 356.7 kilometres long. The approval was issued on April 20 2016 and the project is now waiting for permission to acquire the land. The railways will stretch across Kham Aa Huan for approximately 12.4 kilometres. This will likely affect at least 319 rai of the agricultural land of 40 farmers. At the time of writing, the affected people are demanding for compensation. However, as the land is mainly used for inhabiting and farming, there are growing fears that compensation would not be granted (Rungpech Kantabutr, interview 27 July 2016).

7) There is a plan to construct a new airport in Mukdahan, which will support trading and tourism in the area, as well as encourage investments within the SEZ. The leaders of the plan are Mukdahan’s Chamber of Commerce and Mukdahan’s Industrial Council. There is a proposal to use the 4,800-rai of land of the Forest Industry Organisation as the location of the new airport. Currently, Tak Airways Company Ltd. is offering to work on the plan.

8) Three electricity stations are being considered in Mukdahan. The stations will be in the industrial area of the SEZ. The plan is now being considered by the Cabinet.

9) On July 28 2015, the Labour Office of Mukdahan was the host of a conference to develop policies of Mukdahan SEZ in its first five years (2016-2020). The conference considered the preparation of transportation facilities, public utilities, and environmental management. In terms of preparation, there is a need to conduct several projects such as the

border trading centre, the construction of the airport, the reparation of the Pran-on Village-Kud Ngong Village road, the construction of the electricity stations, and waterworks. Furthermore, vocational workshops are necessary for training labours for factories (Mukdahan Provincial House, 2015).

3.3 Mukdahan: Three Thams as Impact Indicators

One of the most highlighted conceptualisations by the people sector is the “three thams” (*sam tham*) which comprise of environment (*thammachat*), justice (*thamma*), and culture (*watthanatham*). The three thams are what the people sector promotes as the values unique to their province. They believe that Mukdahan has a local-based economy that can work sustainably without the establishment of the SEZ. These core values include the immeasurable factors that people who are completely in favour of the government-led SEZ neglect. In this section, we explain the concepts of “three thams” and how they can serve as local impact indicators (Mukdahan Civil Society, interview 28 July 2016).

Thammachat means environment in Thai language. The local people use the term to refer to the rich natural resources that Mukdahan has. Unlike other Isan provinces that usually face harshly hot weather and little rain, Mukdahan is located in an area of Thailand that receives sufficient amounts of rain. As a result, over 30 percent of the territory of Mukdahan is covered by forest. Furthermore, according to the local farmers, the area’s soils contains plenty of agricultural nutrients, making the local agriculture crucial to Mukdahan’s economy. The land surrounding the proposed site for the industrial estate is either agricultural space or populated villages, and it is likely that the estate will affect the surrounding environmental wellbeing. For instance, transportation of chemicals and materials to the industrial estate may increase exposure of the local population to new health and environmental risks. The people sector has already communicated their concerns over the issue of “thammachat” and the potential impacts of SEZ in destabilising the local ecological system by converting the forests into industrial areas.

Thamma usually refers to Buddhist teaching, but in this case, the local people use the term to refer to “morality and justice”, which people hold to be unique to their sufficient lifestyles. Similar to other provinces in the region, Mukdahan hosts a majority of Buddhists. Local people are concerned if their local temples will be affected by the development of SEZ and are also worried about the risk of land appropriation by the central government and disruption of businesses in the village and temple areas. Furthermore, according to the Buddhist belief, the idea of industrial factories being located next to religious areas seems inappropriate to the locals. This links with “Watthanatham” or culture for the locals (below).

Watthanatham describes ways of living, or culture, in a general sense. The local people raise this issue as their unique quality as their simplistic way of life may vanish when the area is made a SEZ. So the local people emphasised “watthanatham” because it is unmeasurable by economic approaches. According to him, the SEZ may impose a new, urban lifestyle onto the local people. The exchange economy, which is still practiced in Mukdahan,

will be gone and replaced by the formal economy in which everyone has to work to buy industrial goods. The local leaders show their concerns over the “urbanisation” that the SEZ will impose on their province. In addition, the growth in population as a result of factory workers moving to the area, if poorly governed, may cause other social problems such as drugs and crimes, according to the locals. These social changes that occur at the micro-level are what seem to be overlooked by the supporters of the SEZ.

The three thams are the local indicators of SEZ impacts that the research would like to explore further. It is important to recognise what is important to the local people, and the three thams prove to be irreplaceable social and environmental mechanisms to the these people. According to the people sector’s leaders, the current SEZ plan will cause significant negative impacts on the three thams. While the SEZ is portrayed as not having any negative impacts on the local people by the governors, the local people have shared their concerns and doubts of the SEZ developments. They have been their own active agents, capable of expressing their aspirations and versions of the desired future. What is now needed is the support from the academic sector to strengthen their voice by formulating an academic understanding of the three thams. While it is recognised that there will be many benefits of the SEZ, the main concern is that the side-effects are overlooked. The ultimate goal of this research project is, therefore, to identify these side-effects and propose a safeguard system for more careful and inclusive developments in the area.

IV. Research Questions and Guidelines

The main research question guiding this project is: how can social and environmental safeguards lead to better land governance and development in the Mukdahan SEZ? The question consists of three detailed, smaller questions as follow:

- 1) In the case of Mukdahan's SEZ, how is land acquisition being organised and implemented?
- 2) To what extent, and how, are social and environmental safeguards being considered in the SEZ project?
- 3) What do civil society actors and local residents think about the SEZ, and how have they responded to the SEZ?

V. Research Outcome

The section will explain the research outcomes according to the three research questions, which are: 1) What is the process of land acquisition in the Mukdahan SEZ 2) To what extent, are social and environmental safeguards being considered in the SEZ project and 3) What do civil society actors and local residents think about the SEZ, and how have they responded to the SEZ.

5.1 The Process of Land acquisition for Mukdahan SEZ

The process for the designation of land for the Mukdahan SEZ began on November 17, 2014 at the SEZ Policy Committee (SEZPC) meeting. The Office agreed to assign 11 sub-districts in 3 districts of Mukdahan as the SEZ area, covering 361,524 rai or 578.5 square kilometres. On May 15, 2015 the Government Gazette issued Order No.17/2558 placing Gen. Prayuth Chan-ocha as the head of the National Council for Peace and Order on “Land Acquisition to Use for the Purposes of Special Economic Zones”. Chan-ocha employed the power of Article 44 of the 2014 temporary constitution to acquire the land for the planned SEZs. Invocation of the Order began the change in status of the land from private or public land, to “Ratchaphatsadu” status⁴. According to the Order, land currently used by the Agricultural Research and Development Centre II and the Animal Nutrition and Development Station in Mukdahan (approximately 1,085 rai) are declared as Ratchaphatsadu land (Benjarat Ratchamas, interview 27 July 2016).

The Area Selection Process

There are two processes for the selection process for the land for the SEZ:

1) The Area for Developing the SEZ

The area is approximately 316,542 rai of 11 sub-districts and 3 districts that are located next to the Mekong River bank within Mukdahan’s territory. According to Rungptech Kantabutr⁵, a technical expert at provincial government working on the SEZ development,

⁴ According to the official translation of Ratchaphatsadu Land Act B.E. 2518 (1975), “Ratchaphatsadu land” means every kind of immovable property which is State property except the following domain public of State:

- (1) waste land and land surrendered, abandoned or otherwise reverted to the State according to the land law;
- (2) immovable property which is in use for the people or reserved for the common use of the people such as foreshores, water-ways, highways, lakes.
- (3) An immovable property of State enterprise being a juristic person or an immovable property of local government organisation shall not be deemed as “Ratchaphatsadu land”.

⁵ Interview, July 27, 2016.

the land acquisition process for developing the SEZ started with the decision of the SEZPC. The SEZPC declared Mukdahan to be one of the SEZs. The National Economic and Social Development Board (NESDB) hired Panya Consultant Company to study the suitability of the area as an SEZ. The resulting proposal to the NESDB for an SEZ was approved on November 17, 2014. Yet, the official announcement, was only made after a Board meeting on January 19, 2015. (National Economic and Social Development Board 2016)

Notably, the selection process for the SEZ was unique as it was done without consideration by provincial government. Thus, the demarcated area was later challenged by the provincial officials.

After the demarcation of the three districts by SEZPC, the Mukdahan SEZ Provincial Committee with the governor as the head found two reasons for reevaluation of the demarcated area:

- 1) Water Pollution: The Provincial Committee was concerned about possible industrial water pollution due to the site's proximity to the Mekong River. As the majority of the site was to be located next to the river, the Provincial Committee believed that a factory in that area would cause water quality decline, especially as the Mekong River's water supplies water to the Amphur Wan Yai area.
- 2) Future Property Value: The prices of land in the three amphur are projected to rise which affects investment decisions.

Accordingly, the Provincial Committee proposed three SEZ models to the SEZPC as solutions. (Mukdahan Provincial House, 2015):

The first model proposed an alternate site in an area 15 kilometres away from the Second Thai-Lao Friendship Bridge in a cylinder or simple shape for levelling down the investment cost from the investors, as the shape proposed before was a zig-zag shape which will increase the investment cost from the investors. This model was proposed by MCC to increase the rate of development and avoid contamination of the Mekong River.

The second model suggested an expansion of the area of the SEZ to cover two other amphur, namely Nikohm Khamsoi and Kham Cha-ee. The benefit of Nikhom Khamsoi was its connection to an important road (Road no. 212) that connected Mukdahan with Laem Chabang Industrial Zone and Bangkok. Kam Cha-ee, was itself a part of the EWEC. The expansion to the two amphur would attract logistics businesses as it offered the opportunity to go directly to the customs and the Friendship Bridge located only 35 kilometres. This model was designed by the Provincial Committee.

The third model proposed to expand the SEZ to cover the whole province (all the seven districts) to decrease the land price increase. The notion was that if the area was larger, investors have more choices to build their businesses. Furthermore, the distance between the Provincial House to every District Office is no longer than 70 kilometres. The Provincial Committee was also the inventor of this model.

On June 23, 2015, Sarit Boonpradit as the governor of Mukdahan adopted the second model and declared 377 square kilometres of Nikhom Kamsoi and 713 square kilometres of Kham Cha-ee as a part of the SEZ. He pointed out the benefits of doing so as they two amphur contain large pieces of land that are big enough for new businesses, also their locations and existing infrastructure are suitable to be developed as SEZ. The two are also not far from the border (Rungpech Kantabutr, interview 27 July 2016).

However, the sub-committee of SEZPC refused to the second model chosen by the governor, based on concerns that there are forest areas in two of the amphur, Nikohm Khamsoi and Kham Cha-ee. So finally the sub-committee gave permission only the first 3 amphur to be the Mukdahan SEZ area.

2) *The Area Designated for the Industrial Estate*

This area was designated as an industrial estate for industries such as trading, tourism, and other kind of businesses. The area would also allow factories as a part of the industrial zone. SEZPC issued the order to use the land of the Agricultural Research and Development Centre II and the Animal Nutrition and Development Station for this purpose on March 16, 2015. The land covers about 1,085 rai in Tambon Kham Aa Huan, Amphur Muang and is designed to be the first area for lease for businesses (see picture 6 and 7).

One of the main purposes for demarcating the mentioned area is to solve the possible problem of expensive land for investors. Since the announcement of Mukdahan SEZ establishment in 2015, the cost of land in the three amphur increased at least 30 percent and is likely to continue increasing. This issue makes it more expensive for investors to purchase larger plots of land. In response, the NCPO issued order number 17/2558 on May 15, 2015 to assign the status of ratchaphatsadu for land within the demarked area. Later, these ratchaphatsadu land would be titled which investors could rent those land in a price the state defined. Thereby this will decrease the land price to attract more investors as they do not have to buy big piece of land for their investment, but rather rent big piece of land that the state provided.

Benjarat Ratchamas⁶, Head of Treasury Office of Mukdahan, and Rungpet Kantabutr explained the process of land acquisition in the SEZ. After the NCPO issued its order, the provincial government established a committee responsible for zoning the area for investment, planning, and the use of land in Mukdahan. The vice governor is the president of the committee which also includes representatives from the government, business sectors and the civil society. According to Ratchamas and Kantabutr (2016), the committee adopted the the following approaches to acquire the land:

First step: the committee inspected the state's land within the marked SEZ area with the breakeven point at 2,000 rai to be worth for the investment. The inspection found the

⁶ Interview, July 27, 2016.

state's lands were fragmented into small pieces dispersed in several locations. Some of them were locations for governmental offices such as the province's Silk Centre. Finally, the committee concluded that the best option would be the location of the Agricultural Research and Development Centre II and the Animal Nutrition and Development Station. The reasons for selecting the new area were:

- (1) The size of the land was big enough and worth for the investment.
- (2) The location was not too far from the Provincial House (15 kilometres) was connected with systems of roads, namely: Road Number 212 and the EWEC.
- (3) It was the state's land (under the Office of Agricultural Land Reform, the land was being used by the Agricultural Research and Development Centre II and the Animal Nutrition and Development Station).
- (4) It was not disturbing the work of the Agricultural Research and Development Centre II and the Animal Nutrition and Development Station as they both had other main locations.
- (5) Minimal possibility of negative impacts on the surrounding communities (there were five farmers in the vicinity who were a part of the "Agricultural Land for the Poor Project" using 15 rai within the prospected land). The Office of Treasury was working on the compensation.

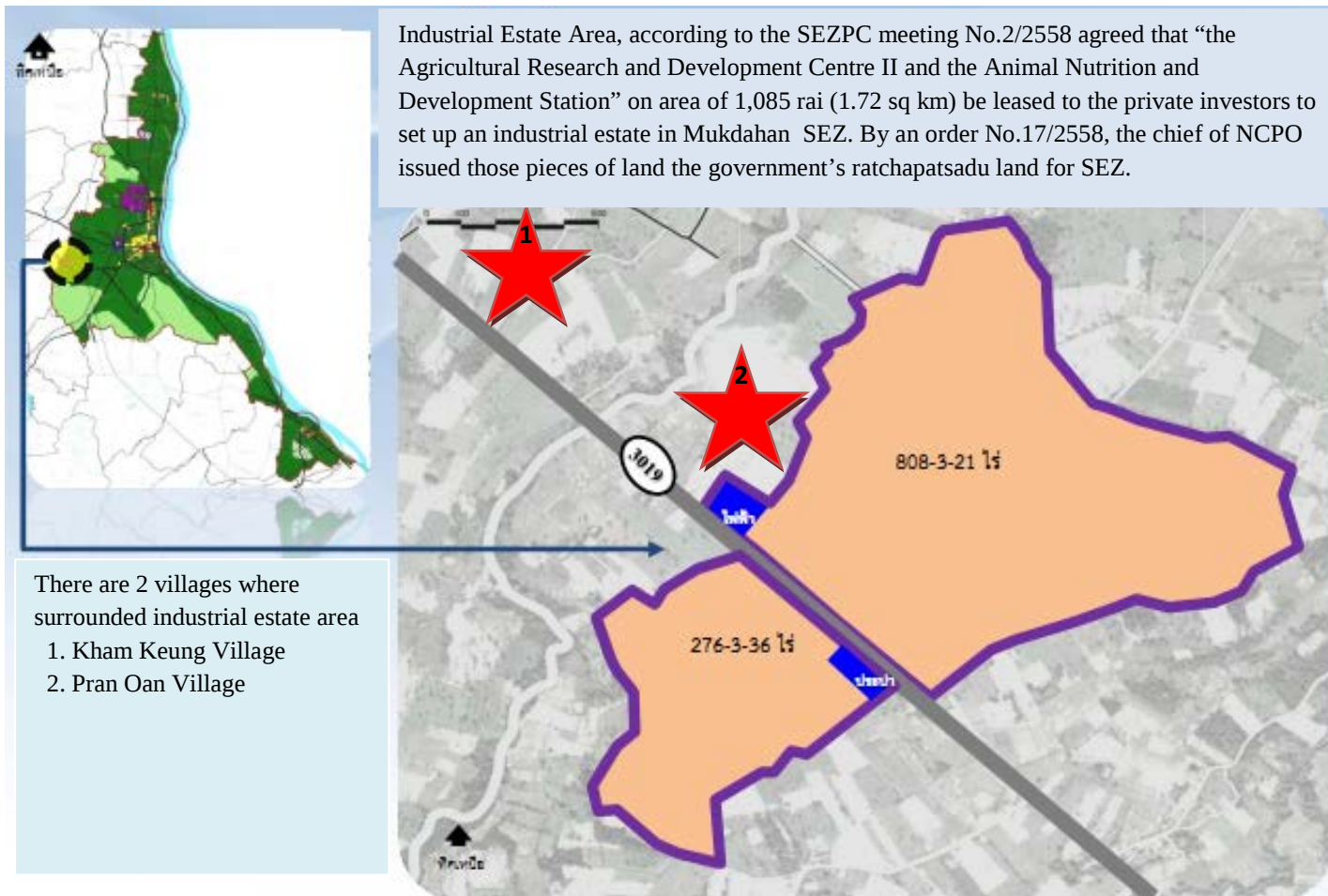
Second step: After having made the survey, the report was to be proposed to the provincial committee which would make a recommendation to the SEZPC. Finally, the proposal was approved by the Prime Minister on March 16, 2015.

Third step: The withdrawal of any status of the land and assignement to rajaphatsadu status. Once the SEZPC, with the power of the Article 44 of the Prime Minister, withdrew the status of the land (see picture 7) and demarcated it to be for the purpose of establishing the SEZ.

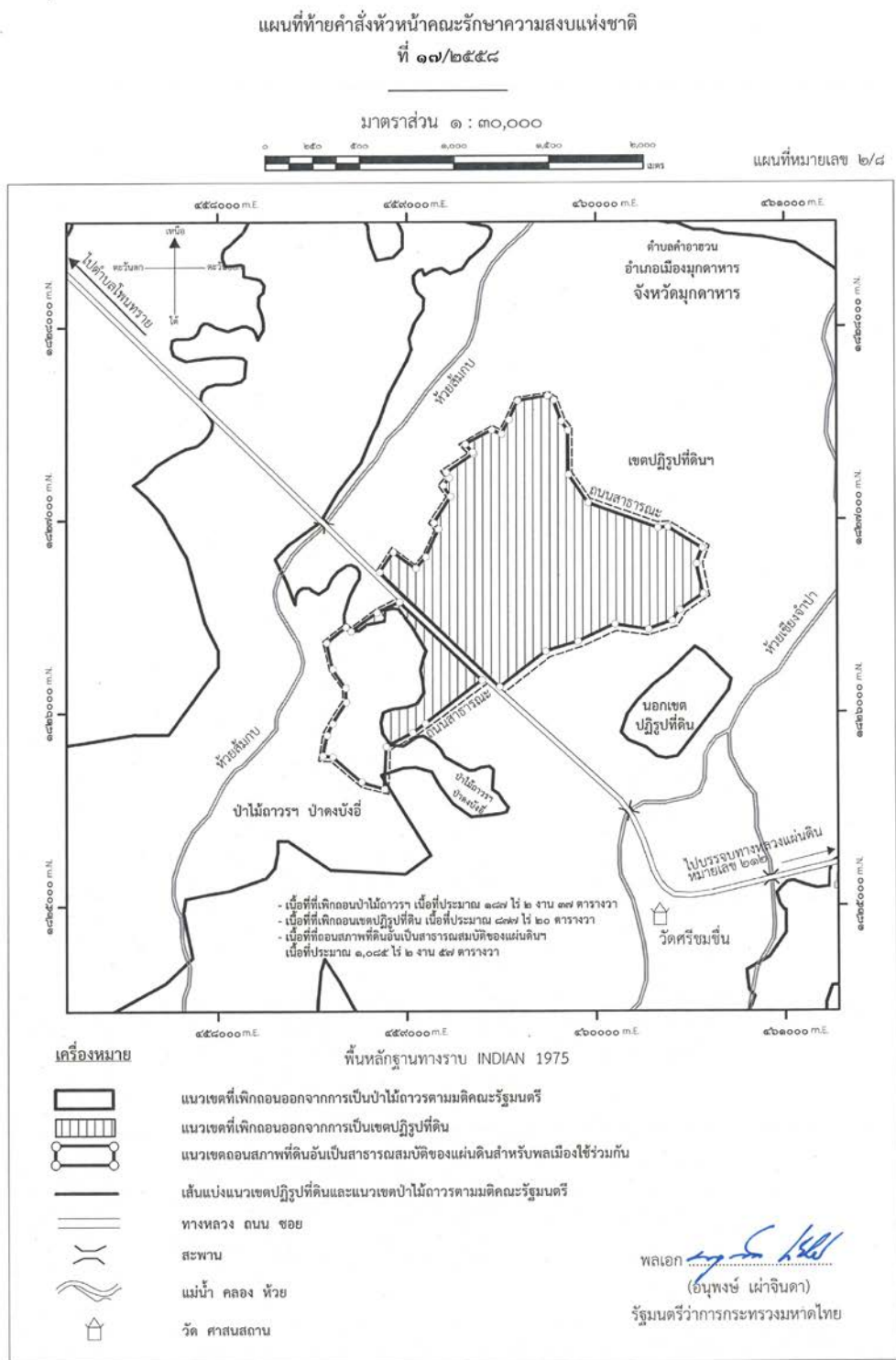
Fourth step: The issuance of the official declaration after measuring the size of the land. The Treasury Office had already announced the SEZ status to potential private investors .

The prospected industrial estate area was selected by the Mukdahan provincial committee. The area is marked as an Agricultural Land Reform Area, and was being used by the Research and Development Centre II and the Animal Nutrition and Development Station. The area covered 1,085 rai in Kham Aa Huan sub-district, Muang district. The SEZPC approved and issued the order to use the land for the purpose of industrial estate on March 16, 2015. Then the NCPO has issued the order number 17/2558 on May 15, 2015 to assign the status of ratchaphatsadu land and release the title deed to guarantee secure the land for investors. The land acquisition process took only two months to withdraw the existing status of the land and issue title deeds for the purposes of establishing an SEZ. The shortcut was largely due to evoking absolute power of the Article 44. Typically, the normal procedure would have taken approximately two years.

Picture 6: Map of Industrial Estate in Mukdahan SEZ



Source: Piyaporn Aroonpong, 2016 modify from the Government Gazette issued the Order No.17/2558 of Gen. Prayuth Chan-ocha as the head of the National Council for Peace and Order on “Land Acquisition to Use for the Purposes of Special Economic Zones”.



Picture 7 Map of zoning attached at the end of the NCPO's Order Number 17/2558 as advertised on the Government Gazette's website.

Source: The Government Gazette issued the Order No.17/2558 of Gen. Prayuth Chan-ocha as the head of the National Council for Peace and Order on "Land Acquisition to Use for the Purposes of Special Economic Zones".

5.2 Social and Environmental Safeguards considered for Mukdahan SEZ

This section explains the social and environmental safeguards policies prepared for Mukdahan SEZ, where several actors are taking roles with different expectations and hold different values. Expectations and practices under the idea of “safeguards” highly depend on the interests of the given actor. Local norms may differ from those decision-making powers. The social and environmental safeguards being considered for the Mukdahan’s SEZ project are as following:

1) *Government safeguards*

Every governmental unit in Mukdahan agrees to the national-level SEZ policies. Mukdahan provincial units typically enact the central government policies by pushing the SEZ establishment forward. Since the order from the NCPO, the SEZ project has become a provincial level responsibility. The Provincial Governor acts as the president of the Mukdahan SEZ committee responsible for creating policies and the planning processes. Provincial House officials hold the position of committee members and secretary.

(1) Safeguard policies of the central government

As there are local concerns over environmental issues and the well-being of the communities around the SEZ area, the central government plays a role in promoting that the industries in the SEZ are light industries. Meanwhile, the government has also promoted a safeguard policy which is to establish SEZs as “Eco-Industrial Cities” or “Green Industries”.

To endorse the safeguard policy, prospective investors are required to present a **Land Use and Master Plan** that provides actions for the management of the land area. The plan needs to give priority to water treatment, waste management, and development of green areas. Moreover, investors also need to construct buffer zones within the site according to the industries in operation. The “Land Use and Master Planning” is an important requirement for granting permission to investors. The minimum requirement is that 55 percent of the criteria in the point-based selection system are fulfilled (Benjarat Ratchamas, interview 27 July 2016.).

The Office of Natural Resource of Mukdahan has created a guideline for the environmental aspects of the SEZ. The Office has proposed three measures regarding the environmental policy: 1) developing and improving the EIA and strategic environmental assessment (SEA) processes, 2) constructing and improving the solid-waste management complex, and 3) surveying and constructing a transportation centre for waste, accounting for the expected increase in waste.

(2) Social safeguards of the provincial government

The Mukdahan provincial office, including the governor and vice-governor, have the following social safeguard process for the establishment of the SEZ (Rungpech Kantabutr, interview 27 July 2016).

1. The provincial office has responsibility for the development process of the SEZ.
2. The office coordinates several units in the provincial and central governments to distribute information to local offices, as well as communicating with the public, investors, and others in various platforms, as follows:
 - Through local radio in Mukdahan, in the “Governor Meets the People” programme every Wednesday from 6.10 a.m. to 7.00 a.m.
 - By producing “Mukdahan Special Economic Zone” booklets to inform and report on the process for the project. New issues are released when there are significant changes or progress updates.
 - Through a Facebook page called “Mukdahan Special Economic Zone” to report developments of the SEZ.
 - Through frequent public meetings to explain the SEZ. Participants include individuals from the business sector, civil society, as well as community leaders.
 - Through other related events organized by the office.
 - Mobile Provincial Events (Changwat Kluean Ti) including the “Governor Meets the People” events, the “Princess Mother’s Medical Volunteer Foundation’s” events, and other cultural events that officials attend and distribute information at.

However, although the provincial office has been trying to reach its people, many locals were not well-informed on the SEZ project. Residents nearby to the designated industrial estate only knew that certain areas in Mukdahan were declared as SEZ areas and that the industrial estate will be located close by, but lacked any further information. For instance, they were unaware of the objectives, procedures, details of the process and what “industrial estate” means. The lack of awareness of the locals has become a major obstacle for the Mukdahan SEZ.

3. The office has attempted to open the space for public participation. It is worth noting that for “public participation” officials only consider the leaders of each sector’s participation when relaying information about the current processes and plans of the SEZ and industrial area, including principle guidelines and code of conducts. There has not been a public hearing where the locals’, i.e. those living close by to the project, can ask questions and voice concerns.

(3) Social safeguards of Mukdahan’s Office of Treasury, Ministry of Finance

Mukdahan’s Provincial Office of Treasury under the Department of Treasury plays a vital role in acquiring land for the SEZ, especially in the acquisition of 1,085 rai for businesses to rent. The office made proposed the area to the Subcommittee for Land Acquisition and Management under the SEZPC before submitting the plan to the SEZPC to

declare the area as Ratchaphatsadu land. The title deed for the land was then issued, in part as means to gain trust from prospective investors.

After acquiring the land, the office then sets the rental price as well as the conditions of renting, the approach, and the criteria of prospective investors. This process is the responsibility of the Department of Treasury together with the Subcommittee for Land Acquisition and Management of SEZPC. The provincial office is also responsible for information sharing to SEZ stakeholders.

As the acquisition of the 1,085 rai affected five families who used to live in fifteen rai of area, the office had submitted the requirement for the total amount of compensation of 880,000 Baht to the Ministry of Finance. The request is currently pending (Benjarat Ratchamas, interview 27 July 2016).

(4) Environmental safeguards of the Department of Industrial Works, Ministry of Industry

The Department of Industrial Works of the Ministry of Industry is responsible for developing the policy and action plan for establishing the eco-industrial city in four provinces: Mukdahan, Sra Kaew, Tak, and Trad. The eco-industrial city approaches are fivefold: physical space, economy, environment, society, and management. It aims to develop SEZs as the doors to connect the border provinces with the neighbouring countries to build a network of production for the benefits of the member countries in the region. The plan promotes regional cooperation in terms of the economy, society, and security along with environmental conservation. Currently, the policy and the action plan are still being drafted.

(5) Health safeguards of Department of Disease Control, Ministry of Public Health

Mukdahan is a border province with several channels of transportation. As such, there is high risk of disease epidemiology and accidents from travelling. It has land and water transport connections with Lao PDR, with high number of travellers crossing the border every day for medical and business purposes. According to statistics in 2015, there were 1,714,516 people travelling through Mukdahan to cross the border into Lao PDR (Mukdahan Provincial House, 2015). In creating the guidelines for the SEZ, developing medical infrastructure is considered a priority for the province's main hospitals, Amphur Don Tan Hospital and Amphur Wan Yai Hospital. In addition, there is a plan to develop a health care system for foreign labours. In 2016, the Department established "Travel Clinics" for disease control in six SEZ provinces: Songkhla, Tak, Chiang Rai, Nong Khai, Nakhon Panom, and Mukdahan.

(6) Safeguards under the Office of Public Works and Town Planning, Ministry of Interior

The provincial office acts as a supporting unit to academics from the Office of Public Works and Town Planning, both in the sub-departments for town planning and central planning. The aim is to create both generalized and specific city plans for supporting

economic activities in the SEZs. In the process of surveying for the plans, the Department employed Maha Nakhon Consultant and Pioneer Consultant to study and gather public opinions in the area. Afterwards, the companies were supposed to organise a public hearing on land use and constructions of buildings in the SEZ for stakeholders to converse, but they have not done this process.

In principle, city planning in the SEZ should correspond with five types of industries allowed in the SEZ, which vary in accordance with area specifications. According to the specifications indicated by Department of Public Works and Town & Country Planning and the consultant companies, Amphur Wan Yai will be the area for cultural tourism, product processing and product distribution. Amphur Muang Mukdahan will be the centre of service economy, retailing, wholesaling, and goods distribution. Lastly, Don Tan will become a centre of agricultural products production, process, as well as OTOP family businesses. All the specifications are based on the green industry principle that respects the ecology and local cultures (Asia Planning Consultant Company, 2015).

2) Business Sector Safeguards

The Mukdahan Chamber of Commerce (MCC) together with the Mukdahan Federation of Industries (MFI) played an important role in proposing SEZ plans to the central government. They considered Mukdahan a province with several advantageous geographical qualities. The establishment of the SEZ would expand business and services in the region. After the announcement of the Mukdahan SEZ plan, the two organisations have had significant roles as members in every committee. Their engagements in the SEZ planning can be summarised in two points.

- The two units took part in area selection and planning. These organizations proposed the SEZ area and zones within the SEZ. They proposed that the SEZ needed to be at least 15 kilometres away from the Second Thai-Lao Friendship Bridge, instead of covering the whole area of the three selected amphur. The zoning can help decrease environmental impacts on Mekong River. While the proposal was later rejected it secured the role of the two offices in planning the SEZ. They are also key actors in area selection for the construction of the future Commercial Airport.
- The offices made efforts to connect regional business with the Mukdahan Provincial House. They signed Memorandums of Understanding (MOU) with Mukdahan and Savannakhet in PDR Laos, Quang Tri in Vietnam, Nanning in China in 2014 and 2015 respectively.

The safeguard policies from the two offices are as follows.

(1) Preparing local businesses for the SEZ

The MCC and the MFI's planned to encourage foreign investments as a part of the ASEAN community by improving the quality of businesses – new and existing – under the advocate Smart Trade policy. Furthermore, the mentioned offices and the provincial committee also planned to help SMEs in the province to boost competition in the production and services sectors. The idea was to make Mukdahan's SMEs successful in national and international business competition once Mukdahan was open as a business and investment centre. Moreover, there was also a strategy to build a network of local and national to prepare for multi-national investors.

(2) Preparation for Labours

The government recognized that capacity building for industrial labor was necessary prepare for conversion from agricultural to industrial based societies. In doing so, the Ministry of Education supported a Vocational College to train alumni with skills necessary to join the industrial sector. These skills include development for employment as mechanics and electricians, and business jobs such as audits, business computer specialists, logistics, food specialists, and tourism.

The SEZ helped to strengthen some cooperation. The central government and the provincial office planned for an eco-industrial city and green area. They also organized different forums to inform different sectors on the progresses of SEZ. However, participation was limited to the leaders of each sector. Additionally the locals living nearby industrial area, were not aware of the benefits and impacts of industrial estate and SEZ. The business sector focused more on the preparation for local businesses and labours to correspond with the SEZ.

5.3 Reaction of Civil Society Actors and Local Residents

This section will explain what civil society actors and local residents think about the SEZ, and how have they responded to the SEZ.

(1) The reactions of the civil society

Civil society in Mukdahan is mainly represented by three groups: Sapa Pattana Kan Muang (Council of Political Development), Sapa Pon La Muang (Civil Council), and Gloom Kon Rak Huay Kae (Huay Kae Canal Conservation Group). The three were active in campaigning on several issues regarding the SEZ by all-round information distribution to the locals and the publics. They are one of the first groups that were active in informing residents in the threem amphur about the SEZ. (Mukdahan Civil Society, interview 28 July 2016).

Civil society also includes academics from Sakon Nakhon Rajabhat University who spread awareness on positive and negative effects from the SEZ. They topics of discussion with the locals also included health and environmental risks and land acquisition. (Mukdahan Civil Society, interview 28 July 2016). The discussions allowed communities to express their

concerns over governmental policies voice their opinions in planning for solutions. The communities requested more transparency and greater participation by community members in provincial development.

The civil society groups wished to partake in the decision-making process and work together with government. The civil society wished for the SEZ to operate according to two principles. Firstly, it was respect the three thams principles which emphasized equity, environment and culture. . Secondly, they emphasized the need to adopt a “community’s self-management” idea in developing the project. This is a principle in community development that has gained momentum over the past three – five years. The principle was supported by the civil society in Mukdahan and some of the business sector.

The knowledge of the three thams led to a design of a developmental plan for the SEZ in accordance with the eco-cultural conditions of the local communities. The communities requested that the SEZ not harm local culture, and encourage activities identified as Mukdahan’s identity such as giving food offerings to monks near Mekong river, constructing the monument of Tai Chan Kinari (the founder of Mukdahan) as a landmark, supporting cultural tourism of ethnic groups and promoting the local OTOP products.

Furthermore, the MCC members who work with the civil society, had been trying to propose a land use policy in the SEZ under the three-thams principles. For example, they offered the idea for Amphur Don Tan to become the center of alternative and organic agriculture, center of health care, as well as alternative medicine, as there were groups of famous alternative medicine in this area. The Chamber also proposed the Green and Clean City idea in developing the industries.

(2) The reactions from the local residents

This section will explain the reaction of the local residents on the development of Mukdahan SEZ. The reaction of the local residents reflected the close connection between the locals and the natural and agricultural resources on which they depend. The area is rich in natural resources and is surrounded by hills, streams, the grass fields with little forests and swamps. These were planned to be converted into the industrial estate.

1. The local residents and their sustainable food resources

From the interviews with Wanta Chatipa (2016) one of the important resources of the locals is the hills (“phu”) where they can gather wild edible food. The main hills were Phu Pa Pueng, Phu Pa Ko, and Phu Ka Cha covered in semi-evergreen forests and mixed forests. The hills were approximately 170-200 meters above the sea level. They contain several important types of woods such as *Pterocarpus macrocarpus* (pradu), *Ormosia* (ma kha mong), *Shorea obtuse* (teng), *Dipterocarpaceae* (hiang), and bamboos. The forests were rich with edible plants such as *Mliantha suavis* (pak wan), bamboo shoots, *Zingiberaceae* (kra jiaw flower), and a variety of mushrooms. There were also small animals such as ants, insects, squirrels, and birds that the locals consume. The forests were communal, connecting the locals from the

nearby communities as well as people from other provinces. Therefore, they are considered an important sustainable food source for the people.

Furthermore, the villagers from Ban Pran-on, Ban Kham Kueang, and other four nearby villages also used the area for other purposes. Some used the grass field as food for their cattle, while others found wild plants for selling in the market. The sellable plants included mushrooms and bamboo shoots. The area also featured a number of swamps where the locals went fishing. The result was additional income from selling fish and shrimps for the villagers. Moreover, feeding cattle with the shared grass in the field bought what the locals called “tolerance income” from selling the animals. The relatively large amount of money from the sale was for “emergency” cases when people need a certain amount of money in a short time such as school fees and investment in a new business.

Picture 8: the locals making using land planned for conversion to the industrial estate



Source: Photo by Kittima Khumthong, 7 October 2016.

Table 1: The abundance of resources and biological diversity provide a sustainable food source for the communities

Annual Wild Plant Gathering Calendar												
(Locations: Phu ka Sa, Phu Pa Pueng, Phu Pa Ko and the nearby area)												
	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec
Dok kra jiauw												
Pak wan dong												
Pak wan kok												
Eel ok/ ee lai												
Kon mushroom												
Tan mushroom												
Poh mushroom												
Pluak mushroom												
Khon mushroom												

Daeng mushroom												
Nammak mushroom												
Khom mushroom												
Rangok mushroom												
Noh san												
Noh wai												
Pak khon kaen												
Lai bamboo												
Koh bamboo												
Yod kah												
Noh lao												
Yod aoi												
Pak kood												
Pak nam												
Annual Wild Animal and Insect Hunting Calendar												
(Locations: forests in “phu” and nearby area)												
	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec
Red ants eggs												
Cicada												
Maeng Kaeng												
Dong smail												
Ji lor												
Cricket												
Maeng ji noon												
Maeng koy												
Annual Fishing Calendar												
Locations: Nong Pok, Nong Sano, Nong Lak Waen and private swamps in rice fields												
	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec
Frog/ toad												
Bullfrog												
Eel												
Snake-head fish												
Catfish												
Kled fish												
Shrimps												

Source: Focus Group Discussion, 6-7 October 2016.

In addition, there were a few families used grow rice in Ban Pran before everyone fled to the current location due to disease spread. Until the late 1990s, the land was converted to forest land under the Royal Forestry Department (announced to be Dong Buk Ie Forest Reserve Area). Later the land fell under the Office of Agricultural Land Reform. The Office

of Agricultural Land Reform granted the Agricultural Research and Development Centre II and the Animal Nutrition and Development Station to use the land for research and later, for the construction of their offices.

The use of the land by the two offices affected the local's use of public land. Fences were built around the area yet the locals continued certain activities such as fishing and mushroom picking. The locals took their animals to feed within the area, but only with official permission. Some people even used the water from the ponds to water their rice farms.

2. *The dependency on ecology and agricultural resources*

Ban Kham Kueng and Ban Pran-on were located next to each other. While Ban Pran-on was located right next to the future industrial estate, Ban Kham Kueng was the location where the construction of railway tracks were planned. They were both located in the lowland among big valley with tropical climate. They are on the west of Mukdahan's city centre. There are several streams nearby such as Ngiw, Som Kok, Yai that made the area suitable for agriculture. Along the road from Road Number 212 were sugar cane and cassava fields that spread around the villages west of the road. Here were two streams near the west side of the road: Huay Ngiw and Huay Kham Mayon. The first settlement in the area only included 20 households for selling goods to people travelling to Yasothon and Ubon Ratchathani.

The name “Kham Kueng” was related to the location. “Kham” was an old word referring to always-flowing water, and “Kueng” is a type of tree that was easily found in the area.

Picture 9: Map of Ban Kham Kueng



Source: Draw by Sudaporn Srion, 20 October 2016.

Villagers were mostly farmers. They intensively grew cassavas, sugar canes, and rice all year long. The geology of Ban Kham Kueng was the combination of clay and sand. There

were two types of such soil. The first was light brown, yellow or red which covers about 70 percent of the village's area. This kind of soil was good for growing dry crops such as cassava, sugar canes, fibre crops, and corn. The second was usually brownish grey with sticky mud underneath. This type of soil absorbed and retained water very well and was more suitable for rice farming than other plants. The villagers took advantage of this geological quality as most families use different kinds of lands for different kinds of crops (Land Development Office, 2016). The geological characteristic of the area coincided with land management in of the villagers. They usually divided the land into three plots: rice, sugar cane and plots for cassavas. From the survey, every family farmed rice while separating using another plot for growing sugar canes and cassavas. However, the sizes of land for growing each kind of plant fluctuated every year depending on the economic situation as well as the weather conditions.

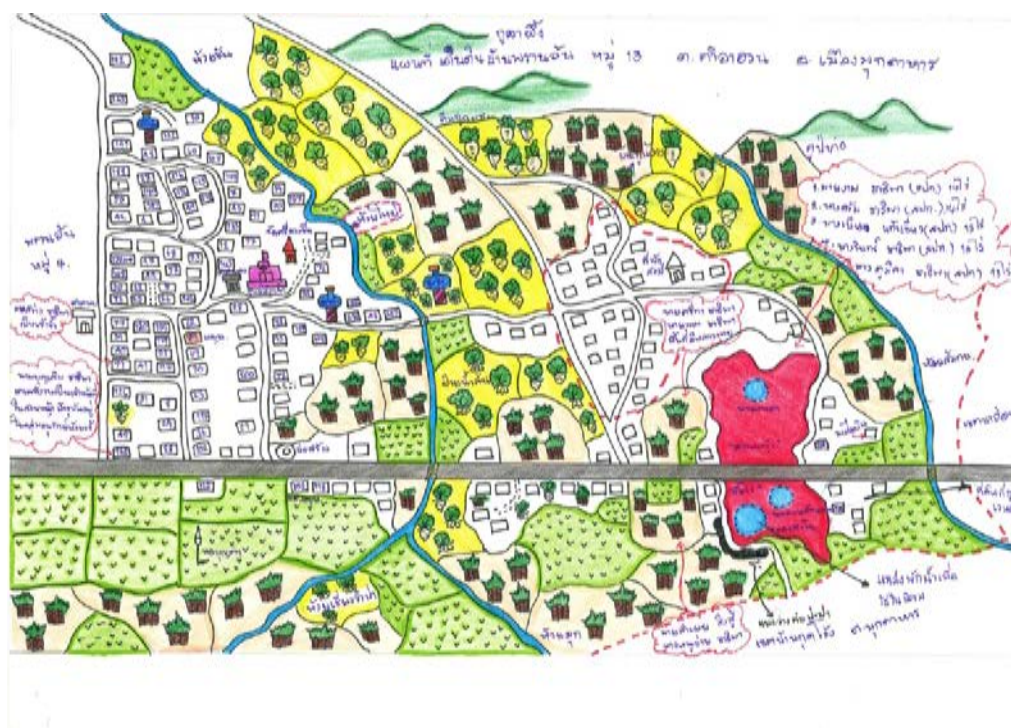
Table 2: Land use in Ban Kham Khueng

Types of Land Use	Size (rai)	Percentage
1.Agriculture	3,500	92
1.1 Rice farming	1673	44
1.2 Sugar cane farm	1141	30
1.3Cassavas farm	608	16
1.4 Rubber tree farm	77	2
2.Residences	200	5.3
3.Public use	100	2.6
Total	3,800	100

Source: Tao Sriwicha, interview 1 July 2016.

Ban Pran-on was located in a lowland valley with two types of soil. The first covers approximately 90 percent of the area. It was a combination of brown loose soil and sand. In rainy season when there was three to four months of stagnant water in the field, this kind of soil is suitable for rice farming. The rest of ten percent s wasalso a combination of loose soil and sand in brown, yellow or red. This kind of soil is caused by the dregs of streams or the decomposition of rough stones. This type of soil is found in the area with uneven land surface and the foothills. It is suitable for growing dry crops and developing to become a pasture land.

Picture 10: Map of Ban Pran-on (with the prospected industrial estate in red area)



Source: Draw by Sudaporn Srion, 20 October 2016.

The use of land for the villagers is divided into three areas: the habitation, the rice field, and the area for growing sugar canes and cassavas together with pasture land. There are also three kinds of land uses for farming: rice, cassavas, and sugar cane. Most villagers grow rice at least for domestic consumption, while the rest of their land is for cassavas and sugar cane. As in the case of Ban Pran-on, the proportion of land for each kind of crop varies each year.

Table 3: Land use in Ban Pran-on

Types of Land Use	Percentage
1. Sugar cane farm	45
2. Rice farm	32
3. Cassavas farm	16
4. Habitation	5
5. Rubber trees	2
Total	100

Source: Wanta Chatipa, interview 27 June 2016.

Most villagers in Ban Pran-on are farmers while a small proportion of youngsters work in private companies and factories in Mukdahan city or nearby provinces. There are not many business and shops in the area. Accordingly, the main lifeway depends on agriculture. The average income is around 40,011 – 50,000 Baht per person per year (Ban Pran-on Development Plan 2017-2019).

Table 4: Annual calendar for local agriculture

	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec
Rice	restoration		ploughing			sowing		transplanting	eliminating weed		harvesting	
Sugar cane	Eliminating diseases and bugs								ploughing putting fertiliser		Controlling of disease/ eliminating grass	
		Harvesting the year after										
Cassava	ploughing		seedling		Killing weeds			Killing weeds Putting fertilisers			harvesting	
Rubber	Resting the rubber surface				Killing weeds							
					Tapping/ putting fertilisers							

Source: Focus Group Discussion, 6-7 October 2016.

3. The reaction of the local residents from the two villages

Although investments in the industrial estate of Mukdahan SEZ have not begun yet, there are high risks for negative impacts on the locals. Currently, there are fear and worry from the local residents about the future industrial estate. Fear over health and environmental issues are the highest, especially concerning water pollution and chemical contamination around the industrial estate, where their rice fields are. The sugar factory and the rubber factory in Mukdahan teach the locals a strong lesson on such effects from industries. These factories produce serious odour pollution in the area and the local government could not find a solution to the issue.

Losing lands does not help create positive opinions about the SEZ. There are at least five families who lost their lands of at least three rai per family within the industrial zone. These families have risks in finding economic security as they are landless and will certainly face lack of enough income for the family. The state's perspective claims its ownership of the land under the purpose of development for "the public". The families, therefore, should sacrifice their lifestyle for a "greater" purpose.

The loss of the land of five households brings about fear to other villagers who are afraid to face the same situation in the uncertain future. The inefficiency in information distribution between the state and the people also worsens the situation. As most of the land in the area is under the authority of the Agricultural Land Reform Office, therefore there is a high possibility of land expropriation.

Compensation for these land owners is highly questionable. The compensation by the state offers only 60,000 Baht per rai for the previous land owners. This means that each family would receive maximum 180,000 Baht for losing their three rai of land. It is a relatively low amount as usual land price is approximately 100,000 Baht per rai with no title deed. However, there has not been any resistance or objection from the five families yet even they reflected the feelings of social injustice they obtained. Partly, the reason could be due to they are from other villages who moved to live in the area according to the special project on land reform for the poor and the feeling of powerless in this situation.

Furthermore, the plan to construct the Ban Pai – Nakohn Panom double-track railways will cut through Ban Kham Kueng and Kham Aa Huan sub-district for the total distance of 12.4 kilometers. Over 314 rai of the land under the Agricultural Land Reform Office will be acquired. In this case, 81 land owners will be affected by the plan. In this number, 24 owners are from Ban Kham Kueng with approximately 110 rai land in total.

Prai, a land owner in the area prospected for the construction of the railways, has been informed about the project three years ago. Initially, there were officials who came to measure the land and made a “red mark” without any explanation. The community leader and the municipal clerk helped him make a request for compensation to the State Railway who responded that the compensation would be 60,000 baht per rai. The general price for land in the area, however, is around 250,000 Baht with a title deed. Prai says that he prefer to have the land over the money. Although he will still have other remaining 40 rai, he has already given them to his children. More importantly, the land holds a symbolic significance to him as it is a family inheritance for over 130 years. It represents family value and memories for him.

Some of the locals used the juridical system to counteract with the unfairness of land acquisition. By the end of September 2014, land owners from Ban Kham Kueng made a petition to the Provincial Office of Justice to question the compensation plan from the State Railway of Thailand. In doing so, the leader of Ban Kham Kueng mentioned that he does not oppose the construction of the railways. On the contrary, he only would like the land acquisition process to be fair to the villagers who will have to lose their lands.

The State Railway has replied on November 29, 2014 citing the Property Acquisition Act 1987, indicating that the land is under the authority of the Agricultural Land Reform Office, there will not be compensation on the loss of land, only for the valuable sources in the land such as buildings, woods, and trees. The announcement from the State Railway also plans to found a joint committee among the governmental officials, land department representative, the locals and the State Railway to indicate the price within 30 days after the finalization of the survey.

VI. The Implications of the Research Results

In this section, we discuss the implication of the research results. The abovementioned research findings show the critical issues that should be seriously considered by the development of Mukdahan SEZ. These are five main related issues: commodification of public land, the local livelihood and community rights, land insecurity and land loss, the environmental impacts, and the possible social problems.

6.1 The implementation of land acquisition led to the commodification of public land

Land acquisition for SEZ projects could be considered as a process of the commodification of land. It was done by disconnecting local communities from the selected area. It reflects insecurity of land ownership in the rural area where the state can claim definitive ownership at any time. Such process may result in the constant productions of meanings of land that could draw the people away from the lands in the community.

To transfer the land authority, the state has claimed at least three reasons. Firstly, it needs a definitive declaration to claim its ownership of the land. Representing the geographical advantage of the land, the state can further emphasise economic value that land may bring.

Secondly, the state has been arguing that its land acquisition did not harm anyone. Its claim that the land was not inhabited by any people, however, was incorrect. As mentioned there were locals from six villages using it as a public land for food gathering and cattle-raising. Moreover, there were five families living in the 1,085 rai. The mentioned claims overshadow the benefits of hundreds of the locals and the five affected families who use the land before. Lastly, governments – central and local – certainly create an over-representation of the monetary gains from leasing the land and job opportunities that would occur in that land.

The conversion of land statuses – from belonging to the Agricultural Land Reform Area to the issuance of the title deed – is to build up confidence for future investors. As the state wanted to prove that the land is applicable to use for purposes other than agriculture. Despite the declaration of these areas for previous time to be the Agricultural Land Reform Area was to keep the lands for the purpose of farmers.

There are also attempts to attract investors by giving the possibility to rent the land for 50 years with possible extension of 49 years longer. The organization fee was also dropped by the government's order from 320,000 Baht per rai for 50 years to only 160,000 Baht. The rent per year was also dropped to 24,000 Baht per rai.

Despite the seemingly attractive price after the 50% reduction, there was no bidder interested at all. As a result, the Treasury Office needs to reconsider their policy to attract more for the investors. The Office then issued special privileges for five specific types of

industries. These industries will receive extra privileges such as tax exemption for machine importations, and exemption from income tax for eight years.

The implementation of land acquisition, including the conversion of land statuses for the privilege use of private investors reflected the excluding economic policies as the locals had to lose their source of alternative income and land use. It also does not respect to the three tam principle on just and fair development (Thamma) as expected by the locals.

As Pinkaew Luengarimsi (2014) had noted borderland trade has specific character as the state pave an easy way for businesses, offering low-cost resources and low competition rate. The state has the authority to collect a large piece of land while the private sectors cannot. The private sector has an opportunity to gain more benefits from labour movements, and low cost supplies. With development discourses and state's sovereignty to control and design the use of land to support economic activities. Local governmental officers are only there to accept the policy and operate it in action.

6.2 The implementation of land acquisition that lacks a genuine participatory process led to the reverse effects on the locals' livelihood and the violation on the community rights

After commodification, acquiring the land of industrial area happened quickly. Although the decisive authority to select the land is the provincial government, the real action was made using the order of the Prime Minister on March 16, 2015. Later, on May 15, 2015, the NCPO has issued the order number 17/2558 under the Article 44 of the 2014 temporary constitution to assign the status of ratchaphatsadu for the demarked area. The process was quickened and a shortcut as the usual duration for approving this type of project usually takes at least two years. Furthermore, the opening bid was announced to be during April 11 to May 11, 2016.

All operations related to establishing an SEZ have been done under the junta power. Land acquisition and urban planning did not allow the locals' opinions and genuine participation. Other stakeholders' participation was also limited. Although it was claimed that there were public forums, opinion gatherings, public debates to include more local participation, however, the opinions were not actually counted in the decision making.

The field study from historical perspective shows that the 1,085-rai land of the future industrial estate has never been a "wasteland" or an "empty land". On the contrary, it has always served as a sustainable food source for the local residents from 6 villages around. It has been used as a source of income from gathering food for sale. Additionally, the land has been providing alternatives for economic security in the area.

The implementation of land acquisition which lacks of genuine participatory process and the unawareness on the public use of the locals led to the reverse effects to the locals' livelihood. It violated the local residents' community rights. From the community's point of view, the public land had been used by their ancestors since the villages had been settled for

almost 200 years ago. Their ancestors have been protecting the lands from the encroachment for the common use of the locals for generations. The land, thus, does not only represent economic capital, but also accumulation of local history and symbolic quality of family ancestors.

This public land will be used for the commercial purposes of the private company and the community rights will certainly be violated. All of the local residents would not be able to use the public land as their source of food and income anymore. In other words – to employ the local value system – the development of Mukdahan SEZ is not based on the principle of three tham, on thamma (justice) and wattanatham (culture).

6.3 The lack of social safeguards led to the problem of land loss and land insecurity

According to data collected in this research, 90 percent of the lands owned by the communities around the future industrial zone – specifically Ban Pran-on and Ban Kham Kueng – are under the Agricultural Land Reform Area with limited ownership. Without full ownership of the land, as the land belongs to the state and only allow agricultural activities in such land. By law, the villagers could not sell the land but the rights to use the land can be transferred to their children.

For this condition, the communities are in a fragile state where the government can withdraw their partial ownership at any time. Although the communities have been there for almost two hundred years, and the declaration of state's ownership by the Royal Forestry Department and the Office of Agricultural Land Reform was only about 40 years ago or more than a hundred years later, after the resettlements of the communities.

The compensation by the state offers only 60,000 Baht per rai for the previous land owners. This means that each family would receive maximum 180,000 Baht for losing their three rai of land. It is a relatively low amount as usual land price is approximately 100,000 Baht per rai. The loss of land, thus, produces an unjust compensation that does not correspond with the real economic loss of each family. There are at least five families that lost their lands of at least three rai per family. These families have risks in finding economic security as they are landless.

Furthermore, the low compensation that the five families receive raises concerns and fears by the villagers around the future industrial estate. Most people who own the land next to the roads and the industrial area are the most worried group. Most of community members reflected their concerns according to the land acquisition for the industrial estate and Mukdahan SEZ. They feel that they have no security on land ownership and their land rights have not been respected by the state, even if they have concrete evidences such as temple and antiques to prove their long-time residency in the land. With the worsening situation on land insecurity, the villagers are worried that if there is an expansion of the industrial estate area next to the villagers' farmlands in the future, the state might take their land as parts of the industrial estate. Similar situation has previously happened in Laem Chabang Industrial

Estate where our research team have also done field study. The estate area in Laem Chabang started from approximately 500 rai, but expanded to more than 20,000 rai many years later, covering all the community area nearby.

In addition, during the public forum organized by the research panel, where the vice governor and the vice president of the Mukdahan's Chamber of Commerce also participated, the local residents reflected and insisted to the vice governor that the locals want the state to give back their land rights and they want to have a land security for the benefit of the locals and their generations.

The development of Mukdahan SEZ which lacked enough social safeguards on land issue led to the feeling of fear and worry among the local residents on land loss. The feeling of land insecurity will not support to the success of the Mukdahan SEZ, as it is seen as an unfair policy for by the locals.

6.4 The lack of the environmental safeguards and EIA process could bring the environmental impacts to agricultural land and resources

Most villagers who live around the future industrial estate in Ban Pran-on and Ban Kham Kueng depend heavily on rain water for agriculture. In the summer when it does not rain, they obtain water from three main sources, namely: 1) Huay Yai, Chian Champa, and Huay Som Gob reservoirs, 2) swamps found in some fields such as Nong Pok, Nong Sano, and Nong Lak Waen, and 3) digging their own ponds for people who live far from the mentioned sources. The fact that people depend their lives and economy on water makes water contamination from the industrial estate a critical risk. In rainy season, the water can become stagnant in the farmers' fields for up to four months; polluted water can cause serious damage to the locals' crops as well as their living environment. Furthermore, the future industrial estate will be located in the area with rich biological diversity, surrounded by hills that cover the area with canals, swamps, and ponds. Environmental impacts from the industry, therefore, will cause serious effects to communities that depend their lives on the water, including those relatively far from the industrial estate itself.

More importantly, the lack of profound understanding of the industrial estate and the impacts worries the locals regarding the establishment of the industrial area. The locals were not included in the decision-making process on the management of the area, even though they possess practical knowledge of their own environment. People in the area know about the wind and its directions that could help with designing air pollution management. They also know from the everyday life about the flow of water – the origin and its currents – as well as the ground levels in each area, where the lands are steep or low. This kind of knowledge could help significantly on the management of water waste and infrastructure design to implant the pipelines and waste water treatment.

Nowadays the local awareness on environmental risks in the area is also increased by broadcasting the information of possible effects from industrial area on television. The research team found that the information received by the locals is not directly applied to their

case, but enmeshed with their local knowledge on the environment. Therefore, the locals' approach to environmental management is based on local conditions, everyday understanding of their surroundings, which will be practically useful for the better planning and support for the environment safeguards.

However, there has not been any process of environmental impact assessment and environmental safeguards in the area of prospected industrial estate yet. The lack of proper environmental safeguards in the development of industrial estate could lead to the damage of agricultural resources around the area. It could significantly affect to the loss of farmers' occupation and income, including their health and well-being. Furthermore, it is not based on the principle of three tam, the thammachat (Environment). This is, of course, not the ultimate goal of the development of Mukdahan SEZ, which plans at the beginning, to uplift the income and living standard of Mukdahan people.

6.5 The lack of social safeguards could bring to the local residents the social problems

The research shows that there is fear and worry from the local residents and leaders that the industrial estate will introduce industrial lifestyle to the locals. According to the interview, the local leaders believe that the industrial estate will bring changes in the demography, life and financial safety, as well as crime, drugs, and waste problems for the people around the industrial area.

For the situation, there is an urgent need for preparations of personals, budget, and plan to cope with such changes. However, there has not been any clarification on the issue of social safeguards from the central and the provincial government yet. The situation, as a result, worries local leaders as nothing has been prepared.

Although leaders of every village have been continuously invited to information distribution meeting regarding the SEZ, there is still a limit on the genuine understanding of the information such as the positive and negative effects on the communities, and current situation and its tendencies. Moreover, the information regarding the SEZ from the centre usually gives only a brief picture and its progresses, not a detailed information that the locals can process as a part of their opinion-making.

One of the local leaders mentioned that the municipality's role in the local area has not been evident even though the designated industrial area is under the responsibility of Kham Aa Huan municipality. It is due to the fact that the works are usually centralised in the provincial government as well as the special economic zones policy committee in Bangkok. The bureaucratic system makes it difficult for Kham Aa Huan municipality to start managing on its own, because the authorities are centralised in the central government.

The roles of the local authorities, therefore, are reduced to only: 1) coordinating between the provincial officials and the locals on the occasions of public forums, and 2)

being a part of the Ratchaphatsadu land management committee including assisting prospected investors in acquiring more information about the SEZ.

Some of local leaders learnt the experiences of social impacts from Ao Udom community near Laem Chabung industrial estate where the research field trip was conducted. Initially, the locals in Ao Udom expected that their children would get more jobs and modernization, and that the Industrial Estate would bring them higher income and good living. However, the reality significantly differs, when there are about 40,000 migrant workers living in the community, most are from Cambodia, while there are only 3,000 locals. Moreover, many of fishers lost their occupation as the fishing area was destroyed with currently only 30 percent of the area left from before. Some of local residents turned to be employees of the factories and some had to rent their own land that they have sold in the past for their living house. The Ao Udom community also have to bear the problems on drugs, crime and life insecurity after the industrial estate have established.

The lack of proper preparation process and social safeguards for the development of the industrial estate, therefore, could lead to the locals the serious social problems that they might not be able to cope with in the future. In other way, it could lead to the change of local culture (wattanatham). These need the participatory process on community hearing and social impact assessment to support the locals' capacity to cope with the social changes.

VII. Conclusion

This action research has tried to answer the research question of how social and environmental safeguards can lead to better land governance and development in the Mukdahan SEZ. A part of the research was carried out by consulting with experts and learning from other communities' experiences of living near industrial estates. The outcome was then applied in context of Ban Pran-on and Ban Kham Kueng as the focus areas of the research. The result is an improved knowledge base developed by the locals and the research team together. We have found that the production of practical knowledge is most affective when multiple stakeholders are involved. Local knowledge should be valued to the same degree that so-called 'scientific' knowledge from experts is. This type of practical knowledge is well-suited to the local communities who are those most affected from such development-related projects. The local knowledge and the locals' concerns that should be considered in developing the social and environmental safeguards for land governance and development within the Mukdahan SEZ can be summarized as follows.

The communities in Kham Aa Huan municipality, where the planned industrial estate would be built, live with an abundance of natural and agricultural resources. Similar to other Northeastern communities, they continue to respect ancestral cultural traditions that have been passed down for generations. For example, these communities have local knowledge and engage in practices on sustainable food resource management, on establishing sources of alternative income, as well as setting aside a "tolerance income" for unanticipated emergency

expenses. They also have a deep understanding of their surrounding environments, such as their water ways, soil quality, and wind direction. Until recently, this contextual knowledge has made the locals' lifestyle, which values co-existing with nature, relatively economical and sustainable.

The profound knowledge and capacity of these locals would have led to better land governance and development of the Mukdahan SEZ had it been considered in the decision-making process. Local knowledge on the important public uses of the 1085 rai land area, which sustains the livelihood of locals from 6 nearby villages, could have given the government insights on opportunities for improved land management in developing the industrial estate. This would have also allowed both the positive and negative aspects of the industrial estate's development to be explored in terms of the economic, social and environmental impacts it would have for local residents.

As shown in the research, the acquisition of the land, which has been a sustainable source of food and alternative incomes for six villages for generations, to construct the future industrial estate, has been an unsustainable process in terms of land governance for the Mukdahan SEZ. While it may offer the government economic benefits, the locals will have lost their income and food source. The respect for community rights on public land use should be one of the criteria of land governance for the Mukdahan SEZ. Otherwise, the land governance of the Mukdahan SEZ would lack any process for justice.

The study reflects that land security is the most important issue that should be taken into account in the development of Mukdahan SEZ. According to the locals' concerns, land acquisition and the development of Mukdahan SEZ should not undermine the land rights or land security of the locals. The locals had been living in this area for generations. Having farming as their primary occupation, they depend heavily on land and natural resources, therefore, in the absence of land security their entire livelihoods would be at risk. Land security should be uplifted to become one of the criteria for the land governance of the Mukdahan SEZ. In addition, the violation of the locals' land rights and of land security would not be sustainable for the development of the Mukdahan SEZ.

Local knowledge and the locals' concerns on environmental and social impacts are also beneficial for improved environmental and social safeguards in the development of Mukdahan SEZ. The community possesses unique local knowledge of their resources – land, water, wind and forest. They have pragmatic knowledge and skills on the functionality of the local environment—for example, the elevation of the land in which the prospected industrial estate will be, is higher than those of the surrounding villages and farmland. The streams and water ways will potentially be contaminated by the industrial estate and could flow over a huge area of the surrounding farmland. As a result, the health and well-being of the villagers around the industrial estate will be put at risk.

The research team strongly believes that the lack of an environmental impact assessment and proper environmental safeguards could lead to the failure of the development of industrial estate and the Mukdahan SEZ. The cost of environmental compensation and

rehabilitation might be too high to cover in the long-term. Moreover, the rehabilitation of the locals' health may also lead to other long-term legal issues, as seen in several cases of other industrial estates. We also find that from the local farmers' point of view, the development of the Mukdahan SEZ is not worth risking the local residents' health.

The local communities have also identified potential social problems that could arise based on their experience and knowledge of cultural and social changes. To positively respond to the concerns of the locals, the safeguards on social and environment should be the critical point for the development of the Mukdahan SEZ. The communities should also be included in safeguarding and rehabilitating the environment around the industrial area using the Polluter Pays Principle (PPP).

Lastly, the locals' economic security and well-being should be developed as one of the criteria for the development of Mukdahan SEZ. The locals' perspectives collected in this research reflect the desire for better quality of life as an expected positive benefit of the SEZ. The communities expect to have better access to basic infrastructure such as roads, electricity, and waterworks. The SEZ should also create opportunities for better jobs and income from the growth of businesses and investments. Some expect that the SEZ will bring opportunities for new business ideas or other economic activities. Clearly, the communities also have the expectation of being beneficiaries, not only the ones bearing the costs of the development of the Mukdahan SEZ.

To summarize, community participation in decision-making is necessary. There needs to be a space for the locals to participate in the development plan. This could be done by including them in choosing acceptable types of industries, and helping to make decisions on construction projects that may affect their lives. Moreover, the government needs to take the opinions of local residents into consideration. Evidently, the proposals of the local communities are based on the idea of human security during such times of change. In such ways, the approaches taken for solving the issues need to be accessible by the locals and provide a risk-free alternative for them.

The overarching goal of the Mukdahan SEZ should be to uplift Mukdahan into becoming an important border city with green industries and trade opportunities for the prosperity and well-being of the people of Mukdahan. To accomplish this goal, the government must make addressing the concerns of the local residents and considering the safeguards they propose as their first and most significant priority.

VIII. Recommendations

Based on the research findings, the research panel has the following recommendations for the government sector for better land governance and development of Mukdahan SEZ:

- 1) The state needs to avoid causing possible risks to land ownership of the local communities. It should not extend the developmental area in the future. Furthermore,

if there is a need to expropriate the land, there should be a fair compensation for the loss of land that is based on the real market value, including the cases of the land of the Agricultural Land Reform Office.

- 2) The government needs to explain the SEZ with both positive and negative effects in easily accessible means such as organizing community forums especially in the area of expected effects. Most importantly, the information needs to be clear, and open with possibilities for the locals to be a part of the decision-making committee.
- 3) The state needs to rethink the infrastructure plans that do not require land expropriation from the locals. Moreover, it needs to establish welfare funds and compensation funds such as:
 - health and compensation funds for the affected people including the measure to protect local people's health
 - funds for welfare to provide help for local occupations that may lose from the SEZ as well as rehabilitating the environment from the pollution and the decayed infrastructure
 - funds for education for children in the area until the age of 18 to repay back the opportunity for the community if they lose occupations
- 4) The state needs to create a pollution management strategy, while the factories should be required to have pollution control technology. Inside the industrial estate needs to feature buffer zones to control the pollution. Furthermore, the government needs to have a reforestation plan in the case that the factories are built on public land that have forest area. It should also issue a concrete plan to support agricultural production in the communities.
- 5) The state can reduce conflicts by creating a MOU between the communities around the industrial area and the business owners. The state should accurately – and without any prejudice – evaluate environmental, social and health risks for a better preparation for entering an industrial society. It should apply the eco-industrial city idea in the industrial estate by allowing only sustainable industries. The idea can provide a coexistence idea for a balanced and sustainable development. Three core factors have to be emphasized on developmental plans: the environment, the economy, and the society (see table 5).

The development of the industrial area should consider five factors. Firstly, the physical place needs to be the most suitable and corresponds with the law of land acquisition. Secondly, the economic perspective should include local economy in the plan together with the industrial economy for a fair and just growth. Thirdly, the environment has to be protected. There should be a clear management plan for waste and pollution for people's health and safety as well as protecting the local food sources. The fourth factor is the social

factor that values people's social well-being. Lastly, the management has to be inclusive and transparent with continuous evaluations of the management system.

Table 5: the Recommendation for guidelines for Eco-industrial Estate in Mukdahan SEZ

Physical Aspects	Economic	Environmental Aspects	Social Aspects	Management Aspects
Industrial zone	Economic Growth on Industrial sector	Eco Efficiency Natural resource management Energy management Process and Product Production process and Produce Pollution Control Waste water Air pollution Waste and toxics Noise pollution Safety and Health Safety and Health Food security	Community's quality of life 1. Basic needs (Income and land security) 2. Living standard (Occupations, Health, Mentality, Life security and safety) 3. Opportunity for better life (Education, Learning, Chance for communication, participation) 4. Value of life (Retreatment, good environment, local wisdom and culture) Quality of life of labour 1. Decent work (working condition, balance of work and family life, Opportunity to develop skills, social acceptance, just wage) 2. Good work direction (work quantity, knowledge and skills, quality of work, good	Participatory Area Management Upgrade the monitoring system Support to national and international standard on management Support for initiative and new management measures Transparency for information and
Transportation system				
Infrastructure				
Buildings in Industrial zone	Economic Stability			
Buffer Zone				
Green area Conservation area Public area	Economic Equity			

Source: Piyaoporn Aroonpong, 2016 modify from the standard specification of the Eco Industrial Estate and Networks 2011, Industrial Estate Authority of Thailand, 2012.

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