

# Value Chain Analysis & Intervention Report

International Field Project BT02



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## Introduction

As part of the joint Bachelor of Tourism study of NHTV University of Applied Sciences and Wageningen University, an International Field Project was undertaken in Koh Chang, Thailand. The field research was done in the period May 1 till May 16 2014.

The reason why Koh Chang was chosen for this project is that, being an island, it is one of the most popular tourism destinations in Thailand. Koh Chang is a fragile destination due to isolation, the restricted land area, a small population and limited domestic land based resources. Koh Chang witnessed rapid, often uncontrolled tourism growth, which has largely influenced the development along its west coast. At the same time, Koh Chang faces various environmental and socio-economic challenges that put pressure on the island's carrying capacity and affect the destination's competitiveness. The entire project is built around the concept of tourism development, which is a constantly reoccurring theme in BSc Tourism study.

The organization for which the research was conducted is called Designated Areas for Sustainable Tourism Administration (DASTA). This is a Thai governmental organization that was established in 2003. Their main aim is to develop sustainable tourism by managing tourism supply as well as the carrying capacity of preselected destinations in Thailand. One of these destinations is the Koh Chang archipelago.

To address the carbon emissions at Koh Chang, DASTA seeks to develop and promote the island as a low carbon destination. DASTA addresses four domains in which they want to reduce tourism related carbon emissions: waste management, water saving, energy efficiency and self-sufficient business concepts. However, what the organization is missing to implement their policy is knowledge about the performance of different tourism related value chains in terms of carbon emissions. In addition, it is unknown what the interests and capacities are of the value chain stakeholders. These can prevent them from taking action. This illustrates importance of finding out these possible obstacles. One of the goals of the research is to identify possible strategic intervention options that would enhance the development of Koh Chang as a low carbon tourism destination.

## Research goal, Questions, Purpose, End Result and Outcomes

The research goal is as follows:

*“To analyze the performance of the value chain of elephant activities on Koh Chang, in order to define feasible interventions to reduce carbon emissions in the value chain and to contribute to the development of Koh Chang as a low carbon destination.”*

The value chain chosen for examination is 'nature based activities'. This chain comprises all kinds of tourism activities of which some are water based like kayaking, and others land based like ATV tours, golfing, snake shows, climbing parks, shooting ranges, mountain biking, hiking trips, and elephant tours. In this value chain study the focus is placed on the six elephant camps present at Koh Chang. The objective of the research is to have a detailed look at the camps and to find out how this value chain is actually built up, which actors and stakeholders are involved and whether it is possible to intervene. Interventions should be made in such a way that the value chain remains or becomes

more environmental friendly, has benefits for most stakeholders involved and limits any possible internal and external carbon spill overs.

In this study the aim is to answer the general research question:

*“How is the value chain of elephant activities at Koh Chang composed in terms of environmental conditions and how can interventions be made to improve these conditions?”*

In order to answer this general research question, more specific research questions are developed:

1. *“How is the value chain of elephant activities composed?”*
2. *“Which stakeholders are involved and what are their interrelationships?”*
3. *“What is the relevance and applicability of the four DASTA domains within the value chain?”*
4. *“What are the current bottlenecks of the value chain in terms of carbon emissions?”*
5. *“What other urgent bottlenecks can be identified not directly related to carbon emissions?”*
6. *“What are strategic intervention options in the value chain?”*

The purpose of the study is to contribute to the environmental condition, benefits in revenue and efficiency in the elephant camps of Koh Chang by identifying critical bottlenecks and potential interventions. In the end the findings will be presented in a value chain analysis- and intervention report. Additionally, an actor-stakeholder meeting has been held at Koh Chang on May 16 in order to share the results of the research project with the involved stakeholders. The final intention of the study is to contribute to the academic tourism literature by giving new insights in environmental conditions and in other bottlenecks that might occur in elephant activities. In addition, the intention is to provide potential interventions for the development of the environmental conditions at Koh Chang and to address other critical bottlenecks present in the value chain of elephant activities. This will all be done in cooperation with the stakeholders.

## **Beneficiaries**

The intended end result of this project is to provide a value chain analysis and an intervention report that can be beneficial to multiple stakeholders. The main beneficiaries are suggested in the following section. Some stakeholders will benefit through short-term benefits, others by long-term benefits.

### *The Office of Special Area Development, DASTA*

This office investigates how designated tourism areas, such as Koh Chang, are able to develop as a low carbon destination by discovering and managing the tourism supply chain and the carrying capacity of destinations. The study reveals some new insights about the value chain of elephant activities for this office. They have not looked into the value chain yet and this study already provides them an insight in critical bottlenecks and potential interventions to address these bottlenecks. Therefore, this research might contribute to the development of Koh Chang as a low carbon destination when the office takes the bottlenecks and recommendations into account (DASTA 2014).

### *Public sector*

The public sector of Koh Chang consists of a municipality and other regional and national institutions, that affect policies in Koh Chang. The study provides an insight for the public sector about how the value chain of elephant activities is performing in terms of low carbon practices. They can use this

information in encouraging the elephant camps to implement some interventions or to provide regulations which will push the elephant camps to become more environmental friendly. This report might also give them an insight in how important their role can be as intermediary in arranging meeting with the managers.

#### *Owners and employees of the elephant camps*

At Koh Chang, six elephant camps are present: Bin Camp Chang, Ban Kwan Chang, Chang Chutiman, Ban Changtai, Kai Bae Meacham and Klong Plu Elephant Camp. This study is especially beneficial to the owners of the camps. It shows them the present critical bottlenecks in their value chain and the possible interventions that can be made to address these bottlenecks. It might raise awareness among the owners about low carbon practices and help them in developing knowledge about those issues. The owners might be inclined to implement some interventions, which will be beneficial for the image of the elephant camp as more environmental-friendly. In the end this might attract more tourists and, increase profits, and improve the brand of the elephant camp. Furthermore, the improved image and thus potential increased tourist numbers might improve the working conditions for the managers, mahouts and other employees as well due to the fact there will be more revenue generated. The mahouts are the care takers of the elephants. They make sure they keep healthy and are well-fed. In addition, they drive the elephants during the treks. At times, a mahout has just one elephant to take care of, but it also happens that a mahout has multiple elephants to guard.

#### *Actor-stakeholder meeting*

The findings of the study have been shared in a local actor-stakeholder meeting. Managers of the elephant camps and an owner of a travel agency were invited as important stakeholders in the value chain of elephant activities. Furthermore other stakeholders in the tourism industry of Koh Chang were present; e.g. the mayor of Koh Chang, tourist police, managers of big and small hotels, managers of diving and snorkeling tours and employees of DASTA. The meeting provided an opportunity for the stakeholders to sit together, have little chats, get an insight in our findings and raise awareness about the importance of low carbon practices. It might even have triggered some stakeholders to think about implementing one of the presented interventions. Of course interests of the stakeholders differ and not every stakeholder was interested in these alternatives. In addition, the stakeholder meeting was beneficial for the researchers in the sense of gaining experience in sharing findings with stakeholders and having the opportunity to receive feedback on the research project.

#### *Students of NHTV University of Applied Sciences Breda & Wageningen University*

These institutions provide the bachelor program BSc Tourism, whose students will conduct the research. The students will probably benefit most from this study. They have the opportunity to practice their academic skills in an international environment and execute different research methods in practice. They will face difficulties in keeping focused, language barriers, cultural differences, gathering good data and applying theory to practice. Furthermore, they learn to share their findings with the stakeholders involved at the stakeholder meeting.

### **Beneficiaries when research interventions are implemented in practice**

#### *Tourists*

Additionally, when recommendations are followed up and some interventions are implemented, this

study will bring benefits for the tourists in the end as well. They will gain a more complete experience during the activity and the environmental friendliness of the activity will be increased.

#### *Private sector*

Finally, it might bring benefits for the private sector; the businesses that are directly and indirectly related to the value chain of elephant activities (e.g. travel agencies, hotels, resorts, farmers, and bike- and car rental shops). When the elephant camps become more sustainable and due to this gain more tourists, those businesses will indirectly profit from this in terms of more revenue.

## **Research Design & Limitations**

### **Reflection of Ethical Issues**

The meaning of ethics is hard to define. In this research, ethics is regarded as the standards of right and wrong; how people should behave to one another. Standards are obligations that unconsciously force one another to act or not act in a certain way, like having moral obligations against stealing or helping someone in need. In research, ethical issues may arise due to different views that come with different backgrounds of the people involved. Ethics also imply safeguarding the privacy of respondents, avoiding harm, and autonomy of the research. The following examples show ethical issues which arose during research.

#### *Interpersonal communication with research subjects*

Throughout the research, communication between the researchers and tourists, elephant camp employees or managers, and other actors involved proved to be difficult. It was hard to communicate complex information to people who cannot not speak English very well. Getting consent, explaining the purpose of the research and confidentiality, and the use of the results were all difficult to communicate. Sometimes, the ethical information had to be simplified, which meant that not all vital information could be shared with the interviewees. In addition, Thai people are less willing to enter a conversation than the western population the researchers are used to. Therefore, extra caution had to be paid when starting a conversation. Subjects were politely asked if they wanted to cooperate. Thai people also do not want to say they have no time or they do not know something, so more questions were asked to find out the truth in order to deal with this cultural difference. Participation had to be voluntary, not because they wanted to be friendly.

#### *Consent and privacy of research subjects*

It proved difficult to communicate the right information making it hard for the subjects to decide whether they wanted to give consent about the topic they were interviewed about. During participant observation, permission was asked to the employees, but no consent was gained to the people observed. This was deliberately done, since gaining consent during participant observation might bias the behavior of the people observed as they would know they were being observed. This ethical dilemma occurred multiple times during participant observation.

It was also difficult to decide to talk with people of the elephant trek industry off the record about how the industry really is. Additionally, when confidential information was given, it was hard to decide what to do with it. The information could be used but that would mean the researchers might break the bond of trust. On the other hand, the information was too useful to not to be used. The

researchers decided to use the information, but keep it confidential and prevent any harm to the subject.

#### *Data interpretation*

When ethical issues were recognized during the research, this interpretation of the situation might lead to data bias. The researchers might have thought they understood the situation and therefore interpret the data in a different way than when they would not have seen the encounter as determined by cultural differences. It was vital that the researchers kept the Thai culture into account to make sense of what was going on, but at the same time attention should be paid to not interpreting too much from a western perspective.

### **Assessment of Research Limitations**

The research and the used research methodology came along with some limitations. One of the limitations of the research design is that it is a cross-sectional study design. Therefore it was not possible to capture data about changes in the elephant camps, due to the one time data collection. In order to get a little insight in the changes in the camps questions were asked to the managers about seasonality issues and how their business had changed over the past few years. However, this research still only gives an insight in the value chain and its bottlenecks at the current situation.

Another limitation of the entire research is the cultural background of the researchers, that unconsciously shapes body language, opinions and behavior. In the beginning they looked towards elephant tourism as something ethically bad, because they perceived elephant tourism as exploitation of elephants. However the more they learnt about the Thai culture and about the important position of elephants in this culture, the more understanding they gained about elephant tourism. Nevertheless this perception might have shaped the research process in a way that they were looking more for negative points about elephant camps than for positive points. In addition, the entire research process took place in two weeks, which is a short amount of time. This might affect the reliability of the research, the validity of the data and made it difficult to explain more unfamiliar parts of the value chain. The time limit, therefore, also created a limit for the number of identified bottlenecks, as it was impossible to research the complete value chain into detail.

#### *Participant observation*

The most important limitation of the participant observation is that the measurement instruments are human beings making the data form based on the researchers' experience, awareness and personality (Schwartz & Schwartz, 1995). Although the researchers made the attempt to stay objective, there will be always some influence. This influence is reduced by the use of triangulation in which different data collection methods are used to find out if results are comparable. In addition, the presence of the researchers might have influenced the behavior of the subjects observed; the tourists, mahouts and employees. The researchers attempt to be as discrete as possible, however because the low amount of visitors at the camp, their presence was still noticed. In order to diminish this influence, the researchers did both active participant observation as a tourist and observation from the outsider-position. Additionally the form of convenience sampling is used during participant observation meaning that the most approachable object is used for observation. However, this might lead to the disadvantage of sampling bias.

### *Questionnaires*

The biggest limitation in the questionnaires is the low sample size. Due to the low season and thus the small presence of tourists, only a few questionnaires were handed out in the limited time frame. The low sample size does not make the outcomes of the questionnaire generalizable for the entire tourist population; however it gives at least some insight in the opinion of visitors. There is awareness that the outcomes of the questionnaires should be treated with care and that the value should not be overstated. In addition, due to the low visitor number it was not possible to do random sampling. All visitors that were returning from the trekking were asked to participate. This influences the reliability and validity of the outcomes negatively. Another limitation of the questionnaire was that it was conducted in English. This excludes tourists of which their level of English is not sufficient to answer the questions and therefore perhaps some interesting opinions have been excluded from the sample. To limit this exclusion, the researchers tried to conduct the questionnaire as a semi-structured interview or attempted to translate it to the language of the respondent (e.g. German, Dutch, and French). Moreover, some of the questions were too difficult for some respondents to answer and got a very low response rate. These questions are not used for data analysis in the end. Lastly, the questionnaire was standardized which might have caused misinterpretation among respondents as questions might not be clear enough.

### *Semi-structured interviews*

The interviews helped in gaining a more comprehensive insight in the elephant camps; however they have some limitations as well. First of all, the synchronous communication in time and place might have influenced the respondents' answers by social cues of the researcher (gestures, voice, body language), which is called the interviewer effect. This one is very important in this research because the interviews were conducted by different interviewers, which thus might have influenced the responses. Another important limitation is that the interviews had to be analyzed by coding. Coding never happens fully objectively and some questions were quite difficult to analyze. Therefore, comparability is diminished because wording will probably be different in each interview (Patton, 2002). Moreover cultural differences between interviewers and interviewees might have biased the data collection and analysis, because this influences the perception of certain questions and answers.

In addition, the interviews were limited in the fact that some questions were not asked because they were already answered before during informal meetings, have been overlooked by the interviewer or were in the end not applicable because the interviewer found out that the interviewees did not know about it, which ended up in fewer data collection. Some of the follow-up questions could have been asked as leading questions, which affects the validity of the data. Furthermore, the language barrier was also present in the interviews and limited some of the data collection, because some of the interview questions were not understood correctly, this happened especially with stakeholders not working in the tourism industry. The English level of the managers was sufficient, however they had some issues with the concepts 'low carbon practice' and 'sustainability', which might have led to less detailed answers about these issues. Through limited answers the researchers might miss out some interesting or even crucial information about those concepts. The interviewers rephrased these questions with simpler words, but this impacts the intensity of the answers. Therefore this information was also gathered by participant observation to ensure the quality of the information about difficult concepts. Lastly, sometimes a difficulty existed in meeting with stakeholders. Some of the managers were not present at times when a meeting was planned and others did not want to

make any time free. The research is therefore lacking the entire research area scope , meaning there is the possibility that the collected data is biased.

## Reflection Initial Project Plan and Task Division

### *Project plan*

During our project at Koh Chang the initial project plan was a useful tool in carrying out our project efficiently (Appendix 2). It was the guideline at what days we had to perform participant observation, conduct interviews and hand out the questionnaires. We have done our best to keep up with this plan. However it was not possible to exactly follow up the plan due to the different circumstances we were facing. One of the changes in the plan was that we needed more time to get to know the elephant camps. We used two days for participant observation to obtain our first impression of the camps. In addition we did some informal unstructured interviews with employees and tourists to get a more comprehensive overview of the camps. Another change was the timing of our participation in the treks. We wanted to do the trek in the first few days, however this turned out not to be possible. We were waiting for a reply of DASTA in order to obtain discount for the treks and had to create attention points for the trek (Appendix 8) which were based on our participant observation in the camp. So in the end we did the elephant treks after one week. Furthermore the stakeholder meeting was planned earlier than we thought, so we eventually had to do a bit more work in the last few days. This created no major issues in our plan, because we had gained some additional time by doing the interviews all at the same day.

We figured out that you have to be flexible in the research area, more than we actually expected. First of all towards the people you want to interview. They told us we could step by anytime, but in some cases they were suddenly not there and we could not do our interview at that day. And during the interview their business was still running, so sometimes they had to interrupt their interview to manage the business. Furthermore we had to be flexible due to rain and storms. Sometimes we had outdoor plans, but because of the rain we could not carry those plans out. We had to think of alternative tasks for that day and thus had to shift some tasks in our plan.

### *Task division*

Also in our task division some changes have been made. Actually the tasks which were attributed to certain persons were not carried out as stated in the schedule (Appendix 3). A more natural task division came to existence. Since day one we decided it would be good to split up in two groups, so we could divide our time more efficiently. One group existed of Fleur, Joeri and Ivo and the other group of Tom and Esther. We did our participant observation in those groups at different elephant camps and this worked out well. In the afternoon we met with the whole group, shared our findings and discussed what we had to do the next day. Sometimes the composition of the two groups changed, but we never did data collection with the five of us. When we had to hand out the questionnaires and had to participate in the elephant treks we did this individually at different elephant camps. This was done to use time as efficient as possible and to gain as many respondents as possible in the short time we had. The semi-structured interviews we carried out were always done in groups of two persons; however these groups were composed of different research members at the different locations. So in the end we all did some participant observation, handed out questionnaires, participated in the treks and conducted interviews.

When all the data was collected we had to type it out and to make some analyses. One half of the group typed out the data we gathered and created the basis for the stakeholder presentation, while the other part of the group had in the meantime invited all the stakeholders and had some additional conversations. Together we made the analyses, identified the bottlenecks and came up with possible interventions.

In addition, at meetings a more natural task division existed. With this is meant that we did not divide roles in advance for the meetings, but that everyone took the role that suited him or her the best. For instance, we discussed before the meetings what we were going to address and made some bullet points. At the meetings there was no real chairman, we rotated in mentioning the bullet points. Beforehand we also discussed who was going to do the minutes and several members have carried out the task of secretary during the different meetings. And in the end, Fleur was keeping the data together and Ivo and Esther were the contact persons for stakeholders because of their Thai telephones.

### **Risk Analysis Reflection**

The risk analysis in the initial research plan ranged risks through 'impact of the risk on the project' and 'likelihood of happening' (Appendix 1). The research team encountered a large part of the risks and implemented some of the strategies that were created in advance of the research project. Most risks that would have an insignificant impact on the research were encountered by the researchers. Miscommunication within the research group happened on a daily basis, but was also resolved on the same day. Dealing with the different circumstances was dealt with by producing a revised plan that would result in a higher efficiency. The team was divided into smaller groups and tasks were clearly divided among the researchers. Transportation to the research spot was also an issue during the research. Most taxis were not willing to take a single researcher to a research spot. The taxi's charge per person and this would earn the taxi drivers not enough money. The researchers were therefore forced to find other modes of transport.

Some of the risks that were expected to have minor impact on the process were also faced during the research period. The researchers were distracted from the project often. A breath-taking sunset during the evaluation of an interview with the National Park is one of the many distractions that the research team faced. The research team managed to handle the distractions by allowing themselves to take sufficient time off. Another risk was that during the weeks that the research took place on Koh Chang, the low season with vast amounts of rain would start. The fact that an elephant trek is an outdoor activity makes the weather an important factor. The rain and thunder had a higher risk on the project than we had foreseen. During periods of rain there were no tourists or activities at the elephant camps, this made interviewing tourists and observing more complex.

Miscommunication with the stakeholders did take place once. Mister Chutiman (the owner of Chang Chutiman Tours) did not want to schedule an appointment with the researchers but invited them to "just come by". The researchers visited the camp three times to interview mister Chutiman, but it turned out that he left the island and was visiting his family on Phuket. Chutiman's absence had a moderate impact on the research project. Although some of the researchers experienced illness during the research project, this only prevented them from doing research one or two days.



## Research Log

In the logbook an overview is given of the undertaken research activities per day. This helped in keeping track of the research progress and clearly shows which activities were undertaken when, by whom, why and which results were gathered. The entire logbook can be found in Appendix 4.

## Reflection Stakeholder Meeting

The stakeholder meeting took place at May 16<sup>th</sup>, 2014. The purpose of the stakeholder meeting was to reveal the findings of all research groups to the stakeholders by means of presentations. In these presentations the research methods, main bottlenecks and recommendations were discussed. Furthermore a critical question was asked to the audience to either gain more information upon the topic or to raise discussion among the stakeholders. To the stakeholder-meeting all kinds of different stakeholders were invited ranging from managers from elephant camps to the major, the local mailman and hotel owners. The day before the official stakeholder a rehearsal was performed in order to gain feedback on strong and weak points in the presentations. That evening the presentation was revised according to the feedback to make sure everything was clear.

Our group started with a comparison between the development of Koh Mak as low carbon destination and the current status of Koh Chang. This was done to highlight that Koh Mak is an good example of tight stakeholder cooperation. Cooperation and commitment of stakeholders is an important aspect in the value chain of elephant activities, because this might contribute in solving some bottlenecks. After this comparison, the research methods applied in the field were shown, together with some photos of our data collection. Next the bottlenecks and recommendations were addressed. In the end, we had a critical question: "What is your perspective on the elephant paper production suggestion?"

One of the managers of the camps answered the question and provided some valuable information. He mentioned for example that the management of elephant excrement by producing paper was an interesting and feasible idea. He added that he never realized its potential till this stakeholder meeting. In addition, he pointed out that there were some problems, which he should overcome to be able to implement the intervention, for instance the lack of knowledge and capacity among the managers. This gave us new insights in the capacity and willingness of the managers to implement certain interventions and additionally what they abstain from taking action. Some other stakeholders mingled in the discussion and provided some more interesting information about the potential of elephant excrement.

Altogether, it was very interesting for us to organize a stakeholder-meeting and to share our findings with the stakeholders. We really appreciated it that so many stakeholders had appeared at the meeting and were contributing to our research by sharing their ideas and thoughts.

## Literature Reviews

### Introduction of the Destination Area

In order to create an idea of the value chain under study, a short introduction about Koh Chang is needed. Therefore, the area, tourism situation, academic literature and macro factors are being looked at.

The area where the value chain, nature based island tours, will be studied is the island Koh Chang in the southeast of Thailand. The island is the second largest island of Thailand and has 5500 permanent residents. The tourism sector is largely concentrated at the western part of the island (Buijtendijk, 2014), while many of the eastern parts are still owned by former fishermen and farmers.

In 1998, 70.000 tourists visited Koh Chang. By 2014 the tourist arrivals to Koh Chang skyrocketed to 800.000 tourists per year. Nowadays, one third of the tourists are international and the main international tourism markets are Russia, Scandinavia and Europe (Buijtendijk, 2014; iamkohchang.com, 2014). The growth in tourism numbers can be accredited to several factors: good external accessibility due to a nearby airport, easy internal accessibility due to improved infrastructure, enough accommodation and many nature areas serving as a large attraction. Koh Chang's official tourism focus is niche resort tourism in which tourists with mid ranged incomes are targeted, creating a large approachable market segment.

The Thai government's goal is to make Koh Chang known as the first climate-friendly destination within the Association of Southeast Asian Nations (ASEAN) countries. DASTA and the German research bureau Gesellschaft für Internationale Zusammenarbeit (GIZ) want to achieve this by changing the image of Koh Chang to a low-carbon destination. They have discovered that there is tourism demand, mostly European travellers, for travelling to more environmentally friendly destinations (Chinmaneevong, 2014). At Koh Chang, several activities are introduced that reduce CO<sup>2</sup> emissions: training people to be more efficient in the usage of resources and reducing energy use, encouraging companies not to overuse and deplete the current ecosystem and increasing public participation (DASTA, 2013).

The existing academic literature about Koh Chang is scarce and literature present mostly addresses the destination from a business perspective. Studies by Wilaijitt (2013) and Mechinda. et. al. (2010) mainly researched business related topics, such as Koh Chang as a tourism product and the destination competitiveness factors. Wilaijitt (2013) studies the tourists overall satisfaction of the tourism product of Koh Chang. In his article he interviewed Thai and non-Thai tourists. For example he illustrates the different perceptions of travel agencies between Thai and international tourists as "findings showed that some of the tour guides had a problem with communicating in English language" (Wilaijitt, J. 2013, no page nr.) causing dissatisfaction amongst international tourists. Information about tourists' satisfaction level in various components can contribute to the analysis of the performance of elephant camps. The article of Mechinda et al. (2010) studies the relative impact of competitiveness factors and destination equity on tourists' loyalty toward Koh Chang. In Koh Chang the main competitiveness factors that influence domestic tourists are location of destination, quality of service and natural resources, "while the competitiveness factor that influence international tourists is natural resources" (Mechinda et al., 2010, p.1). Finding out the competitive

factors of Koh Chang will help in understanding the performance of the elephant camps and how they are positioning themselves compared to other camps in Thailand.

In addition to all above mentioned factors that are influencing the destination of Koh Chang, there are also several coordinating factors that can be examined. These factors concern the larger contextual setting of the value chain of nature based activities and affect it as a whole. The following items are included: climate change, loss of biodiversity, destination competitiveness, authenticity, political situation and economic growth (Appendix 5).

## Literature Review of the Main Problem

### *Nature based activities*

Nature based tourism is tourism concerning tours to parks and to areas in the wilderness, mostly in countries where most of the biodiversity in the world is situated (Olson et al, 2001, p.936).

Nature based tourism impacts various natural resources and creates some serious risks for natural areas (Kuenzi & McKneely, 2008). Ecosystems are threatened by the nature based tourism services. An example is polluted fresh water supply, which is used by the flora and fauna or vegetation, which is transformed for tourist services. These protected areas are often dependent on tourism, because this is a source to gain money, which makes it possible to protect the area. It will be hard to reduce the tourism sector in these severe nature areas, because a big part of local economy is dependent on it and they will lose benefits if the tourism sector disappears.

Nature based activities consist in different forms. Firstly, they partly exist of adventure tourism, which consists of tours with a focus on activities outdoor. It relies on the natural terrain and special equipment needed to have an experience combining risk and excitement (Buckley, 2003). According to Kuenzi & McKneely (2008), the increasing popularity of adventure can be explained through increasing media access and globalisation. Furthermore, the nature-based activities exist of ecotourism and sustainable tourism activities. These activities, for instance an environmental friendly hiking tour, have to meet certain criteria related to improvement of the environmental condition of the destination (Kuenzi & McKneely, 2008).

### *Low carbon destinations*

Tourism is expected to grow with 150% by 2035 and already emits 5% of all CO<sub>2</sub>. This growth should be reduced in order to fight the consequences of global warming (UNWTO-UNEP-WMO, 2008). Low carbon destinations can help in this process.

The concept 'low carbon destination' is derived from earlier developed concepts as low-carbon economy and low carbon tourism. Low carbon tourism is a form of sustainable development by offering economic, environmental and social benefits by using different technologies to reduce carbon emissions, such as carbon compensation, minimization the use of fossil fuels and reduction of emissions (Cai & Wang, 2010). Gössling (2009) focuses on low carbon destinations, naming them carbon neutral destinations, basically a destination not contributing to the climate change regarding emissions. The definition does not mean that there is no CO<sub>2</sub> emitted, which is almost impossible (Gössling, 2009). Mostly, emissions are compensated in other sectors by saving emissions, for example by conserving forest areas.

Achieving carbon neutrality is not a simple process. The first step is to have certain boundaries stated, because it is more realistic to achieve carbon neutrality within boundaries, or within certain sectors, than in the whole economy (Gössling, 2009). Within tourism, there is mostly a focus on three sectors: transport (to and from the destination), activities, and accommodation (Becken, 2002). Tang et al. (2011) mention that the tourism industry is an important factor in creating a carbon neutral destination, because the industry contributes significantly to the total emissions. By implementing low carbon management in the tourism industry, the destination can avoid degradation and is able to reduce costs and emissions. This management results into a better destination image and a stronger competitive position. Emissions can be reduced by reusing, recycling and reducing the use of resources.

### *Cultural Background*

Elephants have been captive in Thailand since the 13<sup>th</sup> century (Stiles, 2009). In the 17<sup>th</sup> century, elephants were already used for warfare and transport. Later, elephants were also used in the logging industry. Due to the ban on logging, most elephants are now used in the tourism industry. It was reported that there were 200,000 wild elephants in Thailand in 1782. This has reduced to 1,000 nowadays. The reduction can be attributed to the fact that elephants are not used practically anymore and due to poaching for ivory (Stiles, 2009). Elephants have played a historically important role in the history and culture of Thailand (Amranand et al., 1998). Mishra (2010) mentions that the elephant was already depicted in the national flag of Thailand for a long time as the elephant was so important as a working animal. Elephants are also connected to Buddhism in which they are a symbol of strength. In addition, they are connected to the royal family who seems to possess white elephants, a holy figure in the Buddhist mythology.

### *Service Quality*

All services within tourism consist of a certain perceived quality and a certain created value, with consumers judging these. Quality and value are key components for the competitive position of a destination, making tourists more or less likely to visit. The way tourists perceive quality is influenced by their own culture. When host and home cultures differ and the tourists' culture is not supported, it is possible that disappointment will appear due to the lack of meeting expectations (Weiermair, 2000). Zeithaml et al. (1993) have introduced the SERVQUAL instrument. SERVQUAL is a multi-item scale, used in various services to assess the expectations of tourists. Zeithaml et al. (1993) have created five dimensions, which help investigate the service quality. The more of the dimensions available in a large quantity, the better the perceived quality is. The dimensions can be found in the table below (Table 1).

Table 1. Service Quality Dimensions

Dimensions	Definitions
<b>Tangibles</b>	Appearance of physical facilities, equipment, personnel and written materials.
<b>Reliability</b>	Ability to perform the promised service dependably and accurately.
<b>Responsiveness</b>	Willingness to help tourists and provide prompt service.
<b>Assurance</b>	Employees' knowledge and courtesy and their ability to inspire trust and confidence.
<b>Empathy</b>	Caring, easy access, good communication, tourist understand and individualised attention given to tourist.

SERVQUAL is also used in the tourism industry. Chang (2009) mentions that SERVQUAL is used by

companies that are composing package tours and marketing companies. Mahouts, the elephant caretakers, are transported from different parts of the country to more touristic areas. According to Chang (2009), SERVQUAL is recognised as a way to assess tourist expectations, which is why SERVQUAL will be used in the research.

#### *Tourism value chain*

As this research focuses on a value chain within tourism, it is important to know what a value chain comprises and what its role is within tourism. Kaplinsky & Morris (2001) explain that a value chain comprises all actions which are needed to make a product or service through different stages of production, delivering the product to tourists and disposal of the product after use. In addition they mention the extended value chain, where external factors influence different parts of the value chain. In some cases, a value chain might even split into multiple parts when certain parts of the value chain might influence multiple other factors which are important for the complete value chain (Kaplinsky & Morris, 2001). Porter (1985) mentions two important parts of how value chains are analysed currently. The first part comprises analysing activities performed in the value chain with a difference between supply, transformation of input to output and supporting services to the value chain, like planning and management. The second part is about the linkages between certain factors within the value chain.

At the basis of the concept 'value chain' lays the concept of global commodity chains. Global commodity chains look at globally spread but connected production organizations (Gereffi & Korzeniewicz, 1994). These global commodity chains show how the power relations are present in the chain, which contributes significantly to the analysis of value chains and how they are coordinated by power relations (Kaplinsky & Morris, 2001).

Weiermair (2000) zooms in on specific tourism value chains. The tourism value chain is made up out of the whole array of facilities purchased and consumed by tourists and takes place at a certain destination, also known as the making and consumption of holiday experiences (Bieger, 1997). A simplified view of the actors in a tourism value chain is composed out of; planners and designers of the basic tourism products, suppliers of tourism products or services, tourist intermediaries and the end consumers, tourists (Romero & Tejada, 2011).

#### *Tourism value chain analysis*

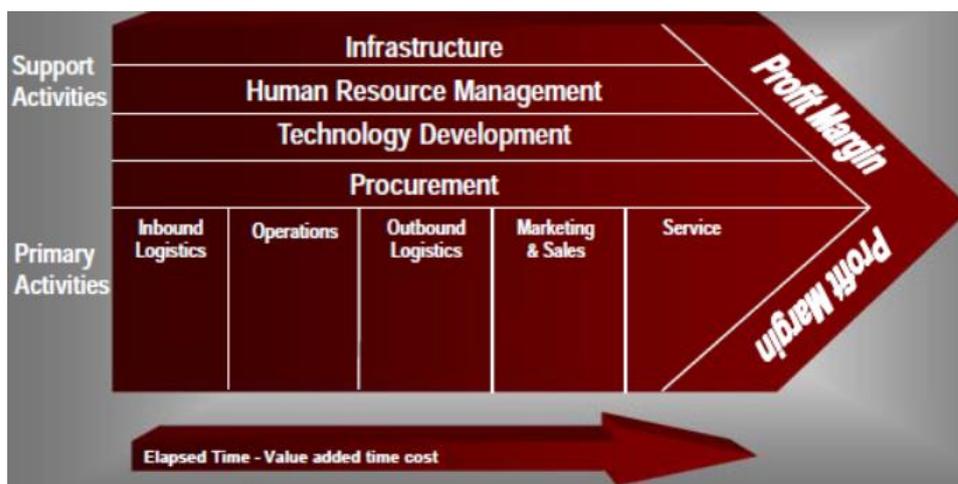
In order to explore the environmental impacts of each component in the tourism value chain, a useful tool is a value chain analysis. Porter (1985) mentions that a value chain analysis is a process of a company where the company identifies the primary and supporting activities (Figure 1). The company then analyses the activities to see if they can reduce their costs, environmental impacts or distinguish their product. There are two approaches of analysing a value chain, according to Porter and Millar (1985). (1) Reducing costs; this approach is used to find out where costs can be reduced in order to create a competitive advantage. (2) Differentiation; the value chain analysis is conducted to discover where in the value chain components can be improved to create a superior or different product.

To carry out a value chain analysis, certain steps have to be followed. As a first step, the activities needed to create the product, both primary and supporting, have to be analysed. These exists in three forms; (1) direct activities, which create value directly; (2) indirect activities; which help activities to go easily; (3) quality assurance. Linkages between the different activities have to be

identified as well, knowing which activities influence other activities (Porter, 1985). In this phase, the value chain has been mapped and components are identified (Kaplinsky & Morris, 2001). The next step is to give a value for the identified activities within the value chain. Value of input and output of the activities have to be recognized in order to know the value created by each activity. Furthermore, different kinds of contributions are listed per activity (Porter, 1985). In addition, efficiency of the activities can be included, in order to understand how efficient the activities are functioning. The influence of external factors and global markets also have to be identified in order to understand value chain dynamics, because different parts of the world require different kinds of values in order to be successful (Kaplinsky & Morris, 2001). After all, it is important to understand the drive of the value chain; the power relations. By identifying and understanding key buyers an understanding can be created about whether it is a buyer-driven or producer-driven value chain (Porter, 1985; Kaplinsky

& Morris, 2001).

Figure 1. Porter's value chain



The third and last step is to upgrade the value chain. In this phase, the value chain is examined and plans are made about adaptations in the value chain in order to reach competitive advantage (Porter, 1985). Four forms of upgrading exist; (1) improving the efficiency of the process within a value chain, (2) improving the product to meet tourist needs, (3) improving functional positions by moving or removing activities and (4) deciding to move into a whole new value chain. In order to do upgrade the value chain correctly, governance, regulations and different rules of the area where the value chain operates have to be known, so the value chain is adjusted within the local rules of the law (Kaplinsky & Morris, 2001).

### Literature Review of Similar Professional Value Chain Studies

In order to develop a comprehensive understanding of the value chain of elephant camps, other tourism value chains analyses in the existing tourism literature have been investigated. These tourism value chain analyses address some characteristics which are relevant to describe the value chain of elephant camps. Furthermore challenges of another tourism value chain analysis are identified, which might be applicable for this research as well.

The study of Steck et al (2010) monitors the value added in the tourism industry of Zanzibar, in terms of tourism revenue, by mapping out the contribution of each sector. The study provides a detailed look to what extent the tours and excursions-sector contribute to the total tourist revenue. This information could be of interest for the value chain of interest, because nature-based activities are often organized in tours and excursions as well, for the safety of the tourists and out of protection for the environment (Valentine, 1992; Higginbottom, 2004). In Zanzibar, the small tour-operators are dependent on walk-ins tourists, which make their business unbalanced and unpredictable. In contrast the large tour operators have a more balanced business, due to the main reception of tourists through mainland tour operators or agents abroad. About 70% of the staff of the tour-operators is Zanzibari people and all their tours and services have local linkages, such as consuming local products and sub-contracting local guides, who are both working formally and informally. These findings are interesting to look at within the value chain of nature based activities as well. Furthermore the study reveals the contribution of souvenir shops and restaurants to the total tourist revenue. This also could be of interest for the value chain of nature based activities, because it is assumed those will be present in the value chain of nature-based activities on Koh Chang. The restaurants in Zanzibar purchase all their fresh food at the local markets, in contrast to the imported dry goods. Up to 80% of the souvenirs are imported from neighbor-country Tanzania and beyond. In order to become more energy efficient these types of imports should be taken into account in the value chain analysis of nature based activities.

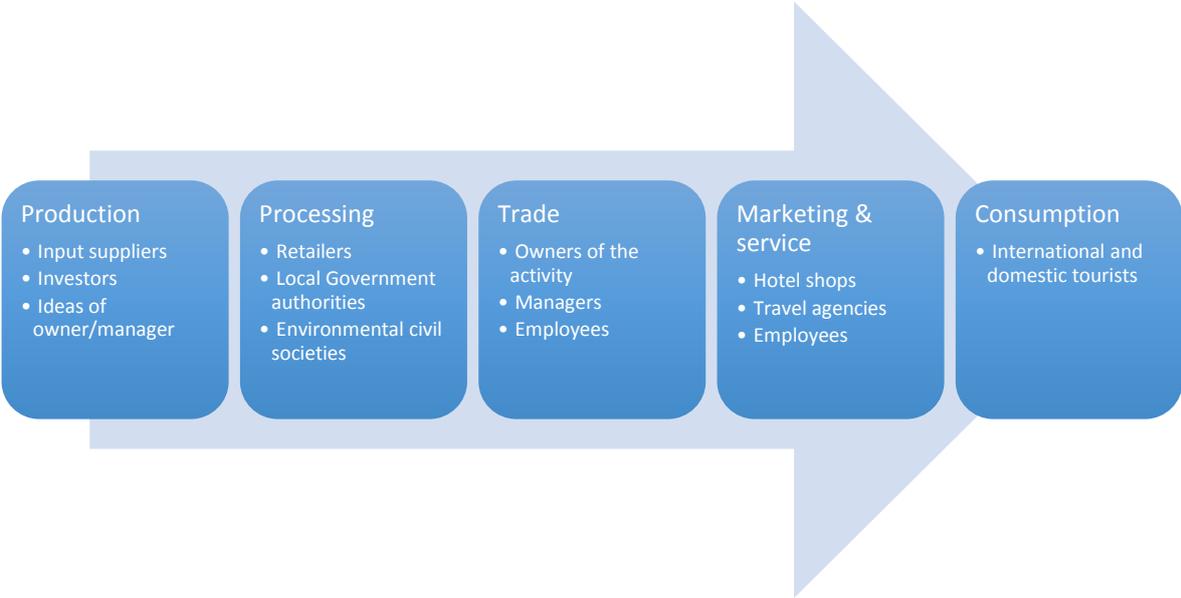
In addition, the tourism value chain analysis of Sapa, Vietnam gives a more detailed insight in the component tour excursions (Majerus et al, 2008). The analysis points out tour excursions are generally composed of tour guiding, porters and complementary village-based services and products. The study reveals that tour preferences differ significantly between domestic tourists and international tourists. For example international tourists have a growing demand for luxury products and quick, complete excursions and are less keen on village homestays. The international tourists book their tours by local-based tour operators, because they have to visit the villages and rural areas with tour guides. In contrast this is not compulsory for domestic tourists. The local-based tour operators mostly work with local tour guides and local porters. These varieties in preferences of domestic and international tourists are interesting elements to look into at Koh Chang when the value chain of nature-based activities will be investigated, for instance in how these different preferences influence the applicability of the four DASTA domains.

The study of the Foreign Investment Advisory Service (FIAS) of Mozambique is also about a value chain analysis of their tourism sector. Although Mozambique is located in a totally different continent than Thailand, their tourism sector resembles a selection of characteristics that are relevant and applicable to this research. In the case of Mozambique's tourism sector, a value chain analysis has been done in order to 'identify the opportunities and constraints that might keep the sector from fulfilling its economic and social potential' (FIAS, p.3). The report's Priority Issues and Action Plan Matrix show that one of the issues at stake concerns the increasing competition for land-use rights for expansion of tourism (FIAS, p.13). This will also certainly be an evident problem at Koh Chang as a lot of the land available for tourism has already been taken. Koh Chang's west coast has undergone dramatic changes in the past 10 – 15 years; becoming overrun with accommodation, restaurants and tourists themselves (iamkohchang.com, 2014b). The limited space on the island that

is still left for possible tourism construction is running out and no expansion is possible due to the protected national park that covers the rest of its scope. Another land related issue in Mozambique is the improvement that has to be made with regard to the cooperation of communities and investors. The countries' aim is to 'increase regulatory oversight, transparency and monitoring of compensation mechanisms and arrangements between communities and investors' (FIAS, p.75). The involvement of DASTA in Koh Chang with its aim to develop the place into a low carbon destination has not been without doubts and opposition of the local population. Many Koh Chang villagers have criticized the agency for ignoring the locals' opinions on how to develop the island. The project has also caused land disputes and impacted badly on the environment in many areas (iamkohchang.com, 2007). It will be interesting to look at how, for instance, this organization has approached its projects in Koh Chang and how the involvement of the local population can be improved. Another issue applicable to Koh Chang might be the lack of 'mechanisms to ensure the development ... of sites', which in the case of Mozambique referred to its Elephant Reserve (FIAS, p. 14). It stresses the need for a coordinating body that steers and monitors the development of the elephant camps in an environmentally improving and safe way. It is not clear whether such a body is present at Koh Chang, but since it is clear that mutual cooperation and a common future vision of the elephant camps can be of great importance, this is an area worth investigating.

**Value Chain Map**

Based on the literature review of existing tourism value chain analyses, of nature based activities in general and the information gathered in the field a basic value chain map of nature based activities at Koh Chang is developed (Figure 2). This map shows the full range of value-added activities from the product's design stage of a nature based activity to the end consumers.



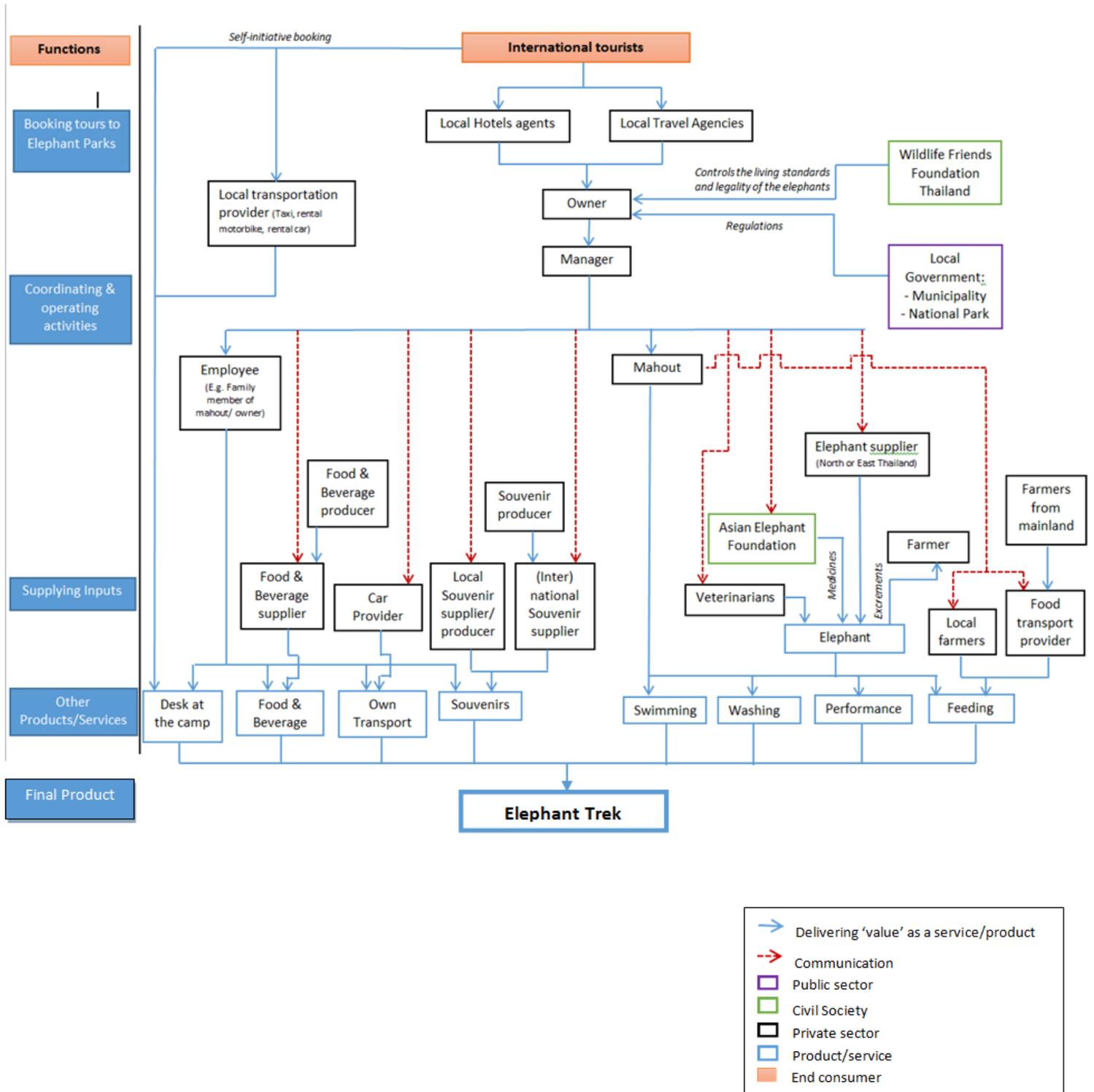
In this research design the focus lays on the value chain of elephant camps instead of the whole nature-based island tours value chain. This selection is made, because the literature review of nature based activities and the first impression at Koh Chang has shown us that the nature based activities value chain is composed of several completely different activities with quite different value chains. It

was too complicated and too time-consuming to research the whole value chain and all its sub-value chains. Therefore the decision was made to focus on the value chain of elephant activities.

The value chain map of elephant activities (Figure 3) shows the involved stakeholders and their interrelationships in the six elephant camps at Koh Chang. The map is derived from the initial value chain map and adapted to the information gathered in the field. The map has helped us in identifying stakeholders and linkages and in discovering opportunities for interventions. In the field we discovered that the value chain was more complicated than we thought in first instance.

In order to draw the value chain map, first the 'end markets' were identified. This means the persons who will purchase the final product, in this case international tourists. As a second step the section 'functions' was developed. These are the individual steps that are indispensable for creating the product from the raw inputs to the end product. The derived functions in this value chain are; 'booking tours to elephant camps', 'coordinating and operating activities', 'supplying inputs' and 'product/service'. Thirdly, the stakeholders were listed and placed in line with their function. Stakeholders are in this map the businesses and people that make or provide the products. Lastly, the interrelationships between the stakeholders were developed by drawing arrows between them. Some arrows show the communication among stakeholders (red arrows) and others (blue arrows) show the direction of how value is delivered. The delivered value is often a transaction of a product/service for sake of money, however sometimes another interrelationship exists. These other interrelationships are distinctly described in the map (SNV, 2010).

Figure 3. Value chain map of elephant activities



## Definitions of Criteria and Corresponding Indicators

A set of criteria and indicators was created before the field research to assess the value-chain of elephant activities. These were based on the four operational domains developed by DASTA. The criteria and indicators formed a basis to build our research methods on. Now the indicators will be evaluated and assessed on their value in practice.

### ***Input Suppliers***

Criteria 1: Origin of elephant food/equipment

*Indicator: Local market and self-cultivation or imported.*

The origin of the elephant food and equipment is related to the transportation that is needed to transport all these goods. The more vehicles needed and the longer the distances between its origin and the elephant camps, the more carbon emissions are used for transporting the goods. Often are locally produced goods inherently less wasteful in terms of fuel use than goods, which have to be imported (Gossling et. al. 2011). In all the elephant camps food for the elephant comes from the mainland (Appendix 7 & 12). The elephants mostly get pineapple leaves and sugar cane and these have to be imported from the mainland. The indicator was useful for identifying this bottleneck. In informal conversations we discussed solutions such as self-cultivation of these products on the island. However some stakeholders argued this is not possible on the island, because of the steep mountains, the dry island soil and protected national park areas. Thus to reflect upon the indicator; the indicator identified a bottleneck in carbon emissions, however there was no feasible solution to reduce these carbon emissions.

Criteria 2: Establishment and health of elephants

*Indicators: Health institutions for elephants*

*Origin of elephants*

*Physical elephants*

The health of elephants is crucial for the owners of the elephant camps, since the treks are the main product of the parks. Sarma (2008) stressed the importance of a healthy elephant. He argued that elephants need a frequent examination of their physical condition by experts from health institutions, because mahouts do not understand all the biological phenomena of the elephants. No health institutions are available on Koh Chang, so transport of elephants to the mainland is needed when they are seriously ill (Appendix 12) increasing the amount of emissions. When the sickness is less serious, the owners of the camps fly in a doctor, who checks the elephants or the mahouts give the elephant some medication. The topic of the health of the elephants was not examined to more detail in this research due to the fact that elephants rarely get sick. Another indicator was the origin of the elephants, because the bigger the distance is between their birthplace and Koh Chang, the more energy is used for transportation of the animals. All the elephants came from Surin province, north-west of Thailand (Appendix12), however it was not possible to track down the carbon emissions of this transportation. Additionally, the elephants will stay in the camps their entire lives, about 50 years. This makes the carbon emissions of the transportation to the island almost negligible.

### **Activity providers**

Criteria 3: Waste management

*Indicators: Quantities of waste*

*Composition of waste*

*Level of minimization*

*Level of recycling*

Waste management in the elephant camps was supposed to be investigated by identifying the quantities and the composition of waste. These technical aspects of waste influence the type of waste management practice implemented (Giusti, 2009). In reality the composition of waste was measured, however the exact quantities of waste were not measured. The amount of waste was relatively small and thus insignificant. The composition of waste was mostly plastic bottles and cans consumed by tourists (Appendix 7). Moreover, there was the aim to identify to what extent the elephant camps were already implementing waste management practices by looking into the amount of waste recycling and into the level of waste minimization practices. Most camps were already collecting and recycling their waste. Waste management seemed in the end not really relevant because of the small amount which was already well managed.

Criteria 4: Excrement management

*Indicators: Areas for excrement*

*Level of recycling and re-using*

The major sources of microbiological water pollution are animal excrement and municipal wastewaters (Dolgonosov et al, 2006). In the elephant camps the excrements of the elephants are to be dealt with. It is explored to what extent this is carefully managed in the parks. This was done by the indicator if there are certain areas for excrement, so the excrement would not end up in the water and affect the water quality. Another indicator, used to identify the management practices, was to look into the level of recycling and re-using of excrement in the parks. This information was gathered by observation and interview data collection methods. The indicators pointed out that there were some serious problems within the excrement management. It is shown that the level of recycling was limited in most parks to only selling it as fertilizer (Appendix 12). Therefore a solution for excrement management was developed: paper-making. A lot of empathy was showed by managers for this plan, thus this indicator did indicate correctly to a critical bottleneck and an important solution. The other indicator identified that excrement was taken out of the water to ensure the water quality (Appendix 7).

Criteria 5: Damage to forest

*Indicators: Amount of trampled area*

*Amount of bark stripping*

*Level of branch breakages*

*Level of toppling*

It was first assumed that the elephant camps were located in the National Park. Therefore the amount of damaged forest, caused by elephants, could have consequences for the vegetation of the National Park. When interviewing the employees of the National Park (Appendix 13) and the managers (Appendix 12) it turned out that the elephant camps were not located in the National Park. The areas where the elephant camps are located belong to owners or to local communities from which they are then leased. Thus the initial indicators were not really useful since the amount of damage was not impacting the National Park. Additionally, the amount of damage to the area was quite small mentioned by managers (Appendix 12) and thus not relevant for this research.

#### Criteria 6: Self-sufficiency

*Indicators: Organization structure*

*Number of local employees*

*Origin of the owner*

*Capital*

DASTA issued that self-sufficiency business concept is necessary for the reduction of carbon emissions (DASTA 2014). Therefore this concept was also incorporated in this study. The organization structure of a self-sufficient business is often present in the use of family labor. Furthermore, the number of employees might show whether the business is self-sufficient, as these businesses often have a small number of employees. These organizations have low levels of capital investment and they are mostly dependent on their own resources (Page, Forer & Lawton, 1998). The most important indicator is the origin of the owner; self-sufficient businesses are often owned by a local. The indicators were measured with observations or interviews among employees and owners of the park. In the field, the criterion for a self-sufficient business was met. The elephant camps were all locally owned. The number of employees was quite small; the maximum was ten mahouts and a few employees for mainly front desk functions. Furthermore they were fully dependent on their own resources. As the elephant camps appear to be already quite self-sufficient, no critical bottleneck could be identified in this field.

#### **Tourists**

Criteria 7: Tourist value of elephant activity

*Indicators: Satisfaction about the activity*

*Elephant activity preferences*

The perceived tourist value of the elephant activity can be seen as a strategic imperative for the owners of the elephant camps. When the needs and expectations of tourists are met, the allocation of resources to certain activities can be done most efficiently. This results in delivering more value and increases the position of the elephant camp in the long term (Hartnett, 1998). In order to improve efficiency of resource allocation, the indicator 'elephant activity preferences' was used to find out which activities were most preferable by the tourists. From informal conversations with tourists and observations we noticed that some bottlenecks could be identified in the level of satisfaction about the elephant activity. Some unsatisfactory elements in the elephant activity were first observed such as no introduction before the trek, no structure in the activity, and low quality service (Appendix 7). In the informal conversations and questionnaires the preferences and level of satisfaction of the tourists became clearer. The indicators were valuable in pointing out an important bottleneck; 'the incomplete tourist experience'.

Criteria 8: Tourists' are concerned about low carbon practices

*Indicators: Awareness of low carbon practices*

*Willingness to pay more for low carbon elephant camps*

The elephant camps can be assisted in their decision making process about implementing environmentally friendly interventions by coming to understand how tourists perceive the importance of low carbon practices (Laukkanen & Lauronen, 2005). This was discovered by investigating, through interviews and questionnaires, whether tourists were willing to pay more for low carbon elephant activities. In addition the level of awareness of these practices at the moment was explored. In the field it was discovered that the level of awareness of low carbon practices is very low. Most tourists did not even understand the concept. Others, who understood the definition

after an explanation by the researchers, said that they did not notice many low carbon practices. A remarkable phenomenon was that tourists were willing to pay more if a camp reduces its carbon emissions. The indicators showed that the concern about low carbon practices is present; however the awareness is still too small.

Criteria 9: Tourism demand for transport

*Indicators: Type of transport*

*Willingness to change type of transport*

Transportation to the elephant camps is a crucial element in the carbon footprint of the elephant camps. The choice of transport mode and the number of recreationists per vehicle determine the amount of energy used for transportation. The transportation modes that have the lowest carbon emissions are cycling, walking and public transport (Becken et. al. 2003). By conducting structured-interviews and questionnaires it was aimed to obtain more information about the transportation of tourists. Estimations of the number of vehicles that drove to the parks on daily bases, the average distance they had to travel, and the average number of occupants in a vehicle were made. This information was gathered by observations and structured interviews among tourists and managers. The demand for a certain transport mode was affected by the hilliness of the island, making cycling a difficult transportation mode. Tourists preferred to take cars and motorbikes. Moreover, the elephant camps include transportation by car from the tourists' accommodation to the elephant camps. It is perceived that the indicator 'willingness to change transport mode' was not useful, because the tourists have to take the current available transport modes. Nevertheless, the information about the type of transport provided a good indication in who were using own transportation and who were making use of the taxi-service of the camp. This indicated that there was a bottleneck in the transportation system of the camp.

Criteria 10: Seasonality

*Indicator: Number of tourists visiting the park per month*

Seasonality, due to weather conditions and holidays, results in a number of negative effects for tourist destinations and attractions, such as cost losses (seasonal loss), an unstable labor market, low annual return on capital, underutilization of resources and could cause environmental problems (Butler, 1994). The seasonality in the elephant camps is measured by indicating the number of tourists per month. This was explored by interviews with the owners, in which they were asked for approximations of tourist numbers. The managers pointed out that the elephant camps suffered from seasonality (Appendix 12). This is very inefficient; because the managers also stated that costs in high and low season stay the same. This indicator was of importance in identifying a bottleneck.

## **Research Methodology**

During the actual research at Koh Chang, several modifications have been implemented regarding the data collection and data analysis methods. The following section will briefly repeat the initial methods, state what has been changed and explain the reasons why.

### **Data Collection Methods**

The three methods initially selected for the data collection have remained the same. The same goes for the sequence in which the data follows each other up: the findings of the participant observation will give clues on what to include in the questionnaire. The questionnaire will later on provide the topics for the semi-structured interviews.

### *Participant Observation*

This data collection method has, as planned, been used at every elephant camp. All researchers conducted this way of data gathering throughout the first two days of the research and almost everyone visited all camps. Two groups of respectively two and three researchers were formed and the camps were visited either in the morning or the afternoon. At first, a general description of the elephant camp in question was made. Many features were written down such as the facilities present at the site, the amount of elephant, the amount of employees present, how many taxis were coming in and whether there are tourists around. Managers, employees and mahouts, the elephant care takers, are observed by watching how they are working. Attention was paid to how they were welcoming and helping the tourists and treating the elephants. When tourists were present they were observed in terms of their behaviour and the activities they participate in. All these observations were made while being seated at the tourist areas of the camps or in a nearby restaurant when there was no such tourist area around. This participant observation provided at first the opportunity to get some first impressions, an idea of what is going on in the camps, and get acquainted with the value chain.

In addition, four of the researchers participated in an elephant trek at different parks to actually experience the tourist attraction being offered. Three of these tours lasted for one hour and one lasted for half an hour. In this way, four different trek experiences could be gathered. Before, during and after the trek, notes were made by using a pre-determined list of attention points. However, there was no opportunity to expand the participant observation to more than just observing and participating in the tourism activity offered. Not all camps provided this option for the researcher due to which it could eventually not be taken into account in the research.

### *Small Questionnaires*

The questionnaires were conducted in order to get a broader insight into the tourists visiting the elephant camps. The questions included were about where they are staying; with whom; with how many people they are visiting the camp; how they booked their trip; how they arrived at the camp; their satisfaction level about several aspects of the visit; whether it met their expectations; several questions on low carbon practices; which activity they liked the most; and finally a couple of demographical aspects. All these subjects were still unknown to the researchers after conducting the participant observation and were therefore included in the questionnaire. In total 20 questionnaires were conducted of which one third of the respondents was male. The age of the respondents varied between 20 and 59. This method was chosen because it would allow the researchers to gather a significant amount of responses which would eventually be easy to process and analyse. Assumptions can then be generalized to the entire target group. The questionnaires were handed out to the tourists who were willing to participate, when they came back from their trek. All tourists were approached and given a questionnaire whenever their English seemed of an acceptable standard. Since the tourists had only a short amount of time left after their activity, additional interviews were not possible.

### *Semi-structured Interviews*

These interviews that were initially meant to be held with tourists, bus- and taxi driver, and the employees or owners of the elephant camps, have only been conducted with the last category of people. The reason for this is that bus- and taxi drivers did not have time to participate in the research. They were only visiting the camp quickly to drop off tourists and then disappeared again. The employees of the camps, including a large amount of Mahouts, did not speak English well enough to be able to do such an in-depth interview. However, the managers and owners of all camps have been approached. Out of the six camps, three managers or senior-employees have been

interviewed. The interviewees were the employees or managers of the camps Ban Changtai, Ban Kwan Chang and Bin Camp Chang. The manager of Chang Chutiman was not available for interviewing and Kae Bea MeeChai elephant camp was not willing to cooperate. The aim of these interviews was to gain a more comprehensive understanding of the entire elephant camp value chain, its actors, the tourists and how the camp is dealing with its carbon emissions in terms of waste, energy and water. Also bottlenecks were to be identified by the use of the interviews and a final value chain could be made with the use of this information.

Additional interviews have been conducted with representatives of the National Park and several travel agencies and hotels. These were not initially included as actors with whom an interview would be held, but they were selected throughout the research process. Contrary to the abovementioned interviews that had a semi-structured format, these interviews did not have such a structure. The interviews can be seen as conversations that were aimed at getting confirmation about the data gathered by the other data methods.

## Data Analysis Methods

### *Participant Observation*

The data gathered by participant observation has been analysed by the use of inductive coding. This means moving from specific observations to broader generalizations and theories (Deduction & Induction, 2014). Firstly, specific observations and measures were made, then patterns and regularities were detected followed by exploring tentative hypothesis. In the end, general conclusions and theories could be developed. The coding can be found in Appendices 7, 8 and 9.

### *Small Questionnaires*

The data of the useable questionnaires has been entered in SPSS through which the data could be used for statistical tests. Descriptive statistics were produced that showed various means and modes of the answers to the questionnaire questions. These results could then be used to form several carefully formulated conclusions about the kind of tourists and their satisfaction about the activity. The questionnaire can be found in Appendix 10.

### *Semi-structured Interviews*

The three manager interviews have been recorded, transcribed and analysed by the use of thematic coding. First open coding was conducted to summarize the text. Then focused coding was implemented to create themes. Lastly, theoretical coding was used in which quotes, themes, and literature are linked to each other in order to be able to make statements about the interrelationships and to help creating a visual model (Glaser and Strauss, 2009). The fully transcribed interviews including the coding can be found in Appendix 12, and the final questions asked can be found in Appendix 11.

The interviews with the National Park and the travel agencies and hotels have not been recorded and transcribed, but they were merely summarized afterwards by the researchers. The interviews were coded as well to capture the most important information that was discovered. These interviews can be found in Appendix 13 and Appendix 14.

## Data Analysis

## Participant Observation

### *First Impressions*

The function of the first impressions was to gain a first insight in the elephant camps, to get the know the management of the camps, to have little chats with tourists and to see what issues were already present in the camp from the first sight. The participant observation was to find new information in an exploratory fashion. The coding can be found in Appendix 7.

In the data, the following categories and interesting findings were recognized (Table 2).

Table 2. Categories and Findings Participant Observation

Information about Elephants	Usages	Other Offered Products
Elephant Residence	Water Usage	Souvenirs
Elephant Food	Waste Management	Refreshments
Origin Elephant Food	Elephant Food Usage	Food Offered
Interest in Elephants	Transport Efficiency	
Trek Experience	Land Use	
Elephant Treatment	Electricity Usage Gas Usage	

The first main category mentions ‘information about elephants’. During the participant observation, exploratory information was obtained about the ways elephants are treated and the way treks are conducted. An interesting finding was that most food of elephants comes from the mainland. Several stakeholders have confirmed this information. Information about how elephants were treated was noted, as well as information how tourists are interested in elephants and the trail itself. The ‘information about elephant’ was not very relevant to the research, but it was the bulk of the observation, so it could not be ignored.

‘The usages category’ indicates how different resources are used in the elephant camps. The Usages category ranges from water usage to waste management. Different interesting discoveries were made in this section. Excrement of elephant is hardly managed, for example. Gas and electricity usages are very low, as the elephant camps barely use these resources. Transport ranges from taxi’s to scooters to walking tourists. Water is used extensively, as elephants drink large amounts of water and are washed multiple times a day. Elephants were also noted to eat much more than expected, as most of the time elephants were noted to be eating.

The final category, ‘other offered products’, is focused on the diversity of activities of the elephant camps. A few differentiating activities have been identified: Souvenirs are sold next to the trek activities. Additionally, some of the elephant camps also sell refreshment to tourists who have returned from a trek. In some cases, food is offered to tourists returning from a trek. The different products show how diverse the value chain is, as an elephant camps does not only offer treks, but also other differentiating activities.

### *Elephant Trek Experiences*

By participating in an elephant trek we were able to collect information about the products and services offered in the elephant camps. Four different researchers did treks at four different camps.

One camp was excluded, because there was an impossibility to gain enough information. They refused to participate in the research, because handing out questionnaires was not allowed and the interview with the manager was rejected. A pre-defined checklist was created to narrow down the focus of the observations and improve the reliability of the research. The trek was similar in expenses and duration, although the experience differed. Most camps mainly offered one hour trek for 850 Baht (28 dollars) or two hour trek for 1500 baht (50 dollars). This price difference was reflected in the length of the trail and extra activities that were offered. Most camps included the activities; washing, feeding and riding the elephant. The locations differed among the camps from roads, grasslands to jungles and orchards. In addition, some camps were more service-oriented than others. Due to these differences between the elephant treks generalizing based on only one experience is invalid. This is why comparison of similarities and differences between the four camps is useful. After the data collection of the researchers' elephant trek, the data was analyzed as described above. In the following section the derived categories are explained.

### *Trail*

The trails differed a lot among the camps; especially the surrounding of the trail was different. Most commonly the trails were located in the jungle. These were mostly steep and bumpy, because they went up the mountain. Moreover were these trails narrow, because cutting down a lot of trees for a broad trail would be contradictory with preservation of the jungle. Some other camps were located along the road. Their trails went through orchards, rubber plantations, grasslands, roads or rivers. The trail was a possibility for the camp to differentiate itself. Sometimes, the elephants were able to go off-trail. In all cases the trails suffered from damage by the elephants, because the elephants ate the plants along the trail. First it was assumed that area of the elephant camps was part of the national park area. This turned out not to be true, because that land is owned by locals and sometimes lend to the elephant camps. The damage to the land has to be paid by the elephant camp owners to the locals to compensate.

### *Experience*

This category is derived from the open coding categories; mahout, manager and service. The elephant trek is the crucial product for the experience of the elephant camps. The quality of the elephant trek depends on multiple stakeholders within the value chain. First of all, the manager is important in creating an experience. He has to organize and control all the activities that take place in the camps, which together create the tourist experience. However, in most cases the manager did not have any interaction with the tourists. An exception was made for one camp where the manager did introduce himself and told some information about the camp and the elephants. The introduction gave more structure to the event, because the researcher knew what he could expect. In the other three camps no introduction was given.

In addition, service is a crucial element in the whole experience. One of the camp is actually known for its good service standards. The camp is recommended in guidebooks, because of its service quality and animal friendly treatment. For example they offer coffee, fruit, and water to tourists before they were going to do the trek. Other camps offered this at the end of the trek. In these camps the tourists were left alone after the trek, while in the other camp the staff still communicated with the tourists. The researchers made clear they would appreciate these kinds of services and ought those to be important.

Lastly, the most crucial stakeholder in the whole experience may be the mahout. A mahout is the person who rides the elephant and thus guides the trek. Most of the mahouts learn how to ride an elephant when they are still a child. The mahout is with the tourists during the whole trek and is

supposed to create the experience for them. Although in many cases the researchers felt uncomfortable in their presence. This was mainly due to the fact, that they lacked the ability to speak English. 'The expectation of the service quality differed from the actual service' (Zeithaml, V. A. 1993), because tourists expected some information during their trek, but none was given. In some cases, the Mahouts took photos of the researchers with their camera or they showed some fruit along the trek to keep the researchers satisfied.

#### *Water*

The water usage during the elephant trek was little. Although it should be stated that water usage of elephant camps is on daily bases really high. The water is not necessarily used during the trek, but after the trek the elephants have to be washed and they need to drink.

#### *Waste*

In many elephant camps waste was found along the trail. This was perceived as problematic by the researchers, because they thought it destructs nature. Not only tourists were creating waste along the trail, also the locals living close to it contributed. In the eyes of the researchers the presence of waste spoiled the scenery during trek. Some camps had dustbins along the trail, but only one camp separated their cans and plastic from their waste for recycling.

#### *Excrement*

This is another problem regarding to waste. The trails are often overloaded with excrement. The researchers pointed out that this sometimes really stinks during the trek. In some camps the excrement is removed the trails and it is burned afterwards. In other camps it was sold to farmers as fertilizer. One camp also removed it from the river water to keep it clean after the elephants were washed. Managing excrement is perceived to be important in improving the experience.

#### *Treatment*

The treatment of elephants was for the researchers an important of their trek experience. Mahouts can control the elephants in many different ways. Most commonly they use comments or their feet to steer the elephants during the trek. In some cases they had to use their stick. The stick was especially used when the elephants had to pose for a photo. Some researchers also perceived the fact that the elephants had coloured drawings or wounds on them as a sign of bad treatment. In some camps the elephants were chained up really tightly. The researchers believed that these signs of bad treatment could be harmful to the elephant camps business.

## **Tourist Questionnaire**

The questionnaire was developed in order to indicate the kind of tourists who were visiting the camps and to measure their opinions about the satisfaction and environmental friendliness of the activity. The questions were based on the findings of the participant observation and on the initial developed criteria and indicators with regard to tourist satisfaction and awareness. The data collection was based on national and international tourists who were visiting the camps at May 7<sup>th</sup> and 8<sup>th</sup> 2014. The questionnaires were handed out at four of the six camps (Ban Kwan Chang, Chang Chutiman, Bin Camp Chang, Ban Changthai), because they were happy to participate voluntary in the data collection. The researchers were divided among the different camps and approached each person or group of persons who returned from an elephant trek. When a group was returning there was asked if one of the group members could independently fulfil the questionnaire. It was difficult to collect enough respondents at the research spots, because of the seasonality at the elephant camps. Therefore this study does not obtain a random sample, because all the tourists who returned

from the trek were approached. The total sample exists out of 20 respondents, whereof 66.7% of the respondents were males. The age of the respondents varies from 20 to 59, whereby the average age is 34. The sample covered in total seven different nationalities, whereof 33.3% had a Russian nationality and 33.3% a German nationality. There is no presence of Asian, African, Latin-American or Australian respondents in the sample. This might be due to the season or because the elephant camp is not really of their interest.

The questionnaire (Appendix 10) started with five questions about the travel composition, booking method and transportation method to the camp of the respondent. These questions were followed up by four questions about the satisfaction level of the activities. The next section was composed of four questions about the respondents' awareness about low carbon practices and willingness to pay more for environmental friendly camps. Then two open questions followed, which were actually most times left open. Therefore these questions are left out in the analysis. And finally the questionnaire ends with three demographic questions about the gender, the age and the nationality of the respondent.

Although the questionnaire had a very small sample and is therefore not generalizable, still some interesting findings are worth pointing out. The outcomes of the questionnaire provide for instance a good insight in where most respondents stayed; 28.6% had accommodation at Khlong Prao and 19% at White Sand Beach. These accommodations are both situated in the same areas as where most elephant camps are situated. The main target group, discovered in the questionnaires, are small groups consisting out of families (47.6% of all respondents), mostly groups of two or three people (76.2% of all respondents). Just 4.8% of the respondents were doing the trek alone. Furthermore it was indicated that 42.9% of the bookings happens at the camp itself and another 38.1% at the hotels and resorts. Regarding transportation habits, 66.7% of the respondents had travelled themselves to the camp by rental bike (23.8% of all respondents) or by rental car (28.6% of all respondents). The 'satisfaction-questions' revealed that on average the respondents were satisfied with the activity. For all questions, at least 71% of the respondents indicated their level of satisfaction as 'satisfied' or 'very satisfied'. Furthermore there is identified that the level of awareness of the respondents as Koh Chang as a low carbon destination is on average low. 61.9% of the respondents is 'not at all' or 'not much' aware of this. And lastly, there is indicated that on average the respondents are willing to pay more for a more environmental friendly (42.9% of the respondents, mean = 3.3) and especially a more animal friendly camp (57.1% of the respondents, mean = 3.7).

## Interviews

### **Manager Interviews**

The following section provides the research findings of the structured interviews conducted with the managers. This information was collected through a series of three interviews with elephant camp managers or senior employees. The themes that were found during the coding are the following:

#### **Business**

- *Origin Personnel*
- *Business Start-Up*
- *Mahouts*
- *Trail*
- *Trek Price Increase*
- *Costs*

#### **Tourists**

- *Tourist Numbers*
- *Origin Tourists*
- *Booking*
- *Transportation*

#### **Carbon emission issues**

- *Business Problems*
- *Changes over Time*

- *Excrement Management*
- *Electricity Usage*
- *Waste Management*

### **Elephants**

- *Origin Elephants*
- *Buying Elephants*
- *Elephant Numbers*
- *Working Years Elephant*
- *Elephant Healthcare*
- *Origin Elephant Food & Water*

### **Collaboration**

- *Collaboration Camps*
- *Influence External Stakeholders*

In the following section, a short overview will be given of the research findings per theme. The themes 'Elephant Numbers' and 'Working Years Elephant' are taken out because only one view can be presented there as not all employees or managers provided information.

#### *Business*

The manager interviews indicate that all owners and employees come from the same place, namely the Surin province, except for the owner of Bin Camp Chang who is a local of Koh Chang. The first elephant camp, Ban Kwan Chang, was set up because the owner of the camp already owned some land at Koh Chang at that time. Koh Chang was becoming more popular by the years, so there became opportunities for the other camps to do business in the elephant trek activities. They decided to start a camp, because 'it is a good tourism attraction and way to make money'. The estimated installation price is one million baht. Ban Kwan Chang is not experiencing much competition of the other elephant camps because it is situated in another area of the island and offers a unique jungle experience. While the other camps mentioned they do experience competition.

During the low season, some mahouts go home for a certain period of time because they cannot make enough money at the camp. The relationship between the managers or owners and the mahouts seems to be a close one; mahouts are like family to the interviewees, said the manager of Bin Camp Chang. They are paid monthly. Not all elephants have their own mahout; some mahouts are taking care of multiple elephants.

The areas of the trek from Ban Kwan Chang and Ban Changtai are being rented for about 6,000 baht per year. The area of Bin Camp Chang belongs to the owner. All camps had the possibility to create their own trail. Ban Chiangtai's senior employee mentions that when the elephants damage the area, they have to report and pay for this.

The recent collective price increase of all elephant treks by almost 100% was initiated by all the elephant camps and carried out in collaboration with the municipality of Koh Chang. The elephant camps have been striving for it for almost three years, but could not get it through due to the unstable political situation in Thailand. This year the camps were truly struggling to keep their businesses running and increased the prices themselves. They were making losses even in high season. Due to the price increase the camps are making more money although the tourist numbers stayed the same according to the interviewees.

The costs that come with running an elephant camp are: renting the land of the camp and the trail (when applicable, ± 6,000 baht per year); buying the elephants (± 1,25 million baht); transporting the elephants to Koh Chang (± 15,000 baht); food for the elephants (± 2,000 baht per day); transporting the tourists by taxi (± 150,000 per month); and commission for travel agencies, hotels and tour

operators ( $\pm$  10-12% of each booking). The interviewees stated that they need at least 10 tourists every day to cover the costs.

One of the biggest challenges for elephant camps is to deal with the big seasonality. The interviews showed that the difference in tourist numbers is very big (see research findings at tourist section). Over the years, the popularity of Koh Chang has increased which can be seen in a general increase of tourist numbers for the elephant camps. At Ban Kwan Chang, a statement in Lonely Planet has helped them a lot to increase their tourists as well. Additionally, the competition between camps has increased, because more camps appeared on Koh Chang. All the camps want to increase the number of elephants to the legal maximum of 12, so they become able to provide mahout trainings and provide longer elephant treks.

### *Elephants*

Almost all elephants are from the Surin province in the north-east of Thailand. The elephants are taken from Surin because they cannot live there since it does not have enough jungle and food available. Only Ban Changtai has half of its elephants from another region and from cities. The elephants are taken from Surin to give them a better life in an area full of nature. An elephant costs approximately between 1,000,000 and 1,500,000 baht. Their price depends on their age. The younger ones are more expensive because they still have a longer life to work. The transportation to the island happens by truck which costs around 10,000 to 20,000 baht.

When elephants are sick, they often have a stomach ache for which the camps have standard medicine available. The Asian Elephant Foundation is the main source of providing medicine. The foundation visits the camps once or twice a year to check the health of the elephants, to replace damaged chips (proof that an elephant is legally held), to collect donations to and to monitor the progress of the camps. To stay healthy, an elephant needs to have a diverse diet with pineapple leaves, fruit, herbs and vitamins. They do not need to go to the veterinarian often, but when they have to go an appointment can be made via the Animal Department in Trat. There are two veterinarians; in Surin and Lampang. Bringing an elephant to the veterinarian is considered very expensive.

The main source of food for elephants is pineapple leaves, which comes from the mainland. The company brings food by shipping five trucks to the island every day. During the low season this is reduced to once every two days. Every camp needs 1.5 tons of pineapple leaves every day which cost 1,700 baht per truck. Pineapple trees cannot grow on Koh Chang because the soil is not fertile enough. Fruit (pineapple, bananas, and mango) are also brought to the camps by trucks, both from the island and from the mainland. At Ban Changtai the elephants go into the forest every evening to eat plants and trees there. The amount of drinking water available for the elephants is not a problem as there is enough. Ban Changtai and Bin Camp Chang use groundwater gained through pumps. At Ban Changtai they also collect rainwater for drinking and washing of the elephants. At Ban Kwan Chang the water is not collected, because this camp gets enough water from the mountains.

### *Tourists*

During the low season fewer tourists are visiting the elephant camps. In high season the tourist numbers of the camps vary between 25 and 50 per day. Ban Kwan Chang is an exception; this camp has a lot of tourists during the high season; a maximum of 120 during six treks per day. In low season this is reduced to an average of 15 tourists per day. This year the high season only lasted for two months according to the manager of Ban Kwan Chang and Bin Camp Chang.

Most of the tourists come from Russia (up to 60%). Also many tourists come from Europe (France, Italy, Germany), Scandinavia (e.g. Sweden), and Asia (e.g. China). Only a few of the tourists are Thai

(as few as 2%). At Ban Changtai most of the treks are booked via hotels. Not many are booked via the internet since this is not much used by the Thai people for business. Ban Kwan Chang relies heavily on walk-ins whereas Bin Camp Chang receives its bookings via hotels for 50% and relies on walk-ins for the other 50%. At all camps, several tourists are transported by the taxi of the camp itself. The percentage of tourists transported in this way varies from 50% to 100%. Tourists are staying everywhere on the island and taxi's with tourists arrive up to ten times a day in high season. At Bin Camp Chang, the manager mentioned that efforts are being made to pick up as many people as possible at once.

#### *Carbon emission issues*

All camps have a different way of dealing with the elephant excrement. At Ban Changtai the excrement are separated from other waste, dried and given to resorts and hotels as a fertilizer. Bin Camp Chang burns their elephant excrement, because it is the cheapest way of managing excrement. Ban Kwan Chang also gives the elephant excrement away as a fertilizer, but without drying, and charges 20 baht per bag if the mahouts have to deliver it. At Ban Kwan Chang they incinerate the excrement during the dry season and this works as a mosquito repellent.

Overall, the camps do not use much electricity. The electricity comes from the mainland via a sea-cable. At Ban Changtai it is only used for the houses of the mahouts outside working hours. During working hours it is used for the office and fans in the tourist area. Ban Kwan Chang does not have not have air-conditioning or a bar, but only two refrigerators and a television that need electricity. At Bin Camp Chang electricity is only used for lighting the reception.

The garbage of the camps is collected by the government every day at 6 PM. Plastic bottles are being separated because the camps can sell them for recycling purposes. There is a recycling factory on the mainland. At Ban Kwan Chang, waste is also burned during the dry season.

#### *Collaboration*

A first collaboration started this year with the camps working together to realize the price increase of the elephant treks. In the past they collaborated during national festivals, cleaning the island and at weddings. Elephants were needed at these events at which all camps provided several. Most personnel and owners of the camps all know each other because they come from the same region. However, Ban Kwan Chang's manager was not very positive about the collaboration so far. He says the camps with the local owners do not care about the others since they have their own land. They are providing other programmes than his camp, like treks of half an hour to make additional money, something not agreed upon during the price setting meeting. Bin Camp Chang collaborates with Kai Bae Meechai elephant camps, on a friendly basis, since they are keeping their baby elephant until it is big enough to return to its original owner.

The camps have several external stakeholders that are influencing their business. All camps are members of the Asian Elephant Foundation. Another stakeholder group is the travel agencies and hotels who are selling trek tickets in return for commission. They are being given information and brochures by the camps in order to sell their tickets. However, as the senior employee of Ban Changtai mentions, these companies are at times impossible to track down as soon as the camp want to get their share of the ticket money. This is a big problem due to which they lose a lot of money. The influence of the municipality of Koh Chang became apparent this year when they initiated the price increase in collaboration with all owners and managers. In addition, the municipality has set a limit about the maximum amount of elephants one camp can have to make sure the competition stays fair. Another stakeholder is the National Park to which the camps have to pay money as soon as they enter their ground. Overall, the elephants are not allowed to enter the park. Several camps also

have to pay for renting the ground they are using, but it is unclear whether this is rented from local people or from the National Park.

### ***Interview National Park***

Representatives of the Koh Chang National Park were interviewed to get a better insight into the relationship between elephant camps and the National Park. The largest share of the island of Koh Chang is considered to be a National Park, which is delineated by the Thai ministry of Parks. The park receives governmental funding in order to manage the area and to produce rules to protect the natural resources that the region possesses. The national park has set up a ranger station in order to make sure the rules are complied. According to the interviewees, the main threats to the park are waste, logging and poaching. Elephant treks do not harm the national park, because the camps are located outside the park. The national park has no authority to interfere in the businesses of the camps.

### ***Interviews Hotels and Travel Agencies***

Travel agencies are organizations that mediate between tourists and businesses that offer activities or transport. Hotels, resorts and other forms of accommodation often provide the same service as travel agencies. Interviews with several travel agencies and hotels resulted in a realistic insight into their role in the value chain of the elephant camps. The travel agencies and hotels receive a commission, around 15 or 18% of the price, from the activity provider when they sell a trip or activity. Travel agencies need a license from the Tourism Authority Thailand to start selling activities and transport; hotels do not require such a license. Travel agencies that are doing business without a license risk high fines. The number of travel agencies has increased significantly the past five years and this resulted in more competition. One of the interviewees argued that due to the increased competition, several businesses had to close down their shops. Another interviewee contradicts this by mentioning that he did not notice an increase in competition.

The hotels and travel agencies offer treks at various elephant camps. The stakeholders stated that the prices of different elephant camps have recently been fixed. The incentive, according to one of the interviewees, was to protect the tourists from paying too much. According to this interviewee the price of the elephant trek previously depended on what the tour agency or hotel charged itself. She argued that tourists are not paying too much in the current situation. However two other interviewees disagree, they state tourists are paying too much now, because of the doubled prices..

## **Bottlenecks & Solutions**

### **Description and Explanation**

Some of the above explained research findings are regarded as a bottleneck in the value chain. These bottlenecks were identified by applying the initial criteria and indicators in the field. Some of the criteria have shown severe bottlenecks, while others were less relevant than in first instance was expected. In addition some bottlenecks were discovered in the field, of which was never thought in the beginning. This section will give an explanation of what bottlenecks are discovered and which solutions are developed in order to address them.

#### ***1. Lack of awareness of Koh Chang as low carbon destination***

***Bottleneck:*** This bottleneck is based on the criteria 'tourists are concerned about low carbon

practices' with as indicator the awareness of the low carbon concept. The data from the questionnaire pointed out that the 61.9% of the respondents is 'not at all' or 'not much' aware of Koh Chang as a low carbon destination. This lack of awareness indicates that there is something wrong with the branding of Koh Chang. As mentioned before, Koh Chang wants to use 'the low carbon destination'-image to attract more tourists (Chinmaneevong, 2014). However when tourists are not aware of this environmental friendly image, it will not be effective in attracting tourists. Therefore is this lack of awareness identified as bottleneck for Koh Chang to reach the position of a low carbon destination.

*Solution:* Desvougues et al. (1989) mention that there is a positive relationship between environmental awareness and the marginal willingness to pay to reduce pollution. The presence of this relationship was also noted during participant observation, when it was overheard that a few tourists preferred an elephant camp due to its low carbon nature. One way to increase image awareness is to give the advertising and the park itself more meaning, according to Leong et al. (1996). Subjects were reported to recall the brand much more, so the ad had more meaning. Another find by Leong et al. (1996) was that being exposed more to ads would increase the ability to recall the brand. Koh Chang and the elephant camps, therefore, will have to try to increase their media coverage and advertising related to environmental awareness in order to deal with the lack of awareness.

### *2. Own transportation used*

*Bottleneck:* This bottleneck is based on the criteria 'tourists use own transportation methods' with as indicator the type of transport they used. The questionnaire revealed that 42.9% of the tourists made their booking at the camp and thus travelled there by own transportation. It even revealed that 66.7% of the respondents travelled themselves to the camp. The managers of the camps confirmed that about 50% of the bookings happen at the camp itself and that these tourists use their own transportation (Appendix 11, p. 82). This was also discovered during the participant observation (Appendix 7) However all camps have a pick-up service by taxi available. When tourists use their own transportation mode, this is less environmental friendly than when they are being picked up all at the same time by taxi of the camp. Then groups out of one village will be picked up together, which save several trips to the camp and thus carbon emissions. The use of own transportation is the bottleneck in providing less carbon intensive transportation which will contribute to the low carbon image of the elephant camps.

*Solution:* A renewed time schedule with timed transport is a solution. When reducing the amount of starting times for treks, a shuttle service could be employed to pick up several tourists at the same time. When there are only a few starting times, less rides have to be made, reducing emissions and costs. Employee work hours could also be reduced, as fewer employees are needed when the amount of tourists is known. Roads will be less congested as well and trash can be managed easier, as routes only need to be cleaned after all the tourists return (Sorupia, 2005)

### *3. Excrement is not managed*

*Bottleneck:* This bottleneck is based on the criteria "elephant excrement is not efficiently managed" with as indicators the areas for excrement and the level of recycling and re-using. The elephants produce 50 kilograms of excrement per day (Elephant Dung Paper, 2014). The elephants poop during the trek in the jungle, when eating in the forest and in their lodgings. The poop in and near the camp is collected by the mahouts and other employees. Per camp the excrement are processed in different ways in the different camps. One of the managers stated: "[we] store the excrement in a place and burn the excrement" (Appendix 11, p. 83). Burning anything, including elephant excrement, produces carbon gasses. Ban Kwan Chang had a different purpose for the excrement: "We give [the

excrement] for free to farmers as fertilizer. Sometimes they buy [the excrement], sometimes they get [it] for free” (Appendix 11, p. 79). It is important to manage excrement, because the presence of excrement might spoil the scenery of the camps. The trails are often located in beautiful areas and excrement reduces the quality of the trail.

*Solution:* Managing excrement can be beneficial for camps in terms of money. For instance, excrement can be sold as fertilizer or another innovating alternative is producing paper from it. Especially the production of paper is regarded as a valuable solution in this value chain. The process of paper making adds more value to the tourist experience and service quality, because the paper can be used for souvenirs and the process of paper production might be an interesting experience for tourists. Moreover it can be used by the government as a promotional activity to market Koh Chang as Elephant Island with low carbon emissions, partly by producing paper out of excrement. In addition the paper making process provides jobs for locals at Koh Chang. The production of paper out of excrement seems to be a feasible and profitable solution for many different parties.

#### *4. Huge amount of water usage*

*Bottleneck:* This bottleneck is not based on the initial criteria and indicators, but emerged during the data collection. During the phase of participant observation the researchers noticed that the elephants had showers often. Additionally, the lodgings of the elephants were cleaned with water. One of the managers stated that “Elephants use 200 litres per animal a day” (Appendix 11, p. 79). The largest extent of the water which is used in the elephant camps is river water or groundwater. Non-salty water is scarce at Koh Chang and the elephant camps collectively use a large share of the amount of fresh water, which causes, especially in dry season, even problems for tourists and locals. This huge amount of water usage is not very environmentally friendly, therefore there is looked for solutions to address this bottleneck.

*Solution:* The huge amount of water usage is especially problematic, when tap water is used). A possibility to reduce the scarcity of water is to save rain water for instance by water reservoirs. This is especially useful in the low season with the big amounts of rain, which lasts for four months on Koh Chang. Often small water-tanks are used, but to implement this on large scale a big water reservoir should be constructed. Although rainwater evaporates quickly in these warm climates and does only last for a week, this still is a contribution to reducing water scarcity at Koh Chang. Collecting rainwater can be beneficial for the elephant camps that rely on ground- and tap water, because it saves them money by using free rainwater during the low season.

#### *5. Lack of collaboration of the camps in terms of low carbon practice*

*Bottleneck:* This bottleneck is not based on the initial criteria and indicators, but emerged during the data collection. The research team was informed by different stakeholders that a meeting with all elephant camps and the local government took place recently to set fixed prices. That this meeting actually took place is a sign that collaboration between the elephant camps is possible. In addition, there is some collaboration between the parks, when elephants are used for national festivals (Appendix 11, p. 76). Besides these collaborations there is no further existence of cooperation between the camps. One of the managers indicated that there is poor communication among the elephant camps and in terms of reducing carbon emissions there is no communication and collaboration at all (Appendix 11, p. 80).

*Solution:* The importance of cooperation to become a low carbon destination is illustrated on Koh Mak. Its advantage in becoming a low carbon destination was the easy communication and cooperation between stakeholders, because all land was owned by just five families. By cooperation it is easier to implement regulations for carbon related activities, because all parties have to participate. If all the camps would make certain agreements on reducing carbon emissions, they

would eventually save costs. A meeting of all stakeholders involved once in three months would be in first instance enough to discuss fields of cooperation.

#### *6. Seasonality in tourist numbers*

*Bottleneck:* This bottleneck is based on the criteria ‘difference in tourist numbers during the year’ with as indicator a comparison of the tourist number in high season and in low season. Out of the participant observation became already clear that there were not many tourists at the camps daily. This was confirmed by the interviews with the managers. The managers agreed that there was a big difference between tourist numbers in low and high season, from about 10 people in low season up to 50 – 120 people in high season (Appendix 11). One of the camps has shown a book in which was kept track of how many tourists were coming daily. This book also pointed out that there were about four or five groups of people in low season and about eighteen groups of people during high season (Appendix 7, p. 63). The seasonality occurred due to the rainy season and because of the national decrease in tourism numbers in that period of time. The managers spoke about two months of a peak in high season; December and January and about five or six months of low season. This seasonality is a threat to the revenue and to the efficiency of resources; the camp remains the same openings hours, still all the elephants need to be washed and feed and all the mahouts stay employed. Therefore it is regarded as a bottleneck in becoming a more efficient elephant camp in terms of revenue and environmental friendliness.

*Solution:* One way to deal with seasonality is to impose promotional pricing during low season. O’Driscoll (1985) states that a special discount during low season can cause a surge of tourists to appear, as tourists need to react quick in order to get a spot. As elephant camps have the same pricing all year around, a price reduction during low season could increase the visitation numbers. Tourists might also spend more at the elephant site, as they will have more to spend.

#### *7. Incomplete experience for tourists*

*Bottleneck:* This bottleneck is based on the criteria “incomplete tourist experience of the elephant activity” with as indicators satisfaction and preferences of tourists. When the researchers participated in the elephant trek, the incompleteness of the entire activity came to light. They discovered that almost no introduction was given before the trek. During the trek there is only little communication possible between the tourists and the mahouts because of the lack of shared language. And afterwards, tourists are not informed about the refreshments they get offered and just jump in five minutes in the taxi (Appendix 9). This is an efficient activity, but there is no possibility to actually learn something about the elephants, their origin and history. Tourists have indicated that the lack of information provided by the camp made their experience in the elephant camp simple or incomplete. Analysis of short interviews with some elephant camp tourists showed that they miss some depth in their activity (Appendix 7). The questionnaires contradicted this bottleneck, according to the questionnaires 71 percent of the respondents were either ‘satisfied’ or ‘very satisfied’ with their activity in the elephant camp. However because of the small sample size of this questionnaire, the reliability of this information is limited.

*Solution:* The experience is a crucial component for tourist loyalty (Bernacchi 2006). Moreover, a positive experience will increase word-of-mouth promotion, which may increase tourist numbers and in the end profits for the owners. In order to improve the experience should first of all, the service quality be improved, for instance by offering a better introduction. This introduction should include; a schedule of the program, an informational speech about the camp and some information about elephants. In this way, the expectations are adjusted because they know what is going to happen. Moreover, tourists argued in informal conversations that background information would be appreciated. Another option to improve the experience is to create boards and signs with

information around the camp in approximately four different languages. It was identified from observations, questionnaires and interviews with the managers that most tourists come from Russia, China, Germany or United Kingdom (Appendix 11, p. 78; Appendix 7). Providing information in the languages of these target populations would make the camps more attractive for tourists from these countries or tourists who speak one of these languages.

#### *8. Bad promotion and lack of good promotional material*

*Bottleneck:* This bottleneck is not based on the initial criteria and indicators, but emerged during the data collection. Additionally, it is not a bottleneck in terms of carbon emissions, but related to inefficiency in the camps in raising tourist numbers. During the participant observation it was discovered that the promotion material for the camps was often lacking important information. Tourists confirmed this to us, that addresses were missing and that most camps also did not have a website to visit (Appendix 7, p. 56). Travel agencies offered only information about the camps they were connected with. By talking to the travel agencies it was discovered that five camps were present on the island, while in the last week of the research a sixth camp was discovered. For this camp no promotion material was distributed by any of the travel agencies. Furthermore, during the participant observation, some tourists told us they did not like how the activities were promoted, bad promotion, especially the baby elephants that are used for activities (Appendix 7, p. 55). They thought the activities were too commercialized at some of the places. While the promotion material is meant to promote the activity, it sometimes ‘frightens’ away tourists. If this bottleneck would be addressed, the promotion of the elephant camps will improve which will probably result in an increase of tourist numbers.

*Solution:* Within the tourism sector, promotion is seen as an essential part of the market (Mill & Morrison, 2002). The promotion of elephant camps on Koh Chang is mostly undeveloped, however correct promotion could stimulate the industry in a big way. Marketing on the Internet is considered to be a milestone in tourism promotion. Tourists on the other part of the world are reachable and the promotion itself only brings very few costs (Doolin et al, 2002). Another form of promotion that could be used for elephant camps is having festive promotions. A special promotion period could be set during a known festive period, with or without stakeholders from the value chain in order to attract more tourists.

### **Evaluation Most Critical Bottlenecks and Most Realistic Solutions**

In this section the most critical bottlenecks and their responding solutions are addressed. These bottlenecks are assessed to be the most critical based on their negative impacts on the entire value chain. With negative impacts is meant that the bottleneck is a big contributor to total amount of carbon emissions in the camp, hinders the optimal allocation of resources of the camp or creates inefficiency in the camp in terms of gaining profit. Furthermore a look has been taking into the most realistic solutions. The bottlenecks, which create a severe negative impact in the value chain and are connected to a feasible solution, are incorporated in this assessment. On these bottlenecks and solutions the final interventions and recommendations are based.

The bottleneck ‘excrement is not managed’ is regarded as one of the most critical bottleneck in this value chain analysis. This bottleneck is a serious contributor regarding the total amount of carbon emissions produced by the value chain of elephant activities. The elephant excrement will always be present in big amounts at the island (approximately 2500 kg daily) and therefore a severe issue in the value chain. Nowadays it is almost not managed or at least not in the most efficient way in terms of money and environmental friendliness. Nevertheless there is a realistic solution discovered to

address this critical bottleneck, which makes it a suitable option for the intervention design. The production of paper out of elephant excrement is beneficial for many stakeholders. Elephant camps can increase their incomes, while reducing the amount of excess waste and carbon emissions. Furthermore the quality of the trek experience may increase and an additional souvenir is offered.

Another bottleneck, which is regarded as critical in the value chain, is the seasonality in tourist numbers. This bottleneck hinders the optimal allocation of resources of the elephant camps. The camps make equal costs in the low season as in the high season, which are relatively high costs, because the camps do not adapt to the fact that there are fewer tourists in low season. However there is a solution to reduce some of those unnecessary costs in low season, namely a renewed time-schedule for treks with fixed transport times. This solution combines the bottlenecks of 'seasonality in tourist numbers' and 'own transport used'. Costs can be avoided by only offering a couple of possibilities to go trekking a day. A shuttle service could pick up multiple tourists at a time during low season. Emissions and costs will be reduced in this way.

The last bottleneck, which is identified as critical, is the 'incomplete experience for tourists'. An incomplete experience is a prominent issue, because the whole activity is based on the experience. When the tourists of the camps are unsatisfied with the experience they had during the elephant trek, this will result in less positive word of mouth and fewer tourists who will be willing to do an elephant trek. Eventually, this might result in a decline in tourist numbers and thus in revenue. It does not have to be too difficult to solve this issue in the value chain, as the most important thing is to improve the service. By improving the service, the expectations of the tourists will be met, which is currently not the fact. An improved information provision can be done by signs or booklets in different languages, which will contribute to a better understanding of the tourist about the elephants.

These three bottlenecks and their connecting solutions will be used as basis for the intervention design.

## Assessment of the Actors Involved

A lot of actors are involved in the previously mentioned solutions to the selected bottlenecks. In order to examine whether the solutions are feasible, an assessment of the capacity and intrinsic interest of the different actors is made in the following section. This assessment concerns both the provision as well as the financing aspect of the solutions.

### *Excrement management*

Whether it is selling the elephant excrement as a fertiliser or making paper from it, the elephant camp is the major actor involved. Concerning the first way of managing the excrement, it will be the camps' task to provide the excrement in such a way that it can be sold. For example, it might be dried and packed in bags of a certain amount of kilos. Since this way of making additional money is relatively easy to incorporate, the elephant camps will have a good reason to initiate it. They can make an extra amount of money with a resource they actually already have in store and are even produced on a daily basis. In addition, any actor that needs a fertiliser to grow any kind of vegetation is involved. Examples of these actors are hotels, restaurants, local farmers etc. The bags of dried elephant excrement can be sold for a cheap price, since there is a lot of it, making this way of fertilising is feasible for these actors. The bags can be distributed on order by the camps or picked up

by the purchasers themselves. Koh Chang is a relatively small island with the elephant camps located at several places, so there is almost always one close to possible buyers.

The other option, paper-making, includes several additional actors. Starting to make this paper requires an investment that the camps are not able to make themselves. They will need a special machine. This is where DASTA can play a very important role. Since DASTA is aiming to brand Koh Chang as a low carbon destination, this is an interesting opportunity for them to create a tourism activity that is emitting less CO<sub>2</sub>. Funding and promotion from their side is highly needed in order to make this solution work. The elephant camps can then provide the space and manpower to execute the paper making. Especially in low season this might provide an extra way of making money and have more work for the mahouts. Another actor involved is the local community that can eventually buy the paper and for instance make souvenirs out of it, which can again be sold to tourists visiting the elephant camps. The tourists will have a souvenir with a story to take home, adding to their activity experience. Lastly, both the local government of Koh Chang and the national government can also benefit from this solution; they can use the paper making as a way of promoting the island and stressing the focus on low carbon development.

#### *Efficiency in tourist numbers and transport*

This solution only includes the elephant camps and tourists as actors. The camps have the possibility to adjust the taxi schedules. It takes a bit of adjustment at first, but eventually this time schedule can save costs during the low season. The tourists will not directly benefit from the new time schedule but it will not cause them any inconvenience either. When communicated clearly by the elephant camps, the new schedule will be clear and tourists will know what to expect. There is no additional financing needed for this solution.

#### *Experience for tourists*

This solution also only includes the elephant camps and tourists as actors. In order to improve the experience of the tourist, the camps should change the activities they are offering. This includes training of the mahouts and other employees and adapting the service to the tourists. A change of business might create costs for the elephant camp at first. Teaching mahouts to speak English is an investment that is not feasible since the camps do not acknowledge the lack of English as a significant problem. In addition, there might not be the possibility to provide English classes. Nevertheless, letting mahouts or other employees provide some information about the camp does not have to be by means of verbal communication. Information can also be provided by handing out small leaflets or incorporating an audio tour in the activity. The latter is a small investment that the camps might be willing to make if it shows that the tourist numbers increase. In addition, signs can be put up to provide information about the elephants, their diet, how they are taken care of, how the trail was set up etc. The tourist will benefit a lot since their activity will become more than just an elephant ride or swim. The tourist experience will be enlarged.

## **Elaboration on Obstacles of Actors**

In order to be able to implement the solutions for the bottlenecks, obstacles should be taken into account. The obstacles identify the thresholds for implementing the recommendations or why they have not been applied yet.

#### *Obstacle in bottleneck: excrement is not managed*

The biggest obstacles that prevent the owners from managing the excrement are lack of knowledge and capacities. Especially the paper production from excrement is a complex process, which can only

be applied with the required knowledge and capital. Besides, it does require resources such as: labour, machineries and water. One manager mentioned that he would cost a lot to apply this technique; however the manager should see it as a long-term investment from which in the end even an additional income can be earned. In addition, an obstacle is the lack of awareness of opportunities for excrement, such as selling it as fertilizer.

#### *Obstacle in bottleneck: promotional pricing and time-schedule*

An obstacle of the renewed time-schedule is the possibility of missing out on walk-in tourists. This was stated by one of the managers of the elephant camps during an informal conversation. Moreover, another obstacle is that the convenience of tourists might get harmed, because they are not able to choose any time for a trek, but have to adapt to the renewed schedule. Furthermore the cooperation among stakeholders might be an obstacle. In order to implement the renewed time-schedule, every camp should apply the schedule, otherwise camps with the renewed time-schedule become less attractive to tourists, because of their limited offer of starting times to do a trek. Promotional pricing is hold back due to an agreement among all elephant camps about fixed prices. This is why elephant camps cannot make their own prices anymore, while in low season lowering the price could be more beneficial.

#### *Obstacle in bottleneck: incomplete tourist experience*

The biggest obstacle of improving the tourist experience is the language barrier. A possibility to improve the experience is providing information about the camp and elephants by an employee or manager. Currently only the manager speaks a sufficient level of English in most camps, while he may not always have time to give an introduction. Then other employees should take over his role. The problem is that most employees have really low levels of English language skills. In addition, the mahouts, the elephant caretakers, do not speak English, while they play a key role in the experience of the trek. The possibility is to teach them English; however this will be time consuming and might be costly as well. Besides that, big tourist target populations (Russians, Chinese) of the elephant camps do not even speak English themselves. Furthermore service quality is an important factor in the tourist experience; however this differentiates between the camps at the moment. The biggest obstacle in providing high quality service is the lack of education and training among the employees.

## **Identification and Elaboration Strategic Intervention Options**

#### *Excrement is not managed*

The costs of the investment to produce paper from elephant excrement are estimated to be high. It is not necessary for every elephant camp to have its own paper production plant. If all elephant camps collectively invest in one paper production plant, the financial investing requirement would be divided over the six elephant camps. The camps should collaborate to come up with a strategy to divide the revenue over the investors. An example is to calculate the revenue per kilo of excrement. The elephant camp then receives a share according to the amount of excrement that it delivers to the plant. Additionally, DASTA could take on a part of the investment. This would even divide the initial amount of investment over more people.

#### *Promotional pricing and time-schedule*

Walk-in tourists can be treated in the same way as before the renewed time-schedule was put into practice. If elephants are available to do a trek, walk-in tourists could simply purchase a trek at any time. The purpose of the renewed time-schedule is to decrease the carbon emissions of the transportation of the tourists. The walk-in tourists are still arranging their own transport to and from the elephant camps. The renewed time-schedule should not concern the walk-in tourists.

The convenience of the tourists would not have to be affected by the renewed time schedule, as long as they are not aware of the fact there once was another schedule. The tourists will just take the schedule as it is, but this will only work out if all the camps cooperate in the renewed schedule.

Strong and thorough collaboration is needed between the camps to make sure that all the camps take the renewed time schedule into practice. An intervention to improve this collaboration could be setting up meetings for all the owners and managers of the camps once in three months to discuss about cooperation. In order to make sure all stakeholders are willing to come, there should be an incentive for them to go to the meeting. This incentive can be the explanation and information provision about saving costs by implementing a renewed time schedule.

#### *Incomplete tourist experience*

Communication between the mahouts and the tourists is difficult due to the language barrier. The most obvious solution would be to decide on a common language between the two parties and use this language in the park. There are several reasons why this solution would not work: all different nationalities of the tourists and the resources that are needed to teach a mahout or tourist a new language are immense. Nevertheless, there are other forms of communication possible between the elephant camp and the tourists. The elephant camp could put up large signs that inform the tourists about the demographics of the elephants, their origin, their diet and so on. The tourists that are interested in learning something about the elephants in the park can read the information on the signs and the non-interested can just walk past. Thus, there is no obligation for the tourists to inform themselves about the elephants. Another possibility to initiate communication between the elephant camp and the tourists is to provide audio guides. The audio devices are digital devices that carry audio recordings with information about the elephants and the trek. The last option to overcome the language barrier between the elephant camp and the tourists is to create a (short) movie about the camp, its elephants and its treks. This movie can be shown to interested tourists on big television or a projection screen. The film can be narrated in multiple languages and should give a broad basic insight into the elephant camp for the tourists.

For all the previously described strategic solutions to increase the tourist experience, collaboration is needed between the elephant camps, translators and the tourists. Translators should be able to translate from Thai to English, Russian, Chinese and possibly other languages. The tourists should tell the elephant camps what kind of information is interesting for the tourists.

## **Recommendations DASTA**

Excrement management can be implemented. Due to the high costs of the equipment needed to make paper from elephant excrement, costs can be divided between the multiple elephant camps. Elephant camps were already noted to work together related to the price levels and exchanging elephants, so the relationships between the elephant camps already exist. DASTA could also help bring the parks together, as DASTA has contacted some of the parks before. Elephant camps can use these relationships can use these contacts to purchase elephant paper equipment together. The elephant camps do not need equipment for only themselves, so dividing the costs is the most logical thing to do. The elephant camps can produce elephant excrement paper together. A government grant might also be possible. When producing paper by all parks is not possible, it should still be tried to create paper together, albeit with less parks. When the paper production is implemented properly, it is vital to have good agreements about usage of which parks and other technicalities like excrement transport to the paper production. DASTA could help create these agreements about usage by bringing the parks together and provide a discussion while steering the conversation within

a certain direction. Agricultural farmers do not need to also have livestock for fertilizer anymore or buy fertilizer from the mainland, as fertilizer is available nearby for a low price. DASTA could also provide a mediator role in this case, as farmers need to be aware of the opportunity.

The seasonality numbers are more difficult to change. The best intervention to deal with the seasonality is to differentiate during low season. The best suggestion for elephant camps is to first introduce promotional pricing. Pricing remained the same for the last years. Promotional pricing is extremely easy to implement by just changing the price according to demand and the new pricing attracts much more tourists. In order to adjust the price, the market demand has to be monitored. Monitoring can be done by asking tourists about the price they would prefer or looking at promotional prices at other parks in the country. DASTA could cooperate with the elephant camps to investigate good promotions and promotional prices for elephant camps due to their good contacts. A renewed time schedule is also possible. As mentioned before, the contacts between the parks in help with DASTA have to be tightened. In this case, agreements also have to be made clearly in order to have a good cooperation.

The experience of tourists can also be improved. As mentioned before, the tourist product increases exponentially, while better service only requires a couple of implementations. Tourists expect they can talk to the mahout. A simple introduction speech helps tourists understand the context much better in which the elephants live in. A more active approach by the employees could also help with increasing the service quality. If employees approach tourists more pro-actively, the tourists will have the opportunity to ask questions and more. DASTA could help to achieve better service quality by offering information themselves or providing with contacts that can help increase the service quality. Something as simple as someone providing the described solutions in this paper could also help as well.

## **Conclusion**

This value chain analysis report investigates the value chain of the elephant trek activities on the island of Koh Chang, Thailand. During the value chain analysis, the key stakeholders and their relations are identified. The key stakeholders in the elephant trek value chain are: elephant camps and its employees, travel agencies, accommodation providers, tourists and the (local) governments. Using these stakeholders and relations, a value chain map was created. The value chain map simplifies the entire process in which the final product is produced, namely the elephant trek.

In this value chain study, the researchers aimed to identify bottlenecks. These bottlenecks are problems that arise in the value chain of the elephant trek; elements that are not currently managed efficiently enough. In this report the main focus was to identify bottlenecks that were related to the mitigation of carbon. A total of eight bottlenecks were discovered and the researchers came up with potential solutions to all these bottlenecks. The three most critical bottlenecks were selected to be investigated further.

These bottlenecks regard the management of the elephant excrement, seasonality in visitor numbers and the incomplete tourist experience of the elephant trek activity. The solutions to these three bottlenecks are: setting up an elephant paper production plant to increase the amount of elephant excrement that is reused, implementing a renewed time schedule to increase the occupation rate of the taxis to the elephant camps, and offering additional information about the elephant to enhance to tourist experience. Potential obstacles to these solutions and strategic interventions to overcome these obstacles are emphasized in this value chain analysis study.

## Appendices

### Appendix 1: Initial Risk Analysis

The Risk Analysis gives an insight in the external and internal risks which might be encountered during the research project. It is a tool which helps to reduce problems and to increase reliability of the project. Table 1 provides an overview of the risks.

		Impact of the Risk on the process					
		Insignificant <i>(Minor problem easily handled by normal day to day processes)</i>	Minor <i>(Some disruption possible)</i>	Moderate <i>(Significant time required)</i>	Major <i>(Operations severely damaged, huge adaptation needed)</i>	Catastrophic <i>(Not able to finish the project)</i>	
Likelihood	Almost certain <i>(90% chance)</i>	Miscommunication within the research group	Distraction from the project				
	High Likely <i>(About 70% chance)</i>	Not able to keep up with the plan	Miscommunication with stakeholders	Difficulties with scheduling appointments with stakeholders	A group member gets seriously sick/injured		
	Likely <i>(About 50% chance)</i>	Physical condition that constrains the project	Rough weather conditions			Computer crashes / Loss of indispensable information	
	Moderate/Low Likely <i>(About 30% chance)</i>	Transportation issue to get on the research spot		No sufficient internet access	Wrong focus on aspects of the value chain		
	Rarely/Unlikely <i>(10% chance)</i>					Natural disaster or Terrorist Attack in	



**Risk Categories**



**Appendix 2: Initial Project Plan of Value Chain Analysis and Intervention Report**

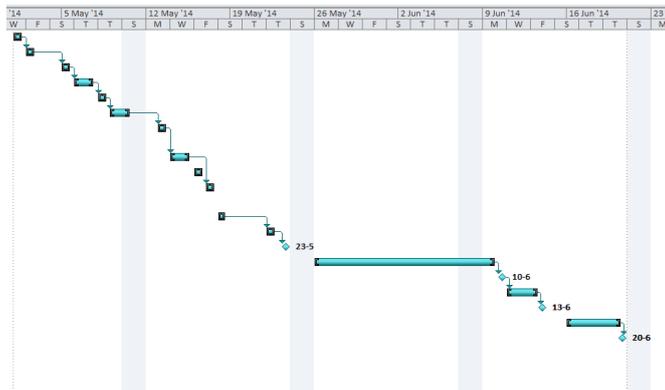
Using the program Microsoft Project, the researchers came up with a project plan for the field



Task Mode	Task Name	Duration	Start	Finish	Predecessors
1	Becoming acquainted with the destination area	1 day	Thu 1-5-14	Thu 1-5-14	
2	Visiting elephant camps	1 day	Fri 2-5-14	Fri 2-5-14	1
3	Picturing the value chain and stakeholder analysis	1 day	Mon 5-5-14	Mon 5-5-14	2
4	Participant observation	2 days	Tue 6-5-14	Wed 7-5-14	3
5	Analysing notes and creating questionnaire	1 day	Thu 8-5-14	Thu 8-5-14	4
6	Conducting questionnaires	2 days	Fri 9-5-14	Sat 10-5-14	5
7	Analysing notes and creating semi-structured interviews	1 day	Tue 13-5-14	Tue 13-5-14	6
8	Conducting semi-structured interviews	2 days	Wed 14-5-14	Thu 15-5-14	7
9	Analysing interviews	1 day	Fri 16-5-14	Fri 16-5-14	
10	Getting an overview of all data gathered and creating possible intervention	1 day	Sat 17-5-14	Sat 17-5-14	8
11	Stakeholder meeting	0,67 days	Sun 18-5-14	Sun 18-5-14	
12	Working on Storytelling Assignment	1 day	Thu 22-5-14	Thu 22-5-14	11
13	Deadline individual Storytelling Assignment	1 day	Fri 23-5-14	Fri 23-5-14	12
14	Working on Value Chain and Intervention Report	16,33 days	Mon 26-5-14	Mon 9-6-14	
15	Presentations	1 day	Tue 10-6-14	Tue 10-6-14	14
16	Improve Value Chain and Intervention Report	3 days	Wed 11-6-14	Fri 13-6-14	15
17	Deadline Value Chain and Intervention Report	0,67 days	Fri 13-6-14	Fri 13-6-14	16
18	Working on Process Report	5 days	Mon 16-6-14	Fri 20-6-14	
19	Deadline Individual Process Report	1 day	Fri 20-6-14	Fri 20-6-14	18

research and the creation of the final Value Chain and Intervention Report (Figures 2). The weekends are reserved for leisure time.

Figures 2. Project Plan Value Chain and Intervention Report



### Appendix 3: Initial Task Division of Value Chain Analysis and Intervention Report

In the field, the tasks will be distributed as follows (table 3):

Table 3. Task division at Koh Chang

	Tasks
Together	<ul style="list-style-type: none"> <li>• Participant observation</li> <li>• Conducting small questionnaires</li> <li>• Conducting semi-structured interviews</li> <li>• Analyzing participant observation</li> <li>• Analyzing small questionnaires</li> <li>• Analyzing semi-structured interviews</li> </ul>
Joeri	<ul style="list-style-type: none"> <li>• Keeping the data together (USB, Dropbox, papers etc.)</li> </ul>
Ivo	<ul style="list-style-type: none"> <li>• Contact person for stakeholders</li> </ul>
Tom	<ul style="list-style-type: none"> <li>• Making notes at meetings</li> </ul>
Esther	<ul style="list-style-type: none"> <li>• Team captain</li> <li>• Analyzing using SPSS</li> </ul>
Fleur	<ul style="list-style-type: none"> <li>• Chairwoman at meetings</li> <li>• Keeping track of plan</li> </ul>

In addition, a task division for the Value Chain Analysis and Intervention Report has been made (table4).

Table 4. Task division Value Chain Analysis and Intervention Report

	A. Project design & limitations	B. Final value chain analysis	C. Intervention design
Together	<ul style="list-style-type: none"> <li>• Discussion of the entire research process</li> </ul>	<ul style="list-style-type: none"> <li>• Extensive description of the research findings and an analysis</li> </ul>	
Joeri	<ul style="list-style-type: none"> <li>• Reflection on ethical issues</li> </ul>	<ul style="list-style-type: none"> <li>• Final introduction to research area</li> </ul>	<ul style="list-style-type: none"> <li>• Assessment of the capacity and intrinsic interest</li> </ul>
Ivo	<ul style="list-style-type: none"> <li>• Reflection on stakeholder meeting</li> </ul>	<ul style="list-style-type: none"> <li>• Final literature review of academic and professional literature</li> <li>• Final definitions of the criteria and corresponding indicators</li> </ul>	<ul style="list-style-type: none"> <li>• Elaboration on obstacles that prevent these actors from taking action</li> </ul>
Tom	<ul style="list-style-type: none"> <li>• Reflection on stakeholder meeting</li> </ul>	<ul style="list-style-type: none"> <li>• Final literature review of professional value chain studies</li> <li>• Description and explanation of bottlenecks and the solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Recommendations for DASTA on how the interventions can be implemented effectively</li> </ul>
Esther	<ul style="list-style-type: none"> <li>• Reflection on the risk analysis</li> <li>• Completed research blog</li> </ul>	<ul style="list-style-type: none"> <li>• Final literature review of professional value chain studies</li> <li>• Final value chain map</li> <li>• Final definitions of the criteria and corresponding indicators</li> </ul>	<ul style="list-style-type: none"> <li>• Identification and elaboration of strategic intervention options</li> </ul>
Fleur	<ul style="list-style-type: none"> <li>• Reflection on initial project plan and task division</li> </ul>	<ul style="list-style-type: none"> <li>• Final literature review of professional value chain studies</li> <li>• Final value chain map</li> </ul>	<ul style="list-style-type: none"> <li>• Identification and elaboration of strategic intervention options</li> </ul>

## Appendix 4: Logbook of Research Methods

Date	Whom	Activit(y)(ies)	Reason(s)	Result(s)
01/05 & 02/05	Tom & Esther	Visited the elephant camp Bin Camp Chang and Kai Bae Mee Chai. Conducted participant observation, talked to employees/manager and when possible tourists.	<ul style="list-style-type: none"> <li>• Participant observation to get a first impression of the research spots.</li> <li>• Conversations held when possible to get some first insight information. This was not structured yet.</li> </ul>	<ul style="list-style-type: none"> <li>• A first impression of the research spot without knowing any insight information yet.</li> <li>• Relationship building with important actors in the elephant camp value chain.</li> </ul>
	Joeri, Ivo & Fleur	Visited the elephant camps Chang Chutiman, Ban Chang tai and Ban Kwan Chang. Conducted participant observation, talked to employees / manager and when possible tourists.		
02/05	Tom & Esther	Visited the elephant camp Bin Camp Chang. Conducted participant observation.	<ul style="list-style-type: none"> <li>• Participant observation to get a first impression of the research spots.</li> </ul>	<ul style="list-style-type: none"> <li>• A first impression of the research spot without knowing any insight information yet.</li> </ul>
	Joeri, Ivo & Fleur	Visited the elephant camp Ban Kwan Chang. Conducted participant observation.		
	All	Supervisor meeting number 1 with Pete and Rico	<ul style="list-style-type: none"> <li>• Discussing the research progress</li> </ul>	<ul style="list-style-type: none"> <li>• Action points: take into account the cultural context of the elephant camp. Examine the possibility to compare camps to find out 'best-practices'. Search for other possible stakeholders. And link the value chain to low carbon practices.</li> </ul>
03/05	All	Processing data and discussing how to continue.	<ul style="list-style-type: none"> <li>• Data processing to be able to make a first comparison of the camps and spot differences. Based on</li> </ul>	<ul style="list-style-type: none"> <li>• Overview of all data gathered by the participant observation.</li> </ul>

		<p>Contacting supervisor about doing questionnaires, created questionnaires, and emailed DASTA and TAEF for information. In addition, attention points are noted down for everyone to focus at during our own participation in an elephant trek later on.</p>	<p>participant observation, questionnaires are created.</p> <ul style="list-style-type: none"> <li>• Questionnaires are based on the participant observation data. The aim is to find out more about tourists' transportation, their interests and their perception of Koh Chang as a low carbon destination.</li> <li>• DASTA and TAEF are contacted to find out perspective of external value chain actors.</li> <li>• Attention points are needed to make sure comparable data is gathered during the treks.</li> </ul>	<ul style="list-style-type: none"> <li>• An initial questionnaire including all topics for data gathering.</li> <li>• None yet.</li> <li>• None yet.</li> </ul>
04/05	All	<p>Worked on improving the questionnaire and started on making interviews for the managers. Blogger of iamkohchang.com, Ian, is contacted for a conversation later this week and an attempt has been made to contact Koh Chang Municipal Office. The first meetings for the manager interviews are being planned.</p>	<ul style="list-style-type: none"> <li>• The questionnaires needed several improvements after a check by the supervisors. Missing parts are added and wording is revised.</li> <li>• Ian appears to know a lot about Koh Chang and its current problems. A conversation might provide extra information. The Koh Chang Municipal Office is contacted to arrange a meeting and find out more about their influence or role with regard to the elephant camps.</li> <li>• Meetings are being planned in advance to allow everyone to make time and be prepared.</li> </ul>	<ul style="list-style-type: none"> <li>• The questionnaire is finished and only needs printing.</li> <li>• A meeting is scheduled for 09/05.</li> <li>• At all camps, the possibility exists to come by in the coming week.</li> </ul>
05/05	All	<p>Visit tour operators, travel</p>	<ul style="list-style-type: none"> <li>• Get an idea of the commission rates they receive</li> </ul>	<ul style="list-style-type: none"> <li>• Concrete numbers on the amount of commission</li> </ul>

	agencies and hotels.	when selling an elephant trek and possible additional relationships with the camps.	and an idea on how the cooperation is happening.	
06/05	Tom	Attend briefing stakeholder meeting in afternoon.	<ul style="list-style-type: none"> <li>• To find out what to expect from the stakeholder meeting and how to prepare.</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable.</li> </ul>
	Joeri & Ivo	Visit the National Park.	<ul style="list-style-type: none"> <li>• Find out if the elephant camps can freely use the national park or which restrictions there are.</li> </ul>	<ul style="list-style-type: none"> <li>• An interview conducted by using Google Translate</li> </ul>
	Tom, Esther & Fleur	Visit tour operators, travel agencies and hotels.	<ul style="list-style-type: none"> <li>• Get confirmation about the commission rates and any collaboration with the camps.</li> </ul>	<ul style="list-style-type: none"> <li>• Confirmation from different angles.</li> </ul>
07/05	All	Supervisor meeting 2 with Michael and Erding, and an additional meeting with Rico.	<ul style="list-style-type: none"> <li>• Discussing the research progress.</li> <li>• Instruction about the storytelling assignment (additional assignment separate from this report).</li> </ul>	<ul style="list-style-type: none"> <li>• Action points: narrow down the research and use triangulation. Keep in mind introductory program and create 'midterm vision' to see which data still needs to be collected.</li> <li>• Selection of cultural encounter.</li> </ul>
	Joeri, Ivo & Fleur	Attending a trek and make notes by using the trek attention points.	<ul style="list-style-type: none"> <li>• To experience the actual service the elephant camps are providing, and to gather first hand observations.</li> </ul>	<ul style="list-style-type: none"> <li>• Participated in three treks and made extensive notes.</li> </ul>
	Ivo	Printing the questionnaires.	<ul style="list-style-type: none"> <li>• To hand them out.</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable</li> </ul>
08/05	Joeri, Ivo, Fleur & Esther	Handing out questionnaires to tourists and reminding managers about interviews.	<ul style="list-style-type: none"> <li>• Aiming to hand out 5/6 per elephant camp to get a sample based on all camps.</li> <li>• Reminding is needed because Thai people tend not to be present otherwise.</li> </ul>	<ul style="list-style-type: none"> <li>• Conducted 15 useable questionnaires and still 10 to hand out.</li> <li>• Planned interviews for tomorrow.</li> </ul>
	Ivo & Fleur	Interviews with senior employee of Ban Changtai and the manager of Ban Kwan Chang.	<ul style="list-style-type: none"> <li>• Gaining in-depth qualitative data about the particular elephant camp, tourists, elephants and the business</li> </ul>	<ul style="list-style-type: none"> <li>• Two one-hour, recorded interviews with a lot of additional information.</li> </ul>

	Joeri, Esther & Tom	Interview with Bin Camp Chang and Tom did a trek at Chang Chutiman. Attempt to interview and hand out questionnaires at Chang Chutiman and Kai Bae Mee Chai.	practices (including mutual cooperation between the camps).	<ul style="list-style-type: none"> <li>• A one-hour, recorded interviews with a lot of additional information.</li> <li>• No manager present at Chang Chutiman.</li> <li>• A rejection at Kai Bae Mee Chai. They did not want us to do research at the camp.</li> </ul>
09/05	All	Handing out invitations for the stakeholder meeting.	<ul style="list-style-type: none"> <li>• Trying to make the stakeholders enthusiastic and attend the meeting.</li> </ul>	<ul style="list-style-type: none"> <li>• One of the managers and a woman from a tour agency are going to join for sure.</li> </ul>
	All	Processing questionnaire and interview data.	<ul style="list-style-type: none"> <li>• Working towards creating an overview of the data gathered in order to be able to think of interventions.</li> </ul>	<ul style="list-style-type: none"> <li>• Almost all data typed out and gathered.</li> </ul>
	Esther & Fleur	Meeting with Ian at his guesthouse.	<ul style="list-style-type: none"> <li>• Informal conversation about the island in general, the elephant camps, the tourism situation and the changes over the years.</li> </ul>	<ul style="list-style-type: none"> <li>• No hard data gathered, but received additional information about all subjects from yet another point of view.</li> </ul>
12/05	All	Thinking about possible interventions.	<ul style="list-style-type: none"> <li>• Stakeholder meeting is coming up and some initial interventions should be presented.</li> </ul>	<ul style="list-style-type: none"> <li>• Came up with nine possible interventions to discuss with the supervisors.</li> </ul>
	All	Supervisor meeting 3 with Harald and Erdinç.	<ul style="list-style-type: none"> <li>• Discussing the research progress.</li> <li>• Peer evaluation.</li> </ul>	<ul style="list-style-type: none"> <li>• Selection of three interventions to focus on and work out.</li> <li>• Found out more about each other's idea of the group work and possible improvement points.</li> </ul>
13/05	Joeri, Ivo & Fleur	Processing data, working out interventions and preparing for stakeholder meeting.	<ul style="list-style-type: none"> <li>• Data is processed to make sure everything can be taken into account when working out the interventions.</li> <li>• A power point presentation and text have to be made in</li> </ul>	<ul style="list-style-type: none"> <li>• The last interview is transcribed and interventions are worked out in a way that can be presented.</li> <li>• A first version of the</li> </ul>

		advance.	presentation is finished.
	Tom & Esther	Conducting interview with Chang Chutiman elephant camp and inviting people officially for the stakeholder meeting.	<ul style="list-style-type: none"> <li>• The interview still has to be conducted in order to have all camps that encourage the research are taken into account.</li> <li>• More people still need to be invited.</li> </ul>
14/05	All	Improving the presentation and text for the stakeholder meeting and dividing tasks.	<ul style="list-style-type: none"> <li>• Chang Chutiman's manager still was not there, so no data gathered there.</li> <li>• All other managers and stakeholders invited.</li> </ul>
	All	Improving the presentation and text for the stakeholder meeting and dividing tasks.	<ul style="list-style-type: none"> <li>• Making sure all selected information is present, and that everyone knows what to do.</li> <li>• Presentation and text finished and tasks divided.</li> </ul>
15/05	All	Rehearsal stakeholder meeting	<ul style="list-style-type: none"> <li>• Practicing for tomorrow and receiving last feedback points to adjust.</li> <li>• Action points: adjust layout of the power point, rephrase question to the audience, clearly show problem and intervention separately, and make compact.</li> </ul>
16/05	All	Stakeholder meeting, with Tom and Fleur presenting the research, Ivo making notes, Joeri keeping track of the time and Esther filming.	<ul style="list-style-type: none"> <li>• Presenting our preliminary research results and gaining some last information from the stakeholder present.</li> <li>• A successful meeting with many stakeholders in which our results were welcomed and discussed.</li> </ul>

## Appendix 5: Macro Factors Koh Chang

Macro factor	Description
Climate change	<ul style="list-style-type: none"> <li>- Pollute less to emit less CO<sup>2</sup></li> <li>- Leading to natural disasters, e.g. floods, hurricanes, rising sea level, biodiversity loss.</li> <li>- Should be taken into account by tour operators since tourists might feel threatened</li> <li>- Can damage value of local environment</li> <li>- Can lead to decreasing tourism numbers (Loehle &amp; LeBlanc, 1996)</li> </ul>
Loss of biodiversity	<ul style="list-style-type: none"> <li>- Smaller distribution of species and effects on the living numbers</li> <li>- Biodiversity essential for tourism development (Christ et al., 2003)</li> <li>- Lack of awareness that tourism significantly influences the loss of biodiversity (Christ et al., 2003)</li> <li>- Can make a destination less attractive, especially regarding nature based activities</li> </ul>

	- Can lead to decreasing tourism numbers (Hall, 2010)
Destination competitiveness	- If other destinations seems more attractive this will affect the tourism numbers of Koh Chang (Dwyer & Kim, 2003) - Importance of local competitiveness due to extensive domestic tourism industry - Importance of positive image in order to have tourists re-visit the place (Mechinda et al., 2010) - Distinction has to be made between national and international tourists; national tourists value location and service, while international tourists mostly focus on natural resources (Mechinda et al., 2010)
Authenticity	- Authenticity and a noticeable culture impact visitation numbers as tourists are more likely to visit when local cultures are consumable or commoditized (Cohen, 1988)
Politics	- Stability, policies favouring pro or against tourism development, and treatment of tourists (visa's etc.) influences tourism too (Hall, 1997) - Can directly influence the nature based value chain as nature based activities can be limited when there is a focus on biodiversity development, limiting nature based activities growth - Stable political situation makes tourists more inclined to visit (Hall, 1997) - Easy visa applications and checkpoints also ensure this
Economic growth	- Can lead to increasing numbers of tourists (Hamilton et al., 2005) - Need to adjust tourism product to tourists' needs; increasing commodification - Need for more accommodation for tourists (Hamilton et al., 2005)

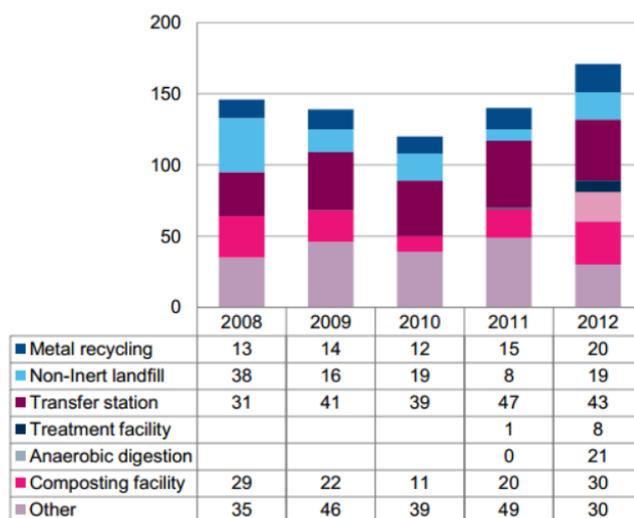
## Appendix 6: Definitions Criteria and Corresponding Indicators

In order to assess the value chain of elephant camps, definitions and criteria will be used from four operational domains, which were originally developed by DASTA. These four domains; waste management, promoting self-sufficiency business concepts, energy efficiency and water saving were created as reference points to reduce carbon emissions in these domains (DASTA, 2014). In this section, some concepts of the domains will be reviewed to gain a more comprehensive understanding of the four domains and as a consequence as well in how the value chain of elephant camps should be assessed. In addition criteria and indicators are developed on how the value chain of elephant camps should be assessed related to these four domains (Appendix 2). These criteria and indicators are used as a basis for the research design (table 6).

### Waste management

A set of highly publicized pollution incidents related with inappropriate waste management practices, led to the global public concern about environmental impact, inadequate legislation and lack of controls (figure 8, Environment Agency, 2013). Many national and federal governments were obliged to introduce new models and frameworks to deal with these waste management practices. For instance, a waste management practice could be waste re-use and recycling of waste, waste minimization and prevention or incineration of waste which produces energy (Giusti, 2009;

Troschinetz & Mihelcic, 2009). An emerging tool used to assess the environmental impacts of waste and helping decision-makers in waste-management is Life Cycle Assessment (Morrissey & Browne, 2004). ISO 14040 (1997) defines it as 'Life Cycle Assessment is a tool that studies the environmental aspects and potential impacts throughout a product's life from raw material acquisition through production use and final disposal'.



The biggest contributor to waste in Thailand is Municipal Solid Waste (MSW). MSW is waste generated by commercial and business establishments, municipal services and households, which mean the value chain of elephant camps also contributes to MSW (Nguyen & Schnitzer, 2009). In this research there will be explored how waste is managed within the value chain and see whether elephant camps are able to improve their waste management practices.

### Self-sufficient businesses

Self-sufficiency business concept is seen by DASTA as a positive tool needed to change Koh Chang into a low carbon destination. It is a type of entrepreneurial practice with various characteristics such as; use of family labor, little market stability, low levels of capital investment, and a tendency towards weakly developed management skills (Page, Forer & Lawton, 1998). Assumed is that the elephant camps will probably be organized by self-sufficient entrepreneurs, running their small business alone or with help of friends and family.

According to Rodenburg (1980) an advantage of self-sufficient businesses is that local ownership ensures a higher income multiplier for destinations, as family businesses are more likely to buy from other residents. However, there are also negative impacts as Harrison and Leitch (1996) mention; self-employment entrepreneurs might not make much of a long-term contribution to local development. A contradictory view comes from Getz and Carlsen (2000) who observed that family firms could be the backbone of development in rural areas and small towns, so policies should be directed towards encouraging and sustaining them.

DASTA can be helpful by offering businesses the support they need and enabling them to remain profitable. DASTA's view, of seeing self-sufficiency as an important tool to create a low carbon destination, is supported by academic research, which already has shown that there is an overall positive relationship between self-sufficiency business concepts and their environmental

consciousness. For instance, Carlsen, Getz and Ali-Knight (2001) have found that Australian family businesses owners would be more conservation-inclined. This might be the case at Koh Chang as well.

### Energy efficiency

Becken & Simmons (2002) argue “that tourism, and particularly the recreational part of the product, may contribute considerably to a country's ‘energy bill’” (p. 343). Elephant activities are part of this recreational component of tourism. Not only the energy which is used during the activity is important, also the transportation to and from the recreational area contribute to the energy consumption. The choice of transport mode, the number of recreationists per vehicle, the average number of vehicles a day and the average distance per vehicle determine together the amount of energy used for transportation (Limmechokchai, Chungpaibulpatana, & Tanatvanit, 2003). For instance, cycling, walking and public transport is less carbon emitting modes of transport than cars and motorbikes (Becken et al, 2003). While on Koh Chang, motorbikes and cars are the most used vehicles among the tourists.

### Water saving

The domain of water saving might be less relevant for the value chain of elephant activities, because in the existing literature about zoo's and adventure tourism, water saving issues or intensive water usage are not mentioned. However there will be taken into account how water is used and saved in elephant camps. Water is for example used in elephant camps for elephant drinking and washing purposes, however this might just be regular river water. In addition it might be the case that bottled drinking water is sold in accompanying restaurants or water is being used for cleaning, but there is not the expectation to come across excessive amounts there. It might seem a better idea to look into the water quality instead of the amount of water usage. For instance elephants make use of a river for washing and their excrement might end up in it, this might lead to pollution of water. Water pollution will contribute negatively to the environmental condition of the elephant camp. Furthermore when it becomes evident that there are ways in which water is not used efficiently by any of the actors present in the value chain or that there are ways in which operations have a negative impact on water supplies, the subject of water saving will still become a part of this research.

## Appendix 7: Participant Observation: Data First Impressions

### First impression elephant camps

*Tom & Esther*

#### 5/1/2014 – Bin Camp Chang

14.15 The camp is situated next to the main road. A big statue of an elephant with the name of the camp is near the entrance of the camp. At the right side is the reception situated; a building with no walls (open). At the reception are three women at the moment we arrive at the camp. We asked if we could have a drink at the reception, but this was not possible. At the left side of the camp are the elephants situated. They are standing underneath a rooftop next to each other. The building is not parallel directed as the road, from the road it is not possible to see all the elephants. When we arrived there were seven elephants present. The elephants all had their own small space, of approximately 16m<sup>2</sup>. All the elephants were chained to a big pole (which marked their space), they stand quite still, did not step a lot to the left or right and only some turned a bit around in their

**Comment [JvL1]:** Camp next to road  
→ transport efficiency → Usages

**Comment [JvL2]:** Elephants under roof  
→ Elephant Residence → Information about Elephants

**Comment [JvL3]:** Small space for elephants  
→ Elephant Residence → Information about Elephants

space. In the small area there were branches, the food for the elephants, and a seat for the mahout. Right in front the entrance was a little wooden building on poles, with a 'welcome to Bin Camp Chan'-sign. This was the point where the tourists could climb in the seats on top of the elephant. It functioned as the starting point and end point for the trek, where we lost the tourists out of sight. We situated ourselves in a little café next to the elephant camp, where we still could keep track of the actions happening in the camp, but at the same time we were not too present in the camp itself and thus influencing the data.

**Comment [JvL4]:** Elephants eat branches → Elephant Food → Information about Elephants

**Comment [JvL5]:** Visitors climb on elephant → Interest in Elephants → Information about Elephants

A German, ± 40 years old, just returned from their visit after our arrival. Their face expressions were quite neutral and they left the camp in 3 minutes after returning by elephant. At the same time one of the mahouts was preparing one of the elephants, the one closest to the road, for a trek. He was first putting a lot of blankets on the back of the elephant and on top of these the seats for the tourists. The seats are able to keep stable, because ropes tied it to the elephant (underneath its tail and around its head). On the benches is a name plate attached with the name, age and gender of the elephant.

**Comment [JvL6]:** Neutral expressions after trek → Trek Experience → Information about Elephants

**Comment [JvL7]:** Blankets on elephant → Elephant Treatment → Information about Elephants

About 15 minutes later another couple (± 40) arrives at the elephant camp, they had a western appearances. They arrived just by foot and took immediately a look at the elephants. The man started to take photographs of the woman together with the elephants. After some pictures they moved to the street to take some more pictures, but now from a different angle. After this, they left the camp by foot again. Tom approached the couple and asked some questions about why they were visiting the elephant camp, but not doing the trek in the end. The couple, Russian, mentioned that the elephants did not look healthy and that they heard they were slapped by a stick during the trek. These were some reasons for them to leave the camp without participating in the elephant trek. They also told us that they did not like the fact that some camps were using baby elephants for activities. A baby elephant should not be in business, they did not like that these activities were promoted.

**Comment [JvL8]:** Looking at elephants → Interest in Elephants → Information about Elephants

**Comment [JvL9]:** Photographs of elephants → Interest in Elephants → Information about Elephants

**Comment [JvL10]:** Tourists mention unhappiness about elephant conditions → Elephant Treatment → Information about Elephants

Another 5 minutes later five people, with Asian appearances, probably a family arrive by taxi at the camp. The taxi was carrying the same name as the elephant camp. After leaving the taxi they also took pictures of the elephants, with and without each other on the pictures. After the pictures they headed to the house on poles. Already two elephants were standing here, ready to start the trek. The 'family' climbed the elephants and were walked into the jungle for the trek.

**Comment [JvL11]:** Taxi of camp delivers tourists → Transport Efficiency → Usages

**Comment [JvL12]:** Taking pictures of elephants → Interest in Elephants

Now the two elephants were away from their 'cage', the cages got cleaned by the mahouts and one of the women from the reception. First they removed all the leaves and branches and after this they brushed the floor with water. This seemed an intensive job to do to us. Especially for the woman who was cleaning the first cage, next to the road, this cage was now completely in the sun.

**Comment [JvL13]:** Climb n elephants to go on a trek → Trek Experience

**Comment [JvL14]:** Cage cleaning → Elephant Treatment

In one hour of observation, only one elephant got water sprayed by one of the mahouts.

**Comment [JvL15]:** Elephants get washed → Elephant Treatment, Water Usage → Information about Elephants, Usages

15.30 The family and the two elephants returned from their trek. The family was dropped at the same house on poles. The family was chatting and laughing with each other after their trek. They took a few more pictures, before they entered the taxi which probably was taking them back to their hotel. In total they have visited the camp for 1 hour and 15 minutes.

**Comment [JvL16]:** Family takes pictures of elephants → Interest in Elephants → Information about Elephants

The two elephants were returned to their 'cages' and the mahouts started to unpack the elephants from the benches and blankets. They were chatting and laughing with each other in the meantime. It seemed the elephants knew exactly the pattern in unpacking and related things. They turned exactly

on the right moments and walked into the right direction when they got water sprayed. They also got some water to drink from the mahouts. (How much water and what kind of water are used?)

**Comment [JvL17]:** Elephants get washed → Elephant Treatment, Water Usage → Information about Elephants, Usages

16.00 More tourists, with an Asian appearance, arrived at the camp. A couple (±30 years) and a child (± 8 years). They bought food (pineapples) from the reception to feed the elephants. They were smiling and taking pictures during feeding the elephants. They told us they may want to do a trek at a camp, but not yet. They just saw this camp and did not know which other camps where at the island. They mentioned it was hard to find websites or addresses of them.

**Comment [JvL18]:** Chinese family feeding elephants pineapples → Interest in Elephants, Elephant Food → Information about Elephants

16.15 We left our little café. When paying for our drinks and lunch the woman of the café, the owner, pointed to the television. A city of Koh Chang (Bang Bao) was at the television and surprisingly also the DASTA logo was present. In the same time the mahouts were liberating the elephants and brought them together in front of the reception. A big amount of pineapples was dumped here for the elephants. The woman of the café told us that after the food, the mahouts make a little round with the elephants. Afterwards the mahouts bring them to their sleeping cages, which was different from their day cages and not next to the main road.

**Comment [JvL19]:** Pineapples delivered for elephants → Elephant Food → Information about Elephants

**Comment [JvL20]:** Elephants sleep in special sleeping cages → Elephant Residence → Information about Elephants

Joeri, Ivo & Fleur

### 5/1/2014 - Chang Chutiman

#### Camp description:

- 500 meters off main road
- 17 years old
- 5 adult elephants and 1 baby elephant present at the moment
- People living next to it in little huts
- Situated in jungle
- Activities provided: elephant trek and feeding (40 bath). Small trek 1 hour, large trek including swimming at the waterfall 2 hours.
- Many additional small animal shelters, mainly with rabbits.
- Bar, water system and small souvenir stand.
- Food consists of bananas and sugar cane.
- Unused food gets burned.
- This camp is most affordable.
- Treks lead to inside the mainland.

**Comment [JvL21]:** Local population takes care of elephants → Elephant Treatment → Information about Elephants

**Comment [JvL22]:** Possible to go trekking and to feed → Trek Experience → Information about Elephants

**Comment [JvL23]:** Water system available → Water Usage → Usages

**Comment [JvL24]:** Food gets burned → Waste Management → Usages

#### Participant observation:

Mahouts measuring elephants, sitting on top. Feeding sugar cane.

Tourist arrives and starts looking at the plan together with Thai employee. Skips through it and discusses something. French guy sitting at bar with notebook and calculator. Tourist pays and leaves. Greets owner when he goes, can be acquaintances. Tourist had behaviour of an intermediary person who is gathering bookings.

Food comes from the mainland, it does not grow nearby.

**Comment [JvL25]:** Food comes from mainland → Origin Elephant Food → Information about Elephants

None of the elephants had fangs.

#### Conversations:

- With temporary worker, French. He settled in Thailand 3 years ago and has a wife and kids.

Transport from accommodation to camp included, tourists picked up by truck.

**Comment [JvL26]:** Transport is included with price, brought by truck → Transport Efficiency → Usages

National park next to camp. 10 hours of trekking a day in high season. Elephants long ago brought to Koh Chang (40 years).

Food imported and animal hospital in Trat. Elephants kept in camp at night. No tourists' bookings for afternoon this week, only few in the morning. No tourists at all at the moment. Hook hanging at shelter of elephants that is used for steering.

**Comment [JvL27]:** Food comes from mainland → Origin Elephant Food → Information about Elephants

*Joeri, Ivo and Fleur*

### 5/1/2014 - Ban Chang Thai

#### *Camp description:*

- Striking: in the center of the camp a stand is situated that sells ivory and elephant bone products as souvenirs. Big banner above it that states so. - All camp information is both in Thai and Russian.
- Tours to waterfall, 1 or 2 hours.
- Tours from 8 till 5 every day.
- Only one elephant at the 'station' at the moment, kept really short to chain. Looks like it's trying to step forward. In total 10 elephants.
- The elephants have wooden seats on them.
- Bar is full of pictures on the walls showing elephants. There is also certificate that states the camp has been certified by DASTA.
- Camp also offers ATV tours.

**Comment [JvL28]:** Ivory sold in camp → Souvenirs → Other offered Products

#### *Participant observation:*

12 Asian people apparently just finished a tour. They are offered souvenirs of flat wooden elephant photo frames with a photo of their trek in it.

**Comment [JvL29]:** Asian people gone on a trek → Trek Experience → Information about Elephants

16:00: part of the group leaves in big truck of the camp.

16:15: group of elephants comes back. 1 white couple dropped off at sort of high platform. They are led to the bar immediately. Their face expressions are neutral.

**Comment [JvL30]:** Neutral facial expressions → Interest in Elephants → Information about Elephants

Taxi arrives to pick up remaining people of Asian group.

**Comment [JvL31]:** Taxi picks up Asian group → Transport Efficiency → Usages

People cannot come near to the elephants without a mahout.

4 Russian tourists that also just came back said it was good by holding up their thumbs and smiling. One of the elephants is being washed. He poops and this is cleared by a mahout and just thrown into the bushes.

**Comment [JvL32]:** Russians enjoyed trek → Trek Experience, Interest in Elephants → Information about Elephants

#### *Conversations:*

- Woman from information point: Food does not come from the island itself, but from mainland. Elephants released into surrounding area with big chains after day of work, but they sleep in the covered area and kept there by chains. Tourists brought to camp by trucks.
- Thai family visiting Koh Chang: They come here twice a year for the sea.

**Comment [JvL33]:** Food comes from mainland → Origin Elephant Food → Information about Elephants

Route description: Starts in the city, then goes towards the mountain. After that travel to the river to wash the elephants. The trip ends back at the start point.

Tourists who return get lead straight to the point where refreshments are sold. There is a souvenir shop.

**Comment [JvL34]:** Refreshments sold  
→ Refreshments → Other Offered Products

*Joeri, Ivo and Fleur*

### 5/2/2014 - Ban Kwan Chang

#### *Camp description:*

- 15 years old
- First camp at Koh Chang
- 10 female elephants, no males.
- 2 routes for the elephant trek, short and long.
- Families of the mahouts live next to the camp.
- Based within the forest.
- Camp is part of a community.
- Souvenirs are for sale.
- Information center available

**Comment [JvL35]:** Local community lives near park → Elephant Treatment → Information about Elephants

#### *Participant observation:*

#### *Conversations:*

- With Thai manager

Tourists come from Europe, China and Russia. They come from agencies, hotels and book at the camp itself.

Food is imported.

**Comment [JvL36]:** Food from mainland → Origin Elephant Food → Information about Elephants

Information no secret, he is glad to answer all our questions.

Competition with other camps on Koh Chang, but this one is described and photographed by Lonely Planet. Popularity increased.

This camp different from others because it is in the jungle.

Manager has to steer mahouts in business, they do not know how to manage.

Elephants eat pineapple leaves, 1.5 tons per day of 1.5 Bath per kilo. The animals do not have the same food every day because that is bad for them. They need a diverse diet. A common disease is stomach ache for which the elephants have to eat rubber plants as a cure. A vet is coming two times a year to check for parasites, provide herbs when necessary and check the bodies. There are two elephant hospitals in the country, but mostly a vet is being called when something is wrong. It takes a long time before he arrives, but taking the elephants is even more time consuming and very expensive (10.000 Bath). When they have to be moved, a big fisherman boat is used. Last year, one elephant died because he couldn't eat and therefore not sleep (kept standing up). 15 years ago, 3 died. The animals are kept healthy by feedings them in the jungle.

**Comment [JvL37]:** Elephants eat 1.5 tons of pineapples leaves a day → Elephant Food Usage → Usages

**Comment [JvL38]:** Diverse diet for elephants → Elephant Food Usage → Usages

**Comment [JvL39]:** Vet checks elephants twice a year → Elephants Treatment → Information about Elephants

20 years ago: elephant national symbol, but not taken care of well in Thailand. Therefore the flag symbol was being changed. Government does not know anything about elephants.

Elephants can get 70 to 80 years old (equal to humans). The elephants made the jungle trails themselves. The females stick together, but separate when looking for food.

Camp does not own the land, but lends from villagers. They rent every year and pay 6000 Bath for the trail through the jungle.

**Comment [JvL40]:** Land is leased from villagers → Land Use → Usages

The waterfall and river are normally used for cleaning the elephant, but since there is not much water now it is not used in low season. There is a bathroom for the elephants at the camp and they are washed twice a day. Elephants use 200 litres per animal a day. The water comes from the mountain and is caught in a tank. The rain water is not being collected, but there was no need as they never ran out of water. Tourists' use of water on the island does not decrease water availability at elephant camp. The rest of the island uses ground water. There is a problem with water at White Sand Beach and Lonely Beach. Hotels etc. buy water, the camp does not. Tourists do not know where the water comes from.

**Comment [JvL41]:** Elephants drink 200 litres a day → Water usage, Elephant Treatment → Information about Elephants

**Comment [JvL42]:** Water comes from mountain, don't run out of water → Water Usage → Usages

**Comment [JvL43]:** Tourist use does not decrease water level significantly here → Water Usage → Usages

**Comment [JvL44]:** Water problems at tourist accommodations → Water Usage → Usages

Electricity comes from the mainland via a cable under the sea. It is offered at the same price as on the mainland. In the camp they do not use much electricity, no air conditioning. There is no bar that needs cooling. Gas is used for cooking, also comes from the mainland. Everything shuts down when there is no electricity, which is a problem in low season. Trees with cables then fall down. There are not many shutdowns at the camp since they do not use that much energy. A generator is not installed because it makes too much noise. They only have two refrigerators and a television.

**Comment [JvL45]:** Electricity from mainland → Electricity Usage → Usages

**Comment [JvL46]:** No electricity used at camp → Electricity Usage → Usages

The manager lives next to the camp. The mahouts and the families, three families in total, live at the camp itself. If the elephants make noise more than 2 or 3 times in the night, the mahouts have to take a look. It can be because of small hunting in the jungle or snake attacks.

**Comment [JvL47]:** Gas used, comes from mainland → Gas Usage → Usages

**Comment [JvL48]:** Mahout families live at camp → Elephant Treatment → Information about Elephants

The training of a mahout takes about one month because they have to build a relationship with the elephants. The place behind the ear is very sensitive. The mahouts first hit at other places and only use the hook at the ears as a last resort.

When elephants are 3/5 years old they start using the chairs on them. These chairs have been used for thousands of years already. Kings even had a roof on it before, however this was not comfortable. It was the only transport available for jungle areas. Elephants do not like the mountains. They can fall down and die, which happens a lot in the north of Thailand during logging of trees. Elephants have to learn how to pick up trees and often this is done by the use of two male animals.

Trekking is easy for elephants and makes more money than logging. Even in the low season it is doable as the rain makes the plants grow faster, which makes the elephant food cheaper. So although fewer tourists are arriving, running the business is still manageable due to the cheaper food prices.

**Comment [JvL49]:** Elephant food price very cheap → Elephant food → Information about Elephants

At this camp they do not offer the possibility to be a mahout for a while. The manager thinks the tourists are just feeding the elephants as dogs.

There are 10 mahouts living at the camp and 20 people in total (incl. family). They go home, north-east of Thailand (often Surin province), in the low season because they do not have a job at the camp then. If they stay, they only get salary and no tips, which is not enough. Salary is 10,000 Bath a month. So instead they stay home for 2/3 months and make their money by farming.

Hitting the elephants is wrong, the manager says. Sometimes when tourists see that, they do not want a tour anymore. Good mahouts do not show hitting in front of tourists. It is about building a relationship! Selling ivory is bad, they kill for it. Mahouts often carry gear to capture elephants.

There are still around 3500 wild elephants in Thailand. Elephants that are being fed are inserted with a microchip to keep track of them.

- Tourists

English couple, around 50 years:

Bumpy ride, tranquil. Little steep, crossed river bed. Son booked trip and transport was arranged by the camp. Great **adventure**. Koh Chang seen as relaxed way of life.

**Comment [JvL50]:** English couple enjoyed trek → Trek Experience → Information about Elephants

German man and Thai looking woman:

Arranged the trip from their hotel in White Sand Beach. **First time on an elephant**, so great. They choose the camp due to the arrangement with the hotel. They said this camp seems most attractive on the poster, they looked it up and it had good references. But they missed a website with more information about the camp.

**Comment [JvL51]:** German tourist loved trek → Trek Experience → Information about Elephants

Group of four English, late thirties, people:

Going to do 2 hour tour including bathing and feeding in the end. **Transport costs money**. Best in Thailand they said according to iamkohchang.com. They **look after the animals well**. **Natural** surroundings. Main concern they selected the camp on was whether they looked after the animals well. They have family in Thailand and are staying at the south of Koh Chang (Long Beach like Maldives, road finished). The family they have here mentioned that the change at the island over the last 13 years has been immense. They are concerned about how it will develop.

**Comment [JvL52]:** Transport costs money → Transport Efficiency → Usages

**Comment [JvL53]:** Chose this camp due to good treatment → Interest in Elephants → Information about Elephants

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*Tom & Esther*

## 5/2/2014 - Kai Bae Mee

### *Camp description:*

- 1 year old
- Open from 8 – 5 pm
- Situated in Kai Bae Mee, not next **to the main road**, but quite close. It was hard to find the camp, because there was no mark or indication of the camp next to the road.
- 3 baby elephants (1 of 1,5 years old and 1 of 5 years old) and 10 'adult' elephants, both male and female.
- The cages are as in a long row, similar to Bin Camp Chang. The first cage is for the baby-elephant, it is twice as big as the other cages.
- There is also a reception with some tables and benches situated to the camp, through which you could enter the house on poles (similar to Bin Camp Chang).
- At the reception is also a space, surrounded by benches, with some hula-hoops, a basketball net and a painter's easel. This space is used for the **baby elephants to do tricks** and give a show.

**Comment [JvL54]:** Next to main road, but no signs → Transport Efficiency → Usages

**Comment [JvL55]:** Elephants do tricks → Interest in Elephants → Information about Elephants

### *Participant observation*

10.00 A female employee told us about the treks and activities they had to offer when we arrived. We asked her a few questions about the baby elephants and the elephant camp in general. She told us that all the baby elephants were born on the island. The baby elephant of 1,5 year still needed to be trained. She said he was now still out of control and was not used for treks or other activities now. Furthermore she told us that the elephants were at the camp during the day and that they were

brought to the mountains for the night. She told us that it was not low season, so there were not many tourists. When it is high season (4 months, starting November/December) they had tourists all day long. A mahout told us who the female and male elephants are; the male elephants still had their teeth.

At arrival there was a family (two parents and two little children, with the age of 4 and 6) in the area where the baby elephant of 5 year old was doing some tricks. They were laughing and really seemed to enjoy it. The elephant used a hula-hoop and did other tricks as; standing on two legs and sitting on his bum. After his show, the mahout climbed on the elephant and left the camp on it towards the main road.

**Comment [JvL56]:** Family enjoys elephant show → Interest in Elephants → Information about Elephants

The excrement of the elephants is just removed by flip-flops, bare feet or hands of the mahout. He shoves it in a big dust pan and putted it in a big bucket.

**Comment [JvL57]:** Excrement thrown into buckets → Waste Management → Usages

10.30 A big group arrived, nationality unknown. There were 3 couples and in total 9 children (all under the age of 7). They first looked at the elephant and were especially interested in the baby elephants. After this they went on the trek, in total 5 elephants were prepared to give them a one hour trek.

**Comment [JvL58]:** Big group did 5 treks → Trek Experience → Information about Elephants

In the meantime, while the big group was doing the trek, it was very quiet at the camp. The other mahouts were chatting with each other in the reception area. Also their wives and children were here. The wives were chatting together as well and the children played together. Again it seemed as a community. Even two of the women were preparing vegetables, probably for a meal.

**Comment [JvL59]:** Community at elephant camp → Elephant Treatment → Information about Elephants

Some new tourists arrived by taxi: A mother and daughter, both with blond hair. They first had a small talk at the reception. Then they had a look at the elephants and bought some food for them; a huge bag of bananas. Then they started to feed the baby elephant. They were smiling and taking pictures of each other. After the feeding they left the camp by foot.

**Comment [JvL60]:** Family feeds elephants → Elephant Treatment → Information about Elephants

After these two, a group of Russians arrived at the elephant camp by taxi (1 man, 2 women, and 2 children). They walked a bit around across the elephants and also bought some food for them. After the feeding they left the camp again by the same taxi.

**Comment [JvL61]:** Like feeding, making pictures → Interest in Elephants → Information about Elephants

**Comment [JvL62]:** Left by foot → Transport Efficiency → Usages

11.25 The big group returned from the trek. The women and most children walked directly to the souvenir shop, while the men waited outside. One of the female employees of the camp had prepared some fresh fruit for them. The men started to eat this together with some of the children. The other children came out of the souvenir shop with a little elephant statue in their hand. After this one of the women walked to the reception desk and asked if the baby elephant could come to the play area. She mentioned the children would love to see that. It took some time to arrange it, and to make it a bit faster she gave some of the mahout 100 Baht, so they would get the baby elephant. After a minute of 10 the baby elephant was in the playing area. The children were surrounding him and looking with big eyes at the elephant. The elephant started to throw basketballs through the basket net. The children were laughing and running around. After this the elephant had to sit on his bum again and all the children were placed next to the elephant. Even one of the little kids was placed on the head of the elephant. All the parents were taking pictures with big enthusiasm. At this point Tom and I left the elephant camp.

**Comment [JvL63]:** Arrived and left by taxi → Transport Efficiency → Information about Elephants

**Comment [JvL64]:** Fresh fruit available for tourists → Food Usage → Other Offered Products

*Tom & Esther*

### **5/2/2014 – Chang Chutiman**

*Conversation with the owner:*

We showed interest in doing an elephant trek and got some information from a Thai employee. After some questions the employee directed us to a French friend of the manager, who was on Koh Chang for helping the owner. We talked with the French individual about the elephant camp and why he was living in Northern Thailand. He explained us what the connection between the elephant camp and the Asian Elephant Foundation meant for the camp. The AEF wants to increase the awareness of 90% less elephants in Asia and invests in projects that increase the well-being of this animal (source: AEF website). He also explained us how the elephants ended up on Koh Chang. As all elephants (6) were imported from the Northern part of Thailand they were transported by truck and ferry. One baby elephant was born on the island and was 10 years old.

When we asked something about DASTA the Frenchmen called the owner of the Chutiman Elephant Camp. There was a miscommunication and the owner thought we were asking about the AEF.

Chutiman told us that he was from the Northern Thailand. The village that he came from is the same village as were the elephants are coming from. The family of Chutiman has owned elephants for over a long period of time. His family first set-up an elephant camp in Phuket for three years. International investors (Chinese and European) came and set-up elephant businesses with 30 or 40 elephants. In one single investment they put a property of 10.000.000 baht. Because the small-time business of the Chutiman family could not compete with these big firms they moved their business.

The Chutiman was the second Elephant camp on Koh Chang (around 2000). Approximately 1 year earlier, the Ban Kwan Chang camp was opened in the Northern part of the island. He told us that the Kai Bae Meechai Elephant Camp only exists for about 1 year. And Bin Camp Chang was established on Koh Chang about 3 years ago. He mentioned that there is more competition now with the other three camps, because they are all in close surroundings. The Ban Kwan Chang was never a big threat, because it is located in a different area.

The Chutiman camp was first located next to the main road. After a few years it was not possible for Chutiman to rent the land again and again, so he had to move a bit more into the jungle. His camp is still located here, in a nice natural and quiet surrounding. He really did make some effort to create a nice reception/café place for his tourists.

The elephant food is brought in by truck from the mainland, the trucks goes on to the ferry. He was talking about 250 kilos of food per day per elephant. Some of the food (coconut leafs), came from the resort on the island, but this was very small scale. He mentioned that the food costs 2500 baht per day (per elephant or total)?

The camp has some drugs and medication for the elephants. Furthermore they were able to ship in doctors from the mainland when the elephant is quite sick, but if an animal is really sick it will be transported to the mainland.

In the high seasons there were about 50/60 tourists per day. Low season → 10/20. About 70% of the guests are Russian. 20% are our age (20-25). 80% families, parents between 35 and 45 with children. A lot of Czech people were also visiting the camps. The main tourists were European tourists. The amount of Asians was relatively low. Chutiman told us that these tourists were mainly coming to

Thailand for shopping and related activities, not for sunbathing at Koh Chang. Most tourists were coming to the camp by transfer arranged by their booking agency or hotel. Some (10/20%) of the tourists were just walk-in tourists. All these information was written down by date in a big book. The owner had no problem with showing us these details.

There were six mahouts working at the elephant camp. All these mahouts had their own elephant. The mahouts were living next to the camp in small huts. Some sort of community was created. In the evening the elephants were in the jungle with longer lines.

In the low season the mahouts and the owner have more time to relax, they use this time as well to repair huts and work at the appearance of the elephant camp. While in the high season they are busy all day and the elephants can do up to 10 treks a day.

## Appendix 8: Participant Observation: List Attention Points Elephant Trek

### Before the trek:

- How do the employees of the camp welcome you by arrival?
- By whom were you helped during your purchase?
- Do you receive an initial introduction about the elephants and/or the camp?

### During the trek:

- How long did it take you from arriving at the elephant camp and actually being on the elephant?
- Does the mahout speak English and does he tell something about the elephants during the trek?
- Where do the Mahouts come from?
- How many elephants and mahouts are there at the elephant camp?
- What is the setting of the trek? (e.g. beach, waterfall, orchard, rubber plantation, main road)
- To what extent are the elephants free during the trek? (Do they have to stay on the trails, or do they walk free through the jungle?)
- Is the trail steep? How broad is the trail?
- How is the elephant treated during the trek (do they use a stick/feet or something else to hit the elephant?)
- How are you treated during the trek? (Does the mahout talk to you, how do you experience the trek)
- Do you experience it as a unique experience or do you experience you are treated as part of a mass activity?
- Does someone offer you to take pictures of you and the elephant?
- How are excrement and other waste managed?
- How much water is used during your activity?
- How do you perceive the condition of the elephant (describe)

### After the trek:

- After the trek what is offered to you? (E.g. drinks, fruit, souvenirs?)
- Do they still talk to you or leave you more or less alone?
- How long did it take to get off the elephant and leaving the camp?

**IF POSSIBLE:** How do other tourists behave during the trek?

## Appendix 9: Participant Observation: Data Elephant Trek Experiences

**Camp Name:** Ban Changtai

**Name participant observer:** Fleur de Geus

**Date:** 1 pm, 7<sup>th</sup> of May, 2014

### Own experience of the trek

After paying brought to elephant camp immediately. Elephant Trek of 30 minutes of which 15 minutes own 'driving'. Very bumpy. Mahout speaks little English. Elephant has colored places on body.

Trail from camp to forest quite empty. Elephant walks quickly. No need for Mahout to encourage elephant. In jungle elephant walks slow and mahout needs to shout a lot. Small trail. Halfway he asks me if he can take a photograph. Seems standard procedure. I can sit at the mahouts' place for posing. Elephants uses trunk to blow wind in my hair, couple of times. Then he starts walking again and I thought I could ride for just a moment. But I ride all the way back with Mahout behind shouting a couple of times to keep the elephant walking. Certain moments again for posing. Not sure if this 'riding' is normal procedure. Almost back, he gives me a small cart that states that he has souvenirs for sale, around 500-1000 Baht. They are made from elephant bone, from natural diseased elephants, and it states I can help him make a little more money. I don't know how to refuse. Afterwards brought to restaurant and given water and pineapple.

### Answering attention points for the trek

#### Before the trek:

- They do not welcome me actually. I have to go to the information stand myself, no one approaches me.
- I was helped by one of the employees, who did not speak English that well.

#### During the trek:

- It took around 15 minutes because I also had to arrange a meeting with the manager for the day after.
- He speaks very little English, but tries to answer the questions I have during the trek.
- There are 10 elephants, don't know the amount of Mahouts.
- They come from Surin province, Thailand.
- The setting is jungle and before approaching the jungle it is flat grassland.
- The elephant has to stay on the trail.
- The trail is quite steep and not that broad. It surprises me how shallow it is.
- The mahout mostly uses his feet and voice to steer the elephant. But at one point he hits his stick on the forehead of the elephant, which seems very painful. Then the elephant stands still for the photo moment.
- The mahout does not talk to me and the elephant trek is very impressive, but also makes me feel uncomfortable.
- I feel as if it is a mass activity.
- The mahout offers me to take pictures.
- No water is used.
- I think his condition is ok. He does not have any wounds or scratches, but has colored drawings on his body.

**Comment [G65]:** Bumpy  
TRAIL

**Comment [G66]:** Mahout speaks little english  
MAHOUT

**Comment [G67]:** Coloured elephant  
ELEPHANT

**Comment [G68]:** Trail is empty  
TRAIL

**Comment [G69]:** Shouting  
TREATMENT

**Comment [G70]:** Small trail  
TRAIL

**Comment [G71]:** Photo  
MAHOUT

**Comment [G72]:** Sitting on head  
EXPERIENCE

**Comment [G73]:** Trunk to blow wind  
EXPERIENCE

**Comment [G74]:** Ridding elephant self  
EXPERIENCE

**Comment [G75]:** Moments for posing  
EXPERIENCE

**Comment [G76]:** Souvenirs sold during trek  
EXPERIENCE

**Comment [G77]:** Water pineapple  
SERVICE

**Comment [G78]:** Not welcomed  
EXPERIENCE

**Comment [G79]:** No one approaches all by yourself  
EXPERIENCE

**Comment [G80]:** Low level English employee  
ENGLISH

**Comment [G81]:** Manager also little English  
ENGLISH

**Comment [G82]:** Elephants from north Thailand  
ELEPHANT

**Comment [G83]:** Jungle and grassland  
TRAIL

**Comment [G84]:** Steep and not broad  
TRAIL

**Comment [G85]:** Feet and voice  
TREATMENT

**Comment [G86]:** For photo use stick ...

**Comment [G87]:** Mahout doesn't ta ...

**Comment [G88]:** Impressive trek ...

**Comment [G89]:** Feeling ...

**Comment [G90]:** Mass activity ...

**Comment [G91]:** No water used ...

**Comment [G92]:** Condition good no ...

*After the trek:*

- I was offered some water and pineapple.
- They leave me alone
- It can be very quick. The other people are mostly picked up 10 minutes after they finished the trek. I stayed for some more research.
- There were no other tourists attending the trip at the same time as me. I did cross a British couple just returning from their trek and they said to me I would love it.

**Camp Name:** Ban Kwan Chang

**Name participant observer:** Ivo Lammertink

**Date:** 2 pm, 7<sup>th</sup> of May, 2014

**Own experience of the trek**

When I came back from lunch with the manager. The tour was going to start in 20 minutes. Some tourists arrived really early. They had to wait, because every tour is scheduled around a certain time. This round was scheduled at 3 o'clock. 10 minutes before came a Dutch family with 2 children and an Englishmen with a Thai women and child. They were also going to join the same tour as I did. They were brought by taxi and welcomed by the manager, who mainly just showed them where to sit down and that they had to wait for 10 minutes. They got pineapple, water and coffee. I talked beforehand with them. I introduced myself, told the reason of my presence there and asked whether I could hand them out some questionnaires afterwards. The manager said that he normally tells a story about the camp and elephants, but this time I didn't see it. There were some books and boards with general information about elephants. After 10 minutes waiting the tour started and we first went to a pool where we washed the elephants. The Dutch father went with his two little children on the back of the elephant and washed him. After that they rode back to the camp and the employees gathered the excrement from the water. Then the trek started in the camp. I got my own elephants. A young mahout was riding the elephant. He hardly spoke English. He could only say yes and no. Still I tried to have some conversation, so with simple words and gestures we were able to communicate. I found out that he was also from Surin and learned how to ride an elephant from his parents when he was very young. He was riding for 5 minutes and then he wanted to switch, so I became the mahout. This was scary and exiting, riding such a big animal. The camp has 10 elephants and all from Surin. The mahouts also come often from this province. The trek took place in the jungle and river. The elephants have to follow a small trail during the trek and are not free to go 'off-road'. Although they sometimes eat plants alongside the trail. The Elephants are treated really well in this camp, so far as we know. The mostly use language and commends and do not hit. The mahout tried in the end to have some interaction, and made some pictures of me. I experience the activity as somewhat unique as they are really service focused. The waste was managed really well, they separated the garbage along the trek and the excrement in the water is taken out to keep the water clean. Water usage during the tour isn't really much, only the tourists get in the beginning a bottle of water. The condition of the elephants seemed good. They didn't had wounds or sings of bad health. After the trek you can feed your elephant some fruit. They tell you that you can feed them and after all the tourists are done, they go back with all the tourists in the taxi.

**Camp Name:** Bin Camp Chang

**Name participant observer:** Joeri van Leeuwen

- Comment [G93]:** Water pineapple SERVICE
- Comment [G94]:** Left alone after trek SERVICE
- Comment [G95]:** Quick change group of people
- Comment [G96]:** Quiet not many tourist
- Comment [G97]:** Waiting for tour EXPERIENCE
- Comment [G98]:** Many tourists same trek EXPERIENCE
- Comment [G99]:** Taxi TRANSPORT
- Comment [G100]:** Welcomed by manager MANAGER
- Comment [G101]:** Fruit, water coffee SERVICE
- Comment [G102]:** Tell information EXPERIENCE/MANAGER
- Comment [G103]:** Books and boards about elephants EXPERIENCE
- Comment [G104]:** Washing in pool EXPERIENCE
- Comment [G105]:** Riding back EXPERIENCE
- Comment [G106]:** Young mahout(17) MAHOUT
- Comment [G107]:** Low level of english ENGLISH
- Comment [G108]:** Surin MAHOUT
- Comment [G109]:** Learned when Young MAHOUT
- Comment [G110]:** I mahout EXPERIENCE
- Comment [G111]:** Scary and exciting EXPERIENCE
- Comment [G112]:** Elephants from surin ...
- Comment [G113]:** Jungle and River ...
- Comment [G114]:** Small trail ...
- Comment [G115]:** Not off-road ...
- Comment [G116]:** Eat plants along ...
- Comment [G117]:** Words ...
- Comment [G118]:** Making pictures ...
- Comment [G119]:** Unique, because ...
- Comment [G120]:** Seperated waste ...
- Comment [G121]:** Good conditions ...
- Comment [G122]:** Feed elephant ...

Date: 12 am, 7<sup>th</sup> of May, 2014

**Own experience of the trek**

It took 5-10 minutes before I was on the elephant. I got a bottle of water before the trip started to use during the trip. I sat on the elephant and got an iron safety bar placed on me. The mahout spoke English reasonably, and said that elephants are treated generally well, better than the north where he came from. The origin of the elephants is the mainland. The elephant trek started on a road used for public transport. The route then went to a rubber plantation and the next destination was an orchard, where the mahout picked a fruit and gave a piece to me. I also saw other people on an elephant in the orchard, but they were from another camp. After the orchard, the trek continued to another transport trek where some people had some troubles with their motorcycle. The area was not a natural park area. The mahout let the elephant go off trail sometimes and sniff around, but if the elephant took too long he urged the elephant to continue on a certain trail. The elephant trail is quite broad and the forest area is very accessible. The elephant is treated well during the trip, the mahout only used his feet to steer the elephant and the back end of a stick when the elephant really did not want to move. The mahout sometimes spoke to me, but lets you enjoy the scenery most of the time. He gave me a piece of fruit and a bottle of water. The experience might feel a bit more unique due to low season, but because you can see the clearly defined trails and excrement on the road you can see it is not a unique experience. The mahout also acted like he did the route many times before as he followed a certain route precisely. There are no pictures taken. It is expected that you take pictures yourself.

There is excrement on the route and it is not or barely managed. Waste also lies next to the road and that is also not managed. No water was used during the trek, only the bottle of water. The treatment of elephants is good, the elephant can decide his own route for a part and has time to explore or sniff. Elephants stay next to the route, which is not good. Elephants get enough food and water, but they are chained up pretty closely.

After the trek free pineapple piece were offered to me. You get quickly removed from the camp, however. They left me alone and did not offer me to buy food or drinks. When you finish the tour, it is easy to leave fairly quickly. No other tourists were found on the camp site, only some people feeding the elephants.

Camp name: Kae Bai Mee Chai Elephant Camp

Name participant observer: -

Date: 7<sup>th</sup> of May, 2014

The owner refused to be interviewed. If we wanted to give people questionnaires we needed to pay commission per interview. The owner also needed to be called before every interview by one of us and by the interviewed tourist and after the questionnaire was given. We refused to do this. There were also no tourists at the site and the manager was only reachable by phone.

- Comment [G123]: Bottle of water SERVICE/WATER
- Comment [G124]: Safety bar SAFETY
- Comment [G125]: Spoke reasonably MAHOUT
- Comment [G126]: Elephant treated well TREATMENT
- Comment [G127]: Better treatment than in north thailand TREATMENT
- Comment [G128]: Elephants from mainland ELEPHANT
- Comment [G129]: Road TRAIL
- Comment [G130]: Rubber plantation TRAIL
- Comment [G131]: Orchard TRAIL
- Comment [G132]: Mahout picked fruit for tourists MAHOUT
- Comment [G133]: Trail used by other elephant camps also TRAIL
- Comment [G134]: Road also at last TRAIL
- Comment [G135]: Not national park TRAIL
- Comment [G136]: Sometimes walk around ...
- Comment [G137]: Trail broad and ...
- Comment [G138]: Feet to steer ...
- Comment [G139]: Stick ...
- Comment [G140]: Sometimes spok ...
- Comment [G141]: Fruit and water ...
- Comment [G142]: More unique due ...
- Comment [G143]: Less unique due ...
- Comment [G144]: No pictures ...
- Comment [G145]: Expected take ...
- Comment [G146]: Barely managed ...
- Comment [G147]: Waste next to ro ...
- Comment [G148]: No water used ...
- Comment [G149]: Elephant treated ...
- Comment [G150]: Tightly chained u ...
- Comment [G151]: Pinapple after tre ...
- Comment [G152]: Quickly removed ...
- Comment [G153]: Left alone ...
- Comment [G154]: Not offer to buy ...
- Comment [G155]: No other tourists ...

**Camp name:** Chang Chutiman

**Name participant observer:** Tom van Campenhout

**Date:** 11 am, 8<sup>th</sup> of May, 2014

### Answering attention points for the trek

*Before the trek:*

- How do the employees of the camp welcome you by arrival?

The daily **manager** welcomes me very friendly and also to small children are around. Nothing is hurried, **sabai sabai**.

- By whom where you helped during your purchase?

The daily **manager**, **reception employee**.

- Do you receive an initial introduction about the elephants and/or the camp?

**Level of English was very low**, **no introduction**.

*During the trek:*

- How long did it take you from arriving at the elephant camp and actually being on the elephant?

10 minutes

- Does the mahout speak English and does he tell something about the elephants during the trek?

When questions asked, the **mahout does his ultimate best** to answer them but level of **English is very low**.

- Where do the Mahouts come from?

**Southern Mainland**, where a lot of elephants live (?). All **mahouts live at the camp** (no transportation emissions).

- How many elephants and mahouts are there at the elephant camp?

**6 elephants**, **6 mahouts**

- What is the setting of the trek? (e.g. beach, waterfall, orchard, rubber plantation, main road)

**Dense jungle**, cotton plantation and open field with a nice panorama.

- To what extent are the elephants free during the trek? (Do they have to stay on the trails, or do they walk free through the jungle)

They have to stay on the trail through the jungle. **In the open field the elephant is freer to wander around**.

- Is the trail steep? How broad is the trail?

**The road is very steep on some moments and narrow in the jungle**. **But in the open field the path is more opened and wide**.

- How is the elephant treated during the trek (do they use a stick/feet or something else to hit the elephant?)

The Mahout got some kind of tool to direct the elephant. At first he just uses **his feet** behind the elephant's ears. When the guest was asked to sit on the head, the mahout was giving him **voice** commandos and directing him with the **pointy tool**. The mahout was communicating with the elephant at all time.

- How are you treated during the trek? (Does the mahout talk to you, how do you experience the trek?)

**The Mahout is treating the guest in a peaceful manner**. During a half an hour walk through the jungle, the Mahout shows and points out some fruits in the trees (**Durin, Pomelo**). After this half hour the Mahout asked me to ride on the head of the elephant and walk back to the camp.

- Do you experience it as a unique experience or do you experience you are treated as part of a mass

**Comment [G156]:** Welcomed by the manager. Community of elephant camp walks around.  
MANAGER

**Comment [G157]:** Relaxed atmosphere  
ATMOSPHERE

**Comment [G158]:** Manager guides for purchase  
MANAGER

**Comment [G159]:** Reception employee finishes purchase  
RECEPTION EMPLOYEE

**Comment [G160]:** Low English  
ENGLISH

**Comment [G161]:** No introduction  
INTRODUCTION

**Comment [G162]:** Mahout does its best  
MAHOUT

**Comment [G163]:** English level of mahouts is low  
ENGLISH

**Comment [G164]:** Are from southern Thailand  
MAHOUT

**Comment [G165]:** Live on camp  
MAHOUT

**Comment [G166]:** Mahout live on camp  
COMMUNITY

**Comment [G167]:** 6 elephant  
ELEPHANT

**Comment [G168]:** 6 mahouts  
MAHOUT

**Comment [G169]:** Dense jungle, cotton plantation, open field  
SETTING

**Comment [G170]:** On trail in jungle  
OFF-TRAIL

**Comment [G171]:** Open field space to walk around

**Comment [G172]:** Steep, narrow in jungle

**Comment [G173]:** Less steep and more open in open field

**Comment [G174]:** Feet  
TREATMENT

**Comment [G175]:** Voice  
TREATMENT

**Comment [G176]:** Pointy tool  
TREATMENT

**Comment [G177]:** Treating peaceful  
MAHOUT

**Comment [G178]:** Shows fruit  
MAHOUT

**Comment [G179]:** Ride head elephant  
MAHOUT

activity?

Both. There were many trails going into the jungle, so different experiences are possible. On the other hand, there are a lot of tourists in the high season and the camps receive about 60-80 tourists a day, this makes it not very unique. As it was very quiet in the elephant camp, it was again quiet unique experience. Sabai sabai.

- Does someone offer you to take pictures of you and the elephant?

The mahout made a lot of pictures, when I was allowed to ride the elephant. These photos turned out to be very nice.

- How are excrement and other waste managed?

The shit is left where it is fallen. There was some minor garbage on the trail. Some of the dried coconut leaves were burned. Plastic etc. was not separated and thrown into rubbish bins.

- How much water is used during your activity?

The elephant drank a lot of water before and after the trek. After the trek, it also got a shower.

- How do you perceive the condition of the elephant (describe)

The elephant was very calm. It had some minor wounds and rips on the top of his head, which I don't know where they're from. The elephant stopped a lot to eat random leaves and bushes.

After the trek:

- After the trek what is offered to you? (E.g. drinks, fruit, souvenirs?)

I got coffee and water. I also received some fruit. The souvenir kiosk was empty.

- Do they still talk to you or leave you more or less alone?

Alone. When asking questions, people take time to answer.

- How long did it take to get off the elephant and leaving the camp?  
10/15 minutes.

**Comment [G180]:** Many trails, more experiences  
EXPERIENCE

**Comment [G181]:** High season lots of customers  
EXPERIENCE

**Comment [G182]:** Quiet sabai sabai  
EXPERIENCE

**Comment [G183]:** Mahout took lots of pictures  
MAHOUT

**Comment [G184]:** Shit left fallen  
EXCREMENT

**Comment [G185]:** Garbage on trail  
WASTE

**Comment [G186]:** Food burned  
FOOD

**Comment [G187]:** Not separated  
RECYCLING

**Comment [G188]:** Water before after trek  
WATER

**Comment [G189]:** Shower after trek  
WATER

**Comment [G190]:** Calm  
ELEPHANT

**Comment [G191]:** Minor wounds and rips on head  
ELEPHANT

**Comment [G192]:** Eat a lot on trek  
TRAIL/FOOD

**Comment [G193]:** Coffee water  
SERVICE

**Comment [G194]:** Fruit  
SERVICE

**Comment [G195]:** Left alone after trek  
SERVICE

### Final Categories

1. Trail
2. Mahout
3. Elephant
4. Experience
5. Service
6. Manager
7. Waste
8. Water
9. Excrement
10. Off-trail

## Appendix 10: Tourist Questionnaire



6. The treatment of the elephants	1	2	3	4	5
7. The service of the camp	1	2	3	4	5
8. The environmental friendliness in the camp	1	2	3	4	5
9. The overall activity	1	2	3	4	5

	Not at all	Not much	Neutral	Some-what	Very much
10. To what extent did the activity meet your expectations?	1	2	3	4	5

The following questions are about **low carbon practices**. Low carbon practices are ways which contribute towards reducing carbon emissions of an activity, e.g. solar panels, water saving system.

	Not at all	Not much	Neutral	Some-what	Very much
11. To what extent are you aware of Koh Chang trying to become a low carbon destination?	1	2	3	4	5
12. How familiar are you with low carbon practices?	1	2	3	4	5
13. Are you willing to pay more for a more environmental-friendly elephant camp?	1	2	3	4	5
14. Are you willing to pay more for a more animal-friendly activity?	1	2	3	4	5

<p><b>15. What kind of low carbon practices have you seen today in the elephant camp?</b></p> <p>1.</p> <p>2.</p> <p>3.</p>
<p><b>16. Please set the following activities in order from most preferable to less preferable: Trek, Washing, Feeding, Show, Photographing and Swimming.</b></p> <p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p> <p>5.</p> <p>6.</p>
<p><b>17. What is your gender?</b></p> <p><input type="checkbox"/> Male</p> <p><input type="checkbox"/> Female</p>
<p><b>18. What is your nationality?</b></p> <p>.....</p>
<p><b>19. What is your age?</b></p>

.....

Thank you for taking time to complete this survey! Your feedback is very important to us. Your responses will be analyzed and will contribute to our research.

### Appendix 11: Manager Interview Questions

Introduce ourselves as Dutch students doing research in collaboration with DASTA. Explain the aim of the research and why some questions about carbon practices are asked. Also explain that the research will not be used for any other purposes than the research. Thank the interviewee in advance for his/her time. Shortly mention what we are going to ask. Ask permission to record the interview.

#### General questions:

1. How long does the elephant camp already exist?
2. Why was it built at Koh Chang? Why was the specific area chosen?
3. For Bin Camp Chang and Changtai; what was the reason for you decide to start up an elephant camp if there were already two camps on the island?
4. Does the owner come from Koh Chang? If not, where does he/she come from?

#### Visitor number questions:

5. How do the visitation numbers differ between high and low season? Need exact numbers.
6. How many tourists are Thai and how many come from other countries (in %)? Which other countries do tourists mainly come from?
7. In what way are tickets for the trek mostly booked (hotel, travel agency, walk in) (get in %)?
8. In what ways are tourists transported? Who arranges the transport? Do you think this can be made more sustainable? What do you think is the average number of vehicles a day that arrive at the camp?

#### Elephant questions:

9. Where do the elephants come from?
10. How much does it cost to import and buy an elephant?
11. Are elephant suppliers for all the camps the same? Is there any collaboration?
12. Do you have any baby elephants? Why/why not?
13. How long do the elephants stay in the camp on average?
14. Are the elephants sick often? How do you care for them when they are sick?
15. Where do the mahouts come from?
16. Where does the food for the elephants come from? How much food is used? What are the costs for the food?

17. Is it possible to buy food from the local community? What is the company that transports the food? Do all elephant camps use this company? What is the collaboration?
18. Where does the water for elephants to drink and wash come from? How much water is used? Does the owner think this can be reduced? Is this thought even considered?
19. What is done with the excrement? Is it used for other purposes?
20. Do the elephants damage the forest? What are the measures to reduce the damage?

**General camp questions:**

21. What kind of food is available for people who finished the trek? Where is the food produced? Why are these foods chosen?
22. What souvenirs are available? Where do they come from?
23. Why is the elephant trail chosen as it is today? Can they develop their own trails or do they have to follow rules?
24. How much electricity is used? What is the electricity used for?
25. How is waste managed? What is done with waste? How much daily waste is there? What kind of waste do you mainly have? Are there practices of waste minimisation and recycling?

**Business questions:**

26. Is the camp supported by Asian Elephant Foundation? If yes, what does this support mean? When are you selected to be supported?
27. Do the elephant camps discuss things together, or collaborate in some kind of way?
28. What are problems that your business is currently facing?
29. What, do you guess, is the investment you have to make in order to start up an elephant camp?
30. Is there a high level of task division and organisation structure?
31. How do you experience the price raise? Did this happen in your camp? In what way will this affect/improve your business?
32. To what extent is your business influenced by the municipality?
33. And by the National Park? Do you have to ask permission to set the elephants free for the night?
34. What changes have you made in the elephant camp in the past few years?
35. How do you try to be different?
36. What do you think are possibilities to change your business? Do you already have plans?
37. Are you aware of Koh Chang as Low Carbon destination, the idea from DASTA? Are you interested in becoming a low carbon activity? Do you think this will improve your business and visitor numbers?

## Appendix 12: Data Manager Interviews

### Interview 1. Manager 'Ban Changtai'

Introduce ourselves as Dutch students doing research in collaboration with DASTA. Explain the aim of the research and why some questions about carbon practices are asked. Also explain that the research will not be used for any other purposes than the research. Thank the interviewee in advance for his/her time. Shortly mention what we are going to ask. Ask permission to record the interview.

#### General questions:

1. How long does the elephant camp already exist? *This one I think 12 years.*

2. Why was it built at Koh Chang? *Usually I hear about the history. The owner of the camp she came here for travel. Coming for vacation. At time only having two elephant camps before. I think she spend time here for almost one month and just have some idea because at that time not many activity in Koh Chang. Those two elephant camps have not many elephant. I mean like more tourists know about Koh Chang Island, more people coming every year. And she tried to open this one more.*

3. For Bin Camp Chang and Changtai; what was the reason for you decide to start up an elephant camp if there were already two camps on the island? It was not hard, because there were two other camps, they didn't take all tourists? *No, one is close to the ferry for some people. Ban Kwan Chang is quite deep in jungle and when the people come to this island they drive up in the jungle. But if they want to go trekking we come to pick them up and drive back there again. That is why usually we have walk in tourist and for the next one is that one. So for this one you have more walk-in tourists? Yeah, in that time. In the beginning, when she starts to do this one, here is all forest. When she rents this place. She rents this area? Yes, she rents it now.*

4. Does the owner come from Koh Chang? If not, where does he/she come from? *She comes from north-east of Thailand.*

#### Visitor number questions:

5. How do the visitation numbers differ between high and low season? Need exact numbers. *It's different. Really different? Yeah, yeah, because low season mean rain season here and quite raining every day and less tourists coming here for 5/6 months. How much do you think on average come in high season and how much a day in low season? In high season almost 20 or 30 in high season on one day. When low season not more than 10.*

6. How many tourists are Thai and how many come from other countries (in %)? Which other countries do tourists mainly come from? *It depends on which period. Now most is Russian and when low season is Swedish, French, Italian. But high season most is European.*

7. In what way are tickets of the trek mostly booked (hotel, travel agency, walk in) (get in %)? *Most of the time from hotel. So you mostly have walk-in and hotel? Yes. Did you also get a lot of bookings by internet? Internet no. Not from tour operator? Here we not use a lot internet. We don't like to stay in computer all the time. I understand foreigner, other country, they do. Thai people not. You also have a lot of Thai tourists? Yeah and they do not use internet for work thing.*

8. In what ways are tourists transported? Who arranges the transport? Do you think this can be made more sustainable? What do you think is the average number of vehicles a day that arrive at the camp? *By the car, by the taxi. And where are they mostly staying in Koh Chang? It's everywhere. Kai Ba e, Klong Prao, White Sand Beach, even Bang Bao.*

#### Elephant questions:

9. Where do the elephants come from? *This one from same place as owner. There are lots of elephant*

**Comment [F196]:** The elephant camp already exists for 12 years.  
BUSINESS START-UP

**Comment [F197]:** The owner came to Koh Chang for vacation. Since Koh Chang was becoming more popular she started to open another elephant camp.  
BUSINESS START-UP

**Comment [F198]:** Other camps are not taking all the tourists. Ban Kwan Chang is close to the ferry and deep in the jungle. It has to be arranged all.  
BUSINESS START-UP

**Comment [F199]:** In the beginning this camp relied on walk-in customers mostly.  
BUSINESS START-UP

**Comment [F200]:** The owner rents the elephant camp land.  
COSTS

**Comment [F201]:** The owner comes from the north-east of Thailand.  
ORIGIN PERSONNEL

**Comment [F202]:** Low season means rain and less tourists are coming for 5 or 6 months.  
VISITOR NUMBERS

**Comment [F203]:** In high season there are about 20 or 30 visitors per day.  
VISITOR NUMBERS

**Comment [F204]:** In low season there are not more than 10 visitors per day.  
VISITOR NUMBERS

**Comment [F205]:** End of the high season the visitors come from Russia a lot.  
ORIGIN VISITORS

**Comment [F206]:** During low season many Swedish, French and Italian visitors.  
ORIGIN VISITORS

**Comment [F207]:** During high season most visitors are European.  
ORIGIN VISITORS

**Comment [F208]:** Treks are mostly booking via hotels and many visitors are walk-in bookers.  
BOOKING

**Comment [F209]:** Bookings are not often done via internet because it is not used a lot by Thai people, not even in business.  
BOOKING

**Comment [F210]:** The tourists are transported by elephant camp taxi.  
TRANSPORTATION

**Comment [F211]:** The tourists are staying everywhere on the island.  
TRANSPORTATION

ts. That area they are growing up together. Surin province? Yeah, Surin. Half of elephants from Surin and other half from other region.

10. How much does it cost to transport and buy an elephant? Right now it is a million-something baht. Depends on how old they are. If they are small it's more expensive than the older ones. Why is that? I think the big reason is they can have longer life, they can work and you can still teach them something. Is it also expensive to transport, and how do you bring them to the island? By big truck. It costs 20,000.

11. Are elephant suppliers for all the camps the same? Is there any collaboration?

12. Do you have any baby elephants? Why/why not?

13. How long do the elephants stay in the camp on average?

14. Are the elephants sick often? How do you care for them when they are sick? Usually we have the medicine, standard/normal, we have when they are sick. Usually, most problems with elephant are when they sick is stomach ache. That one we always have. Because Elephant Foundation in Surin province also they coming to check sick once a year. If they are still healthy? They do a check-up if we still have medicine. Like with people, we have paracetamol, with them we have also for stomach and some vitamin for them. When they getting old, they not have appetite a lot, they don't eat. So if we have vitamin they can eat. Once a year they come. And they sometimes eat the herbs as well right? In the jungle? Yes, because after work some of them they go up to the jungle. If they are really ill there is an elephant hospital on the mainland. Do you also sometimes bring them there? In Trat there is Animal department and they can make appointment with a hospital. Does that happen often? That you have to bring elephant to mainland? No, because usually they have not like heavy sick, but just sometimes stomach ache.

15. Where do the mahouts come from? Same place, Surin. Do they sometimes go back to family in Surin in low season? The working time here, they work every day from 8 till 5 o'clock. And when tourist season been past, they cannot go anywhere. The mahouts have off in low season and can go home from one week and then come back. So ten mahouts, one going one working.

16. Where does the food for the elephants come from? How much food is used? What are the costs for the food? Yes, pineapple leaf they bring from mainland and we get from same company. And the company is also based on this island? Usually the people live in mainland, not here. Where they live they grow pineapple tree and they can get fruit just one time a year. So we have to get that one from them and they bring it here. How many times a week they are bringing food? One time every day, seven times per week. Is there a place on this island where they gather all the food and then they bring it to each elephant camp? In Trat, on mainland, not here. How much does the food cost? One time for one truck is 1,700 baht. And they only eat pineapple leaves or do they also eat other things? They also eat other things like fruit, bananas, grass and trees. Where do you get the fruit from? Some we buy like pineapple, banana and right now have fruit season is mango. They also eat mango. Do you buy from the mainland also, the fruit? Or from here? Fruit from mainland also. Here is not much. Especially now, more elephant camp is coming up so not enough food for sure. Why is that, that there is not enough? They eat a lot, because one elephant they eat 300 kg a day for one elephant. And we have ten now. It's not enough what we buy also, it's not enough. So after work, what I tell is go somewhere to eat grass. We rent this area. The trek also right? Yes, up there also.

17. Is it possible to buy food from the local community? What is the company that transports the food? Do all elephant camps use this company? What is the collaboration? Not enough food on this island for elephants. If there were more pineapple farms on this island, would it be possible? We tried to grow up pineapple like farm, just small garden for example. This land, island land, is not good for growing. Growing up and then after it dies. Land here is in the middle of the sea, so land is not good for growing up this one. So impossible. Maybe a little bit, but not much. Not for all camps? Yeah, so we have

**Comment [F212]:** Half of the elephants come from Surin and the other half from another region.

ORIGIN ELEPHANTS

**Comment [F213]:** An elephant costs around one million baht, depending on its age. The younger ones are more expensive because they still have a longer life to work.

BUYING ELEPHANTS

**Comment [F214]:** They are transported to the island by truck which costs around 20,000 baht.

BUYING ELEPHANTS

**Comment [F215]:** When the elephants are sick it is often a stomach ache for which the camp has standard medicine available.

ELEPHANT HEALTHCARE

**Comment [F216]:** The Elephant Foundation does a check-up once a year to see if the elephants are healthy and to provide medicine.

ELEPHANT HEALTHCARE

INFLUENCE EXTERNAL ACTORS

**Comment [F217]:** When the elephants get old they need extra vitamins because they don't eat a lot. They also eat herbs when they go into the jungle at the end of the day.

ELEPHANT HEALTHCARE

**Comment [F218]:** An animal hospital is present on the mainland, but they don't need to go there often. An appointment can be made via the Animal Department in Trat.

ELEPHANT HEALTHCARE

**Comment [F219]:** The mahouts also come from Surin.

ORIGIN PERSONNEL

**Comment [F220]:** The mahouts can go back during the low season for one week. Normally they work from 8 till 5 every day.

**Comment [F221]:** The elephants eat pineapple leaves which are from a company on the mainland. The pineapples grow ...

**Comment [F222]:** The company is bringing food every day.

ORIGIN ELEPHANT FOOD & WATER

**Comment [F223]:** The food is gathered at the mainland, in Trat.

ORIGIN ELEPHANT FOOD & WATER

**Comment [F224]:** The food costs 1,700 baht per truck (per day).

ORIGIN ELEPHANT FOOD & WATER

**Comment [F225]:** The elephants also eat fruit (pineapple, bananas, mango). T ...

**Comment [F226]:** There are many camps and not enough food. An elephant eats 300 kg a day. In this camp, the ...

**Comment [F227]:** The camp area and the trek are being rented.

COSTS

to order from there.

18. Where does the water for elephants to drink and wash come from? How much water is used? Does the owner think this can be reduced? Is this thought even considered? *Yeah, here water enough. Where do you get it from? We have pump. Groundwater. Rain season is very good for them because fresh water, they can go anywhere. Even they go take shower in canal. Because sea water is not good for them. Water is no problem. Do you also collect water in rain season? Yes. Behind camp. We save water when we not have enough water. That is for drinking for the elephants or washing? Both.*

19. What is done with the excrement? Is it used for other purposes? *Usually we have, when they like shit, after work every evening they take separate from fruit what they don't want and that one make dry and put on plants to grow up. But usually most of resorts they ask for this one also and put in the plants and trees. Usually somewhere they sell, but here they make dry and people can ask for and come and get it. But you can also sell it? I don't know about this. But we do not sell. Local people ask for it and they put it in their farm. Some camps, not in Koh Chang, they also make paper of it, right? We start to do this, but cannot do. Most of it is from north of Thailand. But you are also trying? Do you have a machine for that? No, not yet. I used to check in Chiangmai, they have very famous paper dung. It's many things to do about this and very sensitive.*

20. Do the elephants damage the forest? What are the measures to reduce the damage? *Actually I can say like yes. Because it is big animal, they are always hungry. On the trail is small. Elephants they don't step out of what they used to do. Some trees around they get it, for sure. But anyway, we rent there and if we damage what they belong to, we tell and pay for them extra. They have rubber tree, rubber garden, but usually elephant don't eat. They break it. Some of the trees are banana and we have to pay extra when they get it. But that's only on this land? Yes.*

#### General camp questions:

21. What kind of food is available for people who finished the trek? Where is the food produced? Why are these foods chosen?

22. What souvenirs are available? Where do they come from?

23. Why is the elephant trail chosen as it is today? Can they develop their own trail or do they have to follow rules? *I think more natural around here. There is real jungle. Some of elephant they, we moved them from traffic city, some of them they are from Bangkok and Pataya, big city. We bring them here because of jungle and natural area. Is much better. Could you decide the trail yourself? Yes. And it was formed by the elephants going into the jungle and creates a path? How was it in the beginning created, the trail? *In the beginning we go out and check it. Before then there is more forest.**

24. How much electricity is used? What is the electricity used for? *We do not use a lot of electricity. What kinds of things use electricity on this camp? The house of the Mahout, there. They can use electric for cooking, but after 8 o'clock everyone has to come out here, so their electric is not used. Right now we use for office only and where tourists are sitting. When they start to use it again it is after 5 or 6 o'clock when we stop working here and the mahouts can go home.*

25. How is waste managed? What is done with waste? How much daily waste is there? What kind of waste do you mainly have? Are there practices of waste minimisation and recycling? *Usually we put garbage here every day. After 6 o'clock we put it in area for garbage and the government take it out. Do you sometimes separate things? We have to separate. Because some things we can sell like bottles of water. We can sell. Some of the things, are they also recycled? Yes, bottles are recycled. Usually it goes to mainland. They have big factory there. Other garbage, government has area 3 or 4 kilometres from here.*

#### Business questions:

26. Is the camp supported by Asian Elephant Foundation? If yes, what does this support mean? *Yes. L*

**Comment [F228]:** Pineapple trees cannot grow on Koh Chang. Maybe a bit, but not enough for all camps.  
ORIGIN ELEPHANT FOOD & WATER

**Comment [F229]:** There is water enough at the camp which is groundwater gained through pumps.  
ORIGIN ELEPHANT FOOD & WATER

**Comment [F230]:** Rainwater is being collected as elephant drinking and washing water. Sea water is not good for elephants.  
ORIGIN ELEPHANT FOOD & WATER

**Comment [F231]:** The excrement is separated from other waste every day, dried and used as a fertiliser.  
EXCREMENT MANAGEMENT

**Comment [F232]:** Resorts come to pick up the fertiliser.  
EXCREMENT MANAGEMENT

**Comment [F233]:** This camp does not sell it but gives it to people who want it.  
EXCREMENT MANAGEMENT

**Comment [F234]:** They want to make paper out of the poo, but they do not have a machine. It's mostly done in Northern Thailand like Chiangmai.  
EXCREMENT MANAGEMENT

**Comment [F235]:** The elephants damage the forest because they are big and always hungry.  
FORETS DAMAGE

**Comment [F236]:** If they damage it, the camp has to pay extra. For instance they break, but not eat, rubber trees and eat the bananas from the trees.  
TREK AREA

**Comment [F237]:** The elephant trail was chosen like this because it's more natural and has real jungle.  
TREK AREA

**Comment [F238]:** Some elephants are moved from cities and brought here because it's better for them.  
ORIGIN ELEPHANTS

**Comment [F239]:** The trail was at first created by checking the forest.  
TREK AREA

**Comment [F240]:** Electricity is only used outside working hours in the mahout houses and during working hours for the office and the fans in the visitor area.  
ELECTRICITY USAGE

**Comment [F241]:** Garbage is collected by the government every day.  
WASTE MANAGEMENT

**Comment [F242]:** Waste is separated because plastic bottles can be sold and recycled in a factory on the mainland.  
WASTE MANAGEMENT

**Comment [F243]:** Other garbage is brought to a place nearby.  
WASTE MANAGEMENT

like what I say, they give medicine. Usually if we get donation from somewhere we put this money inside and then they buy medicine and share and give it to the elephants. Once a year. What else do they do for you? Sometimes food. I mean they get money and then we buy food for elephant and they we buy for them. Do they also sometimes come to this camp? Yes, sometimes they come. What do they do? They check elephant and what we do and what we need help. Most of it is medicine, very useful for us. When are you selected to be supported? I think don't just pick us, I think everyone is involved. But not much for food, for medicine is mostly. The foundation needs donations, they live from donations? Every year when they come out, they put box to donate and one year they come out two times to get box and put in foundation in Bangkok.

27. Do the elephant camps discuss things together, or collaborate in some kind of way? Yes, we did something this year, started this year. Usually we have some festival, government, they ask for showing elephant so everyone give some elephant to join them. One year, few times, elephants go out and clean island. Many people coming and walk along the way from Kai Bae to White Sand Beach with the elephants. They can get garbage. They clean and help. What do you do with the festival? They just show. Drawing nice picture and show them. Take picture with tourists, because most of the time tourists like to take picture with them. Is that a national thing? Is national. Because when they stay there in the elephant village, many times they do like this. Local people have many festivals, but they use elephant to join. For example, the people want to be a mahout, man can sit on elephant. Man can sit on elephant and we draw them nice and just walk around. Because some of tourist they come here to make married here on this island. Nice on the beach. They ask for elephant to go out. This year we stopped to do it because some hotel they also not allow. They are big animal and they shit everywhere. So, after that we had to take them out.

28. What are problems that your business is currently facing? In low season we have 5 or 6 months, before that time no tourists. Very less tourists. Sometimes not enough to pay for food, for staff, for rent, for everything. It's quite problem.

29. What, do you guess, is the investment you have to make in order to start up an elephant camp?

30. Is there a high level of task division and organisation structure? How do you work together with the mahouts? What is your relationship with the mahouts? Like family. Usually we pay them monthly. Does every mahout have his own elephant? No, some of them belong to the elephants, other are just taking care of them only.

31. How do you experience the price increase? Did this happen in your camp? In what way will this affect/improve your business? In high season you make a lot of money? You know about the price of elephant trek before? That was because of this. We make loss every year even in high season when they can make a lot of money. But imagine in low season, no one. It's sometimes balanced and even we have plus but not much. We have to see because this year we brought up the price, first year. Not more than two months yet. I cannot tell if it's going better or what. We have to see. First, the travel agencies could make their own price for the camps, right? No, we have to tell the price for them. Now there are fixed prices, but it used to be not fixed? Need to fix the price. We tell this price for them, let them sell for this. We give to them 100 or 200 baht, for sell. It's commission. How do you decide who you give brochures? Which travel agencies or hotels you pick? Do you select every travel agency? Usually we give them brochure or information everywhere. But, also one problem why it is not enough money; every year we lose money because of agency. When tourists buy tour, they leave money with them. It's very hard to get money, that net price, especially when getting low season. Then you have to pay a lot for commission? It's not a lot per person, 100 or 200 baht, but they get all money the agency. Why? Because they sell tickets for the people. For instance, 1 hour is 850 and they get 850 from tourist. And then they pay you again? Evening, we get it. But some of time we cannot catch them. They just go away? Yeah, they don't give the money. That's why. We were thinking about this one, getting up the price for 2 or 3 years now, but we cannot do because of politicians of Thailand. They have prob

**Comment [F244]:** The Asian Elephant Foundation give medicine in return for donations they collect once a year. They also sometimes give money for which the camp can buy food.  
INFLUENCE EXTERNAL STAKEHOLDERS

**Comment [F245]:** The foundation comes sometimes to check the elephants and see how the camp is doing.  
INFLUENCE EXTERNAL STAKEHOLDERS

**Comment [F246]:** The foundation does not select camps, but supports all of them.  
INFLUENCE EXTERNAL STAKEHOLDERS

**Comment [F247]:** A first collaboration between the camps started this year.  
COLLABORATION BETWEEN CAMPS

**Comment [F248]:** They provide elephants for governmental festivals.  
COLLABORATION BETWEEN CAMPS

**Comment [F249]:** They also used the elephants to clean the island in the past.  
COLLABORATION BETWEEN CAMPS

**Comment [F250]:** The festival is a national happening and is just a show of elephants (drawings on them etc.). Tourists can take pictures or 'be' a mahout.  
COLLABORATION BETWEEN CAMPS

**Comment [F251]:** The elephants were also used at weddings in the past, but this has to stop because the hotels were against it as the elephants shit everywhere.  
COLLABORATION BETWEEN CAMPS

**Comment [F252]:** In low season there are so few tourists that it is hard to pay for all the costs.  
COSTS  
BUSINESS PROBLEMS

**Comment [F253]:** The mahouts are like family. They are paid monthly.  
MAHOUTS

**Comment [F254]:** Some of the elephants have their own mahout and other mahouts are just taking care of elephants.  
MAHOUTS

**Comment [F255]:** The price increase was implemented because the camps were making losses every year, even in high season. ...

**Comment [F256]:** The elephant camp tells the selling price to the travel agencies.  
INFLUENCE EXTERNAL STAKEHOLDERS

**Comment [F257]:** The travel agencies get 100 or 200 baht commission per tick ...

**Comment [F258]:** The elephant camp hands out brochures and information to ...

**Comment [F259]:** There is a problem with getting the ticket money from the agencies and hotels, because sometime ...

**Comment [F260]:** The price increase was already an idea about 3 years ago but couldn't be implemented due to the ...

lems in Bangkok. This reason made tourists come to Thailand. They not sure how they come travel here, if they are safe. So we stopped already few years, we said we need go up the price to continue. But this year we cannot hang on, be patient anymore. Not enough money. One thing like agency, they go away, they take money.

**Comment [F261]:** This year the camps couldn't hang on to it any longer and collectively increased the price themselves. PRICE INCREASE OF TREK COSTS

32. To what extent is your business influenced by the municipality? *What I said, just this year. They started every camp a meeting to start this price, so everyone decide on this one. Government say meeting.*

**Comment [F262]:** The price increase was initiated by the municipality of Koh Chang. INFLUENCE EXTERNAL STAKEHOLDERS

33. And by the National Park? Do you have to ask permission to set the elephants free for the night? This is not national park right? *No this not, behind.* Do they also sometimes go into the national park? *No, only up there is 40 minutes and we go swim with elephants over there (points into other direction).*

PRICE INCREASE OF TREK

**Comment [F263]:** The elephants do not go into the national park because it is a 40 minute ride. The bathing that is included in the treks is also done somewhere else, so the national park area is being left alone. INFLUENCE EXTERNAL STAKEHOLDERS

34. What changes have you made in the elephant camp in the past few years? *When we starting we are the first one in this island. Now become five or six. Anyway we have to share tourists, fewer tourists here. One thing. And other thing is, when more people coming to this island. They want to do other business, hotel, restaurant. Here is a lot of forest. There will be a problem when they do something here. I don't know yet what they can do with this land. If it some activity its okay, but big hotel is problem for us. I don't know, I'm not sure.*

**Comment [F264]:** The last couple of years, the camps have to share customers between them. BUSINESS PROBLEMS

35. How do you try to be different? *We tell to staff every day they have to give good service to them. If they need help we give it.*

**Comment [F265]:** There are businesses around that want to settle on Koh Chang. If a hotel would be build close to the camp it will be a problem, an activity would be okay. BUSINESS PROBLEMS

36. What do you think are possibilities to change your business? Do you already have plans? *If we still can.. There are fewer tourists. If we get less than this, I don't know if we can. If something around change.. Maybe move them back to Surin.*

**Comment [F266]:** The camp tries to be different by providing good service to the visitors. BUSINESS PROBLEMS

37. Are you aware of Koh Chang as Low Carbon destination, the idea from DASTA? Are you interested in becoming a low carbon activity? Do you think this will improve your business and tourist numbers?

**Comment [F267]:** There are not many possibilities to change the business. Main concern is how to keep up the business. BUSINESS PROBLEMS

## Interview 2. Manager 'Ban Kwan Chang'

Introduce ourselves as Dutch students doing research in collaboration with DASTA. Explain the aim of the research and why some questions about carbon practices are asked. Also explain that the research will not be used for any other purposes than the research. Thank the interviewee in advance for his/her time. Shortly mention what we are going to ask. Ask permission to record the interview.

### General questions:

1. How long does the elephant camp already exist? *It started for about 15 years. And you were the first one right? Yes the first elephant camp, but it starts first at Klong Plu Waterfall with two elephants. But it became too small. 17 years ago started with cheap bungalow. The elephants were walking from the main road up to Klong Plu waterfall. But that didn't work out? Stopped because it did not make money. Moved to here to start again with 5 elephants because there is a lot of ground. The road before was only a rough road and not concrete like this, dangerous to pick up the guests. Not successful at the first time. It can have some guests and run the business, but it does not give a lot of money to earn a living. But now it's going good right? It became popular five years ago because at that time in Koh Chang there were a lot of hotels, guests can pay the money for trek. A lot of promotion by hotels for elephant camps? We sell by hotel and agency. Koh Chang is popular, a lot of guests come. It has been written in Lonely Planet. Lonely Planet took photos and write about elephants with the nature.*

**Comment [F268]:** Initial camp did not work out, because it was too dangerous to get the tourists there. BUSINESS START-UP

**Comment [F269]:** Elephant camp became popular in 2009 when more tourists were coming to Koh Chang. CHANGES OVER TIME

**Comment [F270]:** Lonely Planet mentions the camp in the guide books, making it more popular. CHANGES OVER TIME

2. Why was it built at Koh Chang? Why was the specific area chosen? *Because my friend, the owner of the camp, likes Koh Chang. He comes and stays always here. He knows a lot of local people in here. At*

**Comment [F271]:** The business started because the owner likes Koh Chang and knows a lot of people here. BUSINESS START-UP

that time elephants in Thailand are a problem. Big problem with the elephant, because mahout always take elephants around Bangkok to sell banana and sugar cane. Some have been hit by car accidents. Elephants are not good in the city? Yes, and my friend he started to held elephants at that time. He started the Elephant Foundation, to held elephants. How is it called? At first the foundation was only with a group of people and it was called Khn thì rāk chāng. These people like and love elephants. It means to love elephants. The people wanted to see the life of elephants better. They find a place for elephants and provide jobs, trek. Does it still exist, the foundation? Yes, they have exhibitions in many places to tell any person who wants to know about elephants. In the north-east and north there is a lot of jungle. In the north-east they die because there is not a lot of jungle, Surin. There is not a lot of jungle and elephants there. They have to find a place that is good for elephants, like in Koh Chang. It's good for feeding elephants by nature. This is a good way because it saves costs for feeding.

3. For Bin Camp Chang and Changtai; what was the reason for you decide to start up an elephant camp if there were already two camps on the island?

4. Does the owner come from Koh Chang? If not, where does he/she come from? Other part of Thailand. He is from the north-east, from Surin.

**Visitor number questions:**

5. How do the visitation numbers differ between high and low season? Need exact numbers. In high season we have normal four times in one day. Sometimes we have six times which are about 120 tourists per day, which was in December/January. In low season it is about 10/20 per day. Sometimes it's not have. Today is busy right? Today is about 15 tourists. Not too bad. But lower than 10 is bad, because we pay about for elephant food and taxi more than 100,000 a month. Every month. In high season we pay about 200,000 a month for everything. If we get one day lower than 10,000 is really bad. We do not make any money. We need more than 10 guests a day.

6. How many tourists are Thai and how many come from other countries (in %)? Which other countries do tourists mainly come from? Tourists are mainly German, Scandinavian, Russian, Chinese, little Thai (2%). Thai people come with the foreigners. And sometimes they come in group when they have a long holiday, a long weekend. But not too much.

7. In what way are tickets for a trek mostly booked (hotel, travel agency, walk in) (get in %)? Tourists come from hotel, bungalow, agency from different places in Koh Chang. Many walk-ins from hotels and agency. Most of the guests know this from Lonely Planet, right? All walk-in guests know, but some tourists from the hotel they know from the hotel. We have a book that is for reading for the guests about my camp and choose the camp they like. When they want to see the elephant in the nature, they come here. They expect my camp to be like that.

8. In what ways are tourists transported? Who arranges the transport? Do you think this can be made more sustainable? What do you think is the average number of vehicles a day that arrive at the camp? On average four times a day, depends on the guests. Sometimes it is one time. When there are a lot of tourists it is four times? Yes or even five times.

**Elephant's questions:**

9. Where do the elephants come from? They come from Surin province. They capture elephants a long time ago. Every town has elephants. But it is a problem because they do not have enough food there. They move to many poor cities in the south.

10. How much does it cost to transport and buy an elephant? Not more than 3,000 baht to feed an elephant. 1,000,000 – 1,500,000 baht per elephant. How much is it to transport it, the transportation costs? Transport to Koh Chang costs depends on the way. Because in the village of Surin they have some trucks and can move elephants on their own. If you pay for the truck it's too much, 10,000 or more, because if you are moving you have to have a book and when you move to another city you have to

**Comment [F272]:** Elephants were not treated well in Thailand and therefore a foundation was set up.  
INFLUENCE EXTERNAL STAKEHOLDERS

**Comment [F273]:** Aim of the foundation is to give elephants a better place to live and to use them for treks.  
INFLUENCE EXTERNAL STAKEHOLDERS

**Comment [F274]:** The foundation is doing exhibitions through Thailand to tell people about elephants.  
INFLUENCE EXTERNAL STAKEHOLDERS

**Comment [F275]:** Elephants are taken from Surin because they cannot live there since it has not enough jungle.  
ORIGIN ELEPHANTS

**Comment [F276]:** Elephants should be fed in nature because it saves costs.  
COSTS

**Comment [F277]:** The owner comes from Surin province, north-east of Thailand.  
ORIGIN PERSONNEL

**Comment [F278]:** High season maximum of 120 visitors per day during six treks.  
VISITOR NUMBERS

**Comment [F279]:** Low season around 10/20 visitors per day.  
VISITOR NUMBERS

**Comment [F280]:** Elephant food and taxi costs are 100,000 baht per month in low season and 200,000 baht per month in high season.  
COSTS

**Comment [F281]:** The camp needs at least 10 visitors per day to cover their fixed costs.  
COSTS

**Comment [F282]:** Visitors mainly come from Germany, Scandinavia, Russia and China. 2% of visitors is Thai.  
ORIGIN VISITORS

**Comment [F283]:** Visitors come from all over the island, but the camp relies on...

**Comment [F284]:** Visitors read about the camp in Lonely Planet and by a book about the camp that is present at hotels...

**Comment [F285]:** Taxi's with tourists arrive on average four or five times a day.  
TRANSPORTATION

**Comment [F286]:** The elephants come from Surin and are taken from there...

**Comment [F287]:** It costs around 3,000 baht to feed an elephant.  
COSTS

**Comment [F288]:** An elephant costs around 1,000,000 – 1,500,000 baht. ...

**Comment [F289]:** The costs of transporting elephants depends on the way. When a truck is needed you pay ...

how the book that you are moving the elephant. Because the elephants have a licence.

11. Are elephant suppliers for all the camps the same? Is there any collaboration?

12. Do you have any baby elephants? Why/why not? *No baby elephants.*

13. How long do the elephants stay in the camp on average? *It depends, because some elephants they get sick we have to change new elephant and take the sick elephant to the hospital in Surin. They have big hospital for elephants in Surin and Lampang. Lampang is the biggest because they are always taking care of the elephants from the north and in Surin they take care of elephants from that area. It is not enough, because elephants do not stay in Surin but move to the south.*

14. Are the elephants sick often? How do you care for them when they are sick? *They do not go to hospital often because it costs a lot of money. The vet comes here two times a year to check. When an elephant is sick for a long time it is taken to hospital. Last year there was an elephant standing for two months and not lying down and die. Because only the vet comes, they can't do anything. Has to go to the hospital. The animals are kept healthy by feeding them in the jungle.*

15. Where do the mahouts come from? *Mahouts also come from Surin province. The mahouts and the families, three families, live at the camp. If the elephants make noise more than 2 or 3 times in the night, the mahouts have to take a look. Can be small hunting in the jungle or a snake. We have ten mahouts and 20 people living at the camp. In low season they go home because there is not job at the camp. If they stay, they only get salary and not tips, not enough. Salary is 10,000 baht every month. So they stay home for two or three months and earn money by farming.*

16. Where does the food for the elephants come from? How much food is used? What are the costs for the food? At Koh Chang, do you have enough food? *Yes, because around here in the mainland, at Trat, they have a lot of pineapple. Pineapple leaves is the main food of elephants. But they get it from the mainland right? Yes, because if we start it here they have to start a business. For instance with the pineapple leaves, the first time they can only take it to my camp and this time they can run a good business. They have five elephant's camps that order pineapple leaves every day, they can start a business. They can buy pineapple leaves easy at the mainland. Does a boat come to Koh Chang every day with food for the elephants? Yes, because they have five elephant camps. They come every day. One truck with 7,5 tons, 1,5 ton for every elephant camp. They have five trucks that go on the boat. At first we had only two elephants, we didn't order pineapple leaves. We let the elephants go into the jungle. They can eat everything. Why don't you do that anymore? This time, we do that, but elephants are not enough for pineapple leaves. They can eat more and need herbs. Low season: only food brought 1 time in 2 days. 1,500 kilogram every day. Truck comes from province Trat. At pier on mainland, pineapple farms are close by.*

17. Is it possible to buy food from the local community? What is the company that transports the food? Do all elephant camps use this company? What is the collaboration? *Sugar wheat is grown next to the camp to create a diverse diet. If they only eat pineapple leaves they get fat. Fruit like bananas come from Koh Chang and pineapple from the mainland. Prices go up every year, 1200, 1300 now 1500.*

18. Where does the water for elephants to drink and wash come from? How much water is used? Does the owner think this can be reduced? Is this thought even considered? *Normally the waterfall and river are used for cleaning elephant, but not much water now so not used in low season. We have an elephant bathroom at the camp and they are washed twice a day. Elephants use 200 litres per animal a day. Water comes from the mountain and is kept in a tank. Do you also collect rainwater? No, we have enough water. Do not need rainwater. Do you notice that in high season, when there are many tourists, that the water is less? No, we have enough at the camp. The island uses ground water. There is a problem with water at White Sand Beach and Lonely Beach. Many hotels buy water, but we do not buy water. Tourists do not know where the water comes from.*

**Comment [F290]:** There are no baby elephants.

**Comment [F291]:** The time an elephant is staying in the camp depends on whether they get sick.  
WORKING YEARS ELEPHANT

**Comment [F292]:** There are two elephant hospitals in Thailand; in Surin and Lampang.  
ELEPHANT HEALTHCARE

**Comment [F293]:** Elephants do not go to hospital often because it costs a lot of money.  
ELEPHANT HEALTHCARE COSTS

**Comment [F294]:** A vet comes by two times a year to check, but he cannot do anything when an elephant is really sick.  
ELEPHANT HEALTHCARE

**Comment [F295]:** The elephants are kept healthy by feeding them in the jungle.  
ELEPHANT HEALTHCARE

**Comment [F296]:** There are 10 mahouts and their family, total 20 people, living at the camp.  
MAHOUTS

**Comment [F297]:** During the low season they go home because they cannot make enough money at the camp.  
MAHOUTS

**Comment [F298]:** The elephants eat pineapple leaves most of the time and that comes from the mainland.  
ORIGIN ELEPHANT FOOD & WATER

**Comment [F299]:** The company at the mainland can stay in business because there are five camps at Koh Chang ordering pineapple leaves there.  
ORIGIN ELEPHANT FOOD & WATER

**Comment [F300]:** Every elephant camp needs 1,5 tons of pineapple leaves every day.  
ORIGIN ELEPHANT FOOD & WATER

**Comment [F301]:** The company has five trucks that go to Koh Chang by boat...

**Comment [F302]:** First, the elephants were just fed by letting them go into the jungle, but now there are more elephant...

**Comment [F303]:** During the lowest season the food is only brought once ev...

**Comment [F304]:** They grow sugar wheat next to the camp to add to the elephants diet and bananas come from...

**Comment [F305]:** In rain season, the waterfall and river are used as water sources for the elephants. There is an...

**Comment [F306]:** No rainwater is collected, because they have enough...

**Comment [F307]:** No water pressure issues because the rest of the island use...

19. What is done with the excrement? Is it used for other purposes? *We give for free for gardening for fertiliser. Sometimes they buy, sometimes they get for free. If they don't like to take it in a bag they can pay for a mahout, 20 baht per bag. It's important to manage the shit.*

**Comment [F308]:** The excrement is sometimes sold and sometimes given for free as a fertiliser. Mahout service for bringing it is 20 baht per bag.  
EXCREMENT MANAGEMENT

20. Do the elephants damage the forest? What are the measures to reduce the damage?

#### General camp questions:

21. What kind of food is available for people who finished the trek? Where is the food produced? Why are these foods chosen?

**Comment [F309]:** Electricity comes from the mainland via a sea-cable.  
ELECTRICITY USAGE

22. What souvenirs are available? Where do they come from?

**Comment [F310]:** Not much electricity is used at the camp because there is no air-conditioning or bar. Only two refrigerators and a television.  
ELECTRICITY USAGE

23. Why is the elephant trail chosen as it is today? Can they develop their own trails or do they have to follow rules?

24. How much electricity is used? What is the electricity used for? *The electricity comes from the mainland. There is a cable under the sea. Do you pay more for electricity than on the mainland? No, is same price. We do not use a lot of electricity, because we no have air-conditioning and no bar that need cooling. We use gas sometimes for cooking, also comes from the mainland. When no electricity, everything shuts down, problem in low season. Trees with cables fall down. We do not have many shutdowns because we have not much electricity. We don't want a generator, because it makes too much noise. We only have two refrigerators and a television.*

**Comment [F311]:** Shutdowns are not experienced often in the camp.  
ELECTRICITY USAGE

**Comment [F312]:** They do not want a generator because it makes too much noise.  
ELECTRICITY USAGE

25. How is waste managed? What is done with waste? How much daily waste is there? What kind of waste do you mainly have? Are there practices of waste minimisation and recycling? *They can eat it all. They leave 20% every day. It's a lot. In summer, we fire sometimes. In the rain season, we cannot fire because it's wet. We fire some of the dry shit too. Every evening we fire and it can make go away mosquito.*

**Comment [F313]:** The elephants leave 20% of all their food as waste every day.  
WASTE MANAGEMENT

**Comment [F314]:** In the summer it is fired up with some of the excrement every evening and it works as a mosquito repellent.  
WASTE MANAGEMENT  
EXCREMENT MANAGEMENT

#### Business questions:

26. Is the camp supported by Asian Elephant Foundation? If yes, what does this support mean? When are you selected to be supported? *Yes, the owner is the secretary of the foundation. How do they support this elephant camp? They have mobile phone to take a look at elephants in the north of Thailand, they have a mobile car, mobile clinic to go around Thailand to take a look at elephant camps. They come to this camp two times. They come together, the foundation and the vet from the hospital. They check the metal chip and when it is broken they put a chip in again. Why do they have a chip? Chip is like an ID card. It's bad that some people staying at the border of Thailand and Birma they capture wild elephants and fake the licence. It is illegal. Therefore the chip in the neck is checked. Does every elephant camp use the chips? All, they all have the medal chips. Does the foundation give you medicine? Yes, free medicine. We give them money, donation, in the box. They also give food sometimes, right? No, only medicine to kill bacteria and parasite and for the skin. Basic take care.*

**Comment [F315]:** The owner is the secretary of the Asian Elephant Foundation.  
INFLUENCE EXTERNAL STAKEHOLDERS

**Comment [F316]:** The foundation has a mobile clinic and comes to the camp twice a year with a vet.  
ELEPHANT HEALTH CARE  
INFLUENCE EXTERNAL STAKEHOLDERS

**Comment [F317]:** The elephants have a metal chip that shows they are legally held.  
ELEPHANT HEALTH CARE

27. Do the elephant camps discuss things together, or collaborate in some kind of way? *Everyone knows each other because they come from the same place. But the managers, I don't know, because they do not care about any other camp. Two elephant camps are run by local people who do not care about other camps. They have bungalows, land, they do not rent like my camp. They don't care about, they can sell different programmes, different from my camp. Because they stay on the roadside. During the meeting with the elephant owners, they said one hour and two hours all for the same price. But they don't care. They sell only short-time, but it depends. It my camp only one hour, two hour. It's not a problem, short-time, but it's not part of the commitment. But they can sell. Do you think the other camps are more focussed on business than this camp? Yes, because they buy all elephants. The owner buys all.*

**Comment [F318]:** The foundation provides 'free' medicine in return for donations gathered at the camp.  
INFLUENCE EXTERNAL STAKEHOLDERS

**Comment [F319]:** All employees from the elephants know each other because they come from the same place.  
ORIGIN PERSONNEL  
COLLABORATION BETWEEN CAMPS

**Comment [F320]:** The local managers of two elephant camps have their own land and don't care about other camps.  
COLLABORATION BETWEEN CAMPS

28. What are problems that your business is currently facing? *Elephants are dangerous. We have a sign for the guests to not get closer to elephants. Some of the guest didn't know, they come closer and really dangerous. But it's not happened in this camp. But some of the camp, the male is really danger*

**Comment [F321]:** Those camps are also selling half-hour treks which was not part of the agreement the camps made during the meeting about the prices.  
COLLABORATION BETWEEN CAMPS

ous because ivory. *Some elephants, the tourists, died by the elephants. People died. Last year, two died in Pattaya and injured two. They were kidding with the elephants, elephant gets angry and uses ivory to kill. Sometimes guests come back from a trek and take a picture. And we are busy, it's dangerous. Accidents are problem.*

**Comment [F322]:** A problem for the elephant camp business is that they are dangerous animals who can be violent towards people.  
BUSINESS PROBLEMS

29. What, do you guess, is the investment you have to make in order to start up an elephant camp?  
30. Is there a high level of task division and organisation structure?

31. How do you experience the price increase? Did this happen in your camp? In what way will this affect/improve your business? *Get more money. The prices were higher in March.*

**Comment [F323]:** The price increase makes the camp make more money now.  
PRICE INCREASE OF TREK

32. To what extent is your business influenced by the municipality? *The municipality controls the elephant camps by not allowing having any more elephant camps. It's under control. Do they also make rules for elephant camps which you have to follow? Yes, they have only ten elephants for one camp. Maybe they will allow about twelve, but many elephant camps only have ten. Why do they have a maximum? Because they have to save the business. Because if you have more elephants you can make more money. The guests will then always go to the big camp, bad for other camps.*

**Comment [F324]:** The municipality does not allow any more elephant camps on Koh Chang.  
INFLUENCE EXTERNAL STAKEHOLDERS

33. And by the National Park? Do you have to ask permission to set the elephants free for the night? *Yeah, behind the camp is National Park. If you let them walk in the national park, do you have to ask for permission? Yes, when we walk past the land, we have to pay money and have to talk to them. Because it's not my land. We lend the land from villagers. We pay 6,000 baht per year for the trail in the jungle.*

**Comment [F325]:** There is a maximum amount of elephants per camp to keep the competition between the camps fair.  
INFLUENCE EXTERNAL STAKEHOLDERS

**Comment [F326]:** When entering the National Park, the camp has to pay money and talk to them.  
INFLUENCE EXTERNAL STAKEHOLDERS

34. What changes have you made in the elephant camp in the past few years? *It changed because business is getting better. Because a lot of tourists. Koh Chang is more popular.*

**Comment [F327]:** The costs for using the trails is 6,000 baht per year.  
COSTS  
INFLUENCE EXTERNAL STAKEHOLDERS  
TREK AREA

35. How do you try to be different?

**Comment [F328]:** During the past years, the business has become better due to the increasing popularity of Koh Chang.  
CHANGES OVER TIME

36. What do you think are possibilities to change your business? Do you already have plans? *We want to have two more elephants separated from this camp for taking long time. For teaching tourists how to be a mahout, learn how to ride an elephant. For people who want to know more about elephants. They have to stay more than one day, two or three days. We also want one more building, because we have a problem when it rains. There is not enough space.*

**Comment [F329]:** In the future they want two more elephants in the camp for big treks and tourist mahout training.  
CHANGES OVER TIME

37. Are you aware of Koh Chang as Low Carbon destination, the idea from DASTA? Are you interested in becoming a low carbon activity? Do you think this will improve your business and tourist numbers?

**Comment [F330]:** In addition they want another building for when it is raining.  
CHANGES OVER TIME

### Interview Manager 'Bin Camp Chang'

Introduce ourselves as Dutch students doing research in collaboration with DASTA. Explain the aim of the research and why some questions about carbon practices are asked. Also explain that the research will not be used for any other purposes than the research. Thank the interviewee in advance for his/her time. Shortly mention what we are going to ask. Ask permission to record the interview.

Have you ever heard of DASTA? *No, what is that?* Brief explanation follows about DASTA, their encouragement for the use of solar panels for example. We introduce Koh Mak as example of a Low Carbon Destination. Do you know Koh Mak? *Yes, I know Koh Mak. But did not know it is a low carbon destination. Never heard of it.*

**Comment [F331]:** No idea of Koh Mak as low carbon destination.

### General questions:

1. How long does the elephant camp already exist? *Nearly 5 years.* Where you already here from the beginning? *No, I am here for three years.* What is your function in the elephant camp? *I can't say I am*

the manager, I work for myself I think. So I do every position. And does the owner come to the camp often? Yes, Yes; actually she is the owner or wife of the owner (points to a woman), but she cannot speak English.

2. Why was it built at Koh Chang? Why was the specific area chosen? The owner comes from Koh Chang. But actually I don't know why exactly here. But there were already other elephant camps in Klong Prao? Yes, already 2 other camps. But the owner just owned this land, so had to do it here. Did not have to buy land.

3. For Bin Camp Chang and Changtai; what was the reason for you decide to start up an elephant camp if there were already two camps on the island? Because the owner thought it would be a good tourist attraction and heard elephant camps are a good way to earn money.

4. Does the owner come from Koh Chang? If not, where does he/she come from? The owner comes from Koh Chang.

#### Visitor number questions:

5. How do the visitation numbers differ between high and low season? A lot, now it is low season, so it is very quiet. In low season not more than 10 people a day visit the camp. But still depends of course. In high season, before we had a long high season, but now it is really short. This year was just high season for 2 months (which started after Christmas), maybe even shorter. And before this year the high season was about six months. Maybe this change happened due to problems in politics (in Bangkok) and economy, but I don't know. In high season on average 50 people are visiting the camp daily. High season (2 months); 50 people a day. But it depends also on the elephants, sometimes we are fully booked. We have 9 elephants and the Thai government allows the elephants to do 4 hours a day (So  $9 \times 4 = 36$  treks can they do a day).

6. How many tourists are Thai and how many come from other countries (in %)? Which other countries do tourists mainly come from? A lot of Russian tourists, about 60% are Russian. The last high season also a lot of tourists from Europe, like France and Germany. Also some Asian people, a lot of Chinese especially. There are no Thai people visiting the camp, because it is not so interesting for them. They are used to elephants since they are little.

7. In what way are tickets for a trek mostly booked? 50% book their trips by hotels and travel agencies. And the other 50% comes as walk-in tourist.

8. In what ways are tourists transported? Who arranges the transport? Do you think this can be made more sustainable? What do you think is the average number of vehicles a day that arrive at the camp? 50% comes by our pick-up service (taxi), because if you book you got a transfer for free. For walk-in tourists the price for a trek is exactly the same. Just a few people come by motorbike. Not easy to guess how many times the taxi has to drive daily and what distances, because people come from everywhere. But when there is a person who booked the trek alone, we try to combine it with other people out that place by doing the booking schedule.

#### Elephant's questions:

9. Where do the elephants come from? From other provinces, like the north and north-east. For example Chang Rai and Surin province. The elephants are domesticated elephants, because it is not allowed by Thai law to have wild elephants. 4 elephants are already here for 5 years, but the owner bought the last two years more elephants (in total 5).

10. How much does it cost to transport and buy an elephant? Nearly 2 million baht. It depends per elephant and also on their gender. Females are often 1,5 million baht.

**Comment [F332]:** Interviewee not the manager, but knows all tasks.

**Comment [F333]:** Reason for building camp there is that the owner already owned the land.  
BUSINESS START-UP

**Comment [F334]:** Reason for setting up camp is that it is a good tourism attraction and way to make money.  
BUSINESS START-UP

**Comment [F335]:** Local owner.  
ORIGIN PERSONNEL

**Comment [F336]:** Not more than 10 visitors per day in low season.  
VISITOR NUMBERS

**Comment [F337]:** High season only lasted for two months this year.  
VISITOR NUMBERS

**Comment [F338]:** Reason might be the political situation in Thailand.  
VISITOR NUMBERS

**Comment [F339]:** High season on average 50 visitors per day.  
VISITOR NUMBERS

**Comment [F340]:** 60% of visitors is Russian.  
ORIGIN VISITORS

**Comment [F341]:** Last high season many European visitors (e.g. France and Germany) and Asian visitors (especially China).  
ORIGIN VISITORS

**Comment [F342]:** No Thai visitors because it is not interesting to them as they are used to elephants.  
ORIGIN VISITORS

**Comment [F343]:** Bookings done 50% by hotels and travel agencies and 50% walk-in.  
BOOKING

**Comment [F344]:** 50% of visitors come by pick-up service (free transfer).  
TRANSPORTATION

**Comment [F345]:** Walk-in tourists pay the same trek fee.  
TRANSPORTATION

**Comment [F346]:** Few people come by motor bike.  
TRANSPORTATION

**Comment [F347]:** Not easy to guess how many times the taxi has to drive daily and what distances, because people cor ...

**Comment [F348]:** Elephants come from North and North-East (Chang Rai a ...

**Comment [F349]:** Elephants are domesticated, because keeping wild ...

**Comment [F350]:** 5 years ago, 4 elephants brought in and last two years ...

**Comment [F351]:** It costs nearly 2 million baht to transport and buy a male ...

11. Are elephant suppliers for all the camps the same? Is there any collaboration? Yes, the owner buys from same person.

**Comment [F352]:** The elephant supplier is the same every time.  
BUYING ELEPHANTS

12. Do you have any baby elephants? Why/why not? We also have one baby elephant that is not here. The owner brought it to one of the other camps; Kai Bea MeeChai.

**Comment [F353]:** Also a baby elephant present that is being kept at Kai Bea MeeChai Elephant camp.  
ELEPHANT NUMBERS

13. How long do the elephants stay in the camp on average? Elephants can have the age of human. If they are fifty they are still able to the treks, so they can stay here for a long time now at the camp.

**Comment [F354]:** Elephants can still do treks when they are 50 years old, so they stay in the camps a long time.  
WORKING YEARS ELEPHANTS

14. Are the elephants sick often? How do you care for them when they are sick? Sometimes the elephants got sick of their food. But doesn't happen that often and is not very serious. It happens because they eat too much food, for example coconut tree is difficult to digest. They have medicines and know how to treat them. The mahout takes care of the elephant. Every elephant has his own mahout. Have never been seriously ill in the past 5 years.

**Comment [F355]:** The elephants do not get sick often. When they do get sick it is often because they ate too much food. Mahouts take care of them with medicine.  
ELEPHANT HEALTHCARE

15. Where do the mahouts come from? The Mahouts come from Surin, the elephant village. The mahouts did not grow up with these elephants. The mahouts got training before they could work at the camp. They follow a step to step program. Mostly it is about 2 months of training and then they practise more and more during the treks. The duration also depends on the elephants' behaviour. The elephants are very easy to train and to get used to their mahouts.

**Comment [F356]:** Mahouts come from Surin province.  
ORIGIN PERSONNEL

16. Where does the food for the elephants come from? How much food is used? The food comes from the mainland, only the pineapple tree food. There is one company which arranges food for all the elephant camps on Koh Chang. An elephant eats 10% of their weight; this is about 250 kg a day.

**Comment [F357]:** Mahouts did not grow up with these elephants.  
MAHOUTS

**Comment [F358]:** The Mahouts train for about 2 month with their elephant.  
MAHOUTS

17. Is it possible to buy food from the local community? What is the company that transports the food? Do all elephant camps use this company? What is the collaboration? Not possible to get the pineapple tree leaves from Koh Chang, but the other food is possible. Banana tree, Bamboo, Coconut tree comes from Koh Chang. This food is gathered together by the Mahout, they have to bring this to the elephants.

**Comment [F359]:** Elephants eat about 10% of their weight every day, about 250 kg. The pineapple leaves come from the mainland, provided by one company for the entire island.  
ORIGIN ELEPHANT FOOD&WATER

18. Where does the water for elephants to drink and wash come from? How much water is used? Does the owner think this can be reduced? Is this thought even considered? We do not use much water. How much they drink depends on the weather, if it is hot it drinks more. Don't know how much water the elephants drink daily or is used for washing. The water comes from the river and also from the land, groundwater. Only have to pay for the water of the land, not from the river.

**Comment [F360]:** The Mahouts gather additional food at Koh Chang itself, which consists of bananas, bamboo and coconut.  
MAHOUTS  
ORIGIN ELEPHANT FOOD&WATER

19. What is done with the excrement? Is it used for other purposes? They store the excrement in a place and burn the excrement; due to high costs they do not make papers themselves. Other elephant camps sell excrement which is then made into paper. The costs are too high for this camp to make paper. They leave the excrement on the route for the plants to grow on the trail. It is used to grow plants on the land of the owner.

**Comment [F361]:** How much an elephant drinks depends on the weather. Daily water consumption unknown. The water comes from the river and the land (groundwater). The water from the land has to be paid for.  
ORIGIN ELEPHANT FOOD&WATER

**Comment [F362]:** Excrement is stored and burned or they are left on the route for the plants to grow. Often it is also used to grow plants on the land of the owner.  
EXCREMENT MANAGEMENT

20. Do the elephants damage the forest? What are the measures to reduce the damage? They damage the forest, the elephants cannot be stopped. In the night, elephants go inside to sleep.

**Comment [F363]:** Paper is not made yet, because the costs are too high.  
EXCREMENT MANAGEMENT

#### General camp questions:

21. What kind of food is available for people who finished the trek? Where is the food produced? Why are these foods chosen? Pineapple is served, which comes from the mainland. Pineapple is cheap, and everybody eats pineapple.

**Comment [F364]:** Elephants damage the forest and cannot be stopped. At night they are kept inside to sleep.  
TREK AREA

22. What souvenirs are available? Where do they come from? No souvenirs are sold in the camp. The

**Comment [F365]:** Pineapple is served to the visitors after the trek. It comes from the mainland, is cheap, and everyone has a taste for it.

mahout might sell some products in order to earn something extra.

**Comment [F366]:** No souvenirs sold in the park, but the Mahouts are allowed to sell some themselves.

23. Why is the elephant trail chosen as it is today? Can they develop their own trail or do they have to follow rules? Owner has 200 ha. (rai) *There is a certain trail, which is located on the land of the owner. The land is 200 rai big. Rai is a small kind of acre.*

**Comment [F367]:** The trek is on a 200 rai/acre piece of land that belongs to the owner.  
TREK AREA

24. How much electricity is used? What is the electricity used for? *Electricity is barely used, only for the lighting at the reception.*

**Comment [F368]:** Electricity only used for lighting at the reception.  
ELECTRICITY USAGE

25. How is waste managed? What is done with waste? How much daily waste is there? What kind of waste do you mainly have? Are there practices of waste minimisation and recycling? *Most waste is plastic bottles and it is recycled. There is no waste on the trail. There is a company which recycles the trash for them and sells the recycled trash.*

**Comment [F369]:** The plastic bottles are being recycled by a company that sells it afterwards.  
WASTE MANAGEMENT

#### Business questions:

26. Is the camp supported by Asian Elephant Foundation? If yes, what does this support mean? When are you selected to be supported? *They do not know who it is. Surin province has a lot of elephants; they might check here once a year, she doesn't know.*

**Comment [F370]:** The Asian Elephant Foundation is unknown to the interviewee.  
INFLUENCE EXTERNAL STAKEHOLDERS

27. Do the elephant camps discuss things together, or collaborate in some kind of way? *They don't work together much, but the owner is a friend of the owner of Kai Bae Meechai, it's not business but they are friends. Kai Bae pays a contract for the small elephant, for three years, then the elephant returns. The prices of all camps are all the same. Prices increase at the same time. Camps talk to each other and choose a price together.*

**Comment [F371]:** Collaboration with Kai Bae Meechai elephant camp, on a friendly basis, for the baby elephant that will return to Bin Camp Chang after 3 years.  
COLLABORATION BETWEEN CAMPS

28. What are problems that your business is currently facing? *The elephant camp is not facing problems at this moment. Other camps have other policies, so problems there are not known.*

**Comment [F372]:** Trek prices are determined in collaboration with all camps.  
COLLABORATION BETWEEN CAMPS

29. What, do you guess, is the investment you have to make in order to start up an elephant camp? *She doesn't know precisely. An elephant costs an average of 1.5 million baht. The installation is priced around 1 million baht.*

**Comment [F373]:** Bin Camp Chang is not facing any problems at the moment.  
BUSINESS PROBLEMS

30. Is there a high level of task division and organisation structure?

**Comment [F374]:** Guessed installation price is 1 million baht.  
BUSINESS START-UP

31. How do you experience the price increase? Did this happen in your camp? In what way will this affect/improve your business? *The increased prices might lead to an increase of income. Tourist numbers stay the same. Everything is getting more expensive, so tourists might get used to the increased prices.*

**Comment [F375]:** The price increase might lead to more income as visitor number stay the same. The tourists might get used to it as everything becomes more expensive.  
PRICE INCREASE OF TREK  
COLLABORATION BETWEEN CAMPS

32. To what extent is your business influenced by the municipality? *The municipality has to take care of the elephants, so there are a lot of rules for elephant care. They come by to check.*

**Comment [F376]:** The municipality takes care of the elephants.  
INFLUENCE EXTERNAL STAKEHOLDERS;  
MUNICIPALITY

33. And by the National Park? Do you have to ask permission to set the elephants free for the night? *They are not allowed to go into the national park.*

**Comment [F377]:** The elephants are not allowed to enter the national park.  
INFLUENCE EXTERNAL STAKEHOLDERS;  
NATIONAL PARK

34. What changes have you made in the elephant camp in the past few years? *There has been a decrease of guest due to the economic crisis and the riots in Bangkok. The camp has grown from 4 to 9 elephants. The price is not the problem.*

**Comment [F378]:** In the last years, the camp has grown from 4 to 9 elephants.  
CHANGES OVER TIME

35. How do you try to be different?

36. What do you think are possibilities to change your business? Do you already have plans? *The own*

er would like to have more elephants, to the maximum of 12 elephants. There is a law that a camp can have a maximum of 12 elephants.

**Comment [F379]:** The camp wants to increase the number of elephants to the legal maximum amount of 12. CHANGES OVER TIME

37. Are you aware of Koh Chang as Low Carbon destination, the idea from DASTA? Are you interested in becoming a low carbon activity? Do you think this will improve your business and tourist numbers? They don't know much about low carbon emissions. She knows about solar cells, but not how to do it. The owner only wants to decrease emissions when costs decrease as well.

**Comment [F380]:** The low carbon concept is unknown, only solar cells are known.

**Comment [F381]:** The owner wants to decrease emissions only when costs decrease as well.

### Appendix 13: Data Interview National Park

They manage the park of Koh Chang. The main task of the office is management. The national park is only a part of the whole island, not the entire island. Most of the island is national park, however. They promote the plantation of forest and coral. The government is not involved in the management of the park. There is a law book, full of laws to protect the forest. It says what you can and can't do in the forest. Rangers manage the forest with patrols so people do not break the law. People breaking the law get a fine if they do. The reason of patrolling rangers is to maintain the resources of the park.

**Comment [T382]:** Most of the Island is managed by the national park.

**Comment [T383]:** Government is not involved

**Comment [T384]:** Rangers patrol the park to protect it

Elephant camps are not in the park area, the trails also do not go through the park area. Elephants of the elephant camp also do not go into the forest area. The elephant conservation centre in Thailand help with elephant management.

**Comment [T385]:** The Elephant parks are not located in the National Park

The department of parks created the national park. The largest threat to the park is logging, shooting of wild animals and tourists dropping garbage in the park. There is 1 ton of garbage dropped in the last 4 months. More statistics are available of the municipality about these kinds of things. Rangers walk around in order to check these things and to arrest people not abiding the law. Elephant camps need approval if they want to walk through forest area. There is no damage of elephants within the forest area and not much outside of the forest area as well. The elephant camps can do what they want outside of the forest area.

**Comment [T386]:** Main threats are: waste, logging and poaching

**Comment [T387]:** Elephants don't damage the national park

**Comment [T388]:** Elephant camps have nothing to do with the National Parks

**Comment [T389]:** Funding by government

The national park gets funding from the national government. The national park knows of DASTA and has a collaboration project with them. New coral reef is created in combination with DASTA. Elephant camps maybe contribute to logging, but this is not clear.

**Comment [T390]:** Partnership with DASTA

**Comment [T391]:** Elephant camps -> logging?

### Appendix 14: Data Interviews Hotels and Travel Agencies

Ivo & Esther

#### 5/5/2014 Travel Agency Joke Koh Chang

Travel Agency which offered elephant treks from three different camps (Kai Bae Mee, Chutiman, Changtai). Besides this she also offered boat trips and jungle treks.

**Comment [T392]:** DIFFERENT CAMPS

She got a commission of 15% - 18% per booking. Now this was every time a fixed amount, because the prices for the elephant treks are fixed at the moment. They are the same at every agency. Joke told us this is only like this since the last 2 months. Before that time she had the opportunity to set her own prices. She told us this was better for her business, but the tourists had to pay unfair prices. That's why the municipality had decided to fix the prices. This might also happen for boat trips in the

**Comment [T393]:** 15 % Commission COMMISSION

**Comment [T394]:** Prices are recently fixed – FIXED PRICES RECENTLY

**Comment [T395]:** FIXED PRICES ARE FAIR

future. The rule about the fixed prices was made at a meeting at the municipality. A lot of stakeholders were invited to the meeting.

**Comment [T396]:** Meeting to fix prices included a range of stakeholders

She has her shop for 5 years. At the beginning there were only about three other agencies in Klong Prao, the competition was not that big. Nowadays there is a lot more competition. A lot of travel agencies have opened up and also hotels are offering the tours to their tourists. She has an all-year round business, while some of the agencies are closed now, due to the low season. She also told us that some agencies have quickly disappeared in the past five years, because they could not earn enough money with their business. Furthermore she told us that a lot of tourists book their tours by the internet now. They do this often, because it is cheaper. Also the tours are often already included by accommodation packages.

**Comment [T397]:** Competition increased last 5 years  
COMPETITION

**Comment [T398]:** New platform for booking tours  
INTERNET

Every year the elephant camp brings new brochures and information to the travel agencies. They pay the commission to the owner of the agency mostly once in 15 days. But one of the camps was just paying it once a month. Joke told us this really depends also on how much tours you sold.

**Comment [T399]:** Pre packaged holidays including elephant trek  
PACKAGE HOLIDAYS

**Comment [T400]:** New brochures yearly  
BROCHURES

Joke did not earn a lot of money by just selling elephant treks. She estimates that in low season she sells about 5000 – 6000 bath per month on the elephant treks. In the high season this is about 12000 – 15000 bath per month. Because this is not enough money to make a living, she is also selling other tours and also rents motorbikes. Especially the motorbikes are good money.

**Comment [T401]:** Payment every other week  
PAYMENT

**Comment [T402]:** Selling Elephant treks alone is not enough  
OFFERING VARIOUS ACTIVITIES

Joke is very honest to her tourists. She says a lot of agencies and hotels are not like her. For example she tells frankly to the tourists that in the low season the waterfall at one of the camps does almost not exist, or that the water is not fresh. While a lot of other hotels and agencies just show their tourists the nice pictures and skip those details. (how reliable?)

**Comment [T403]:** HONESTY

To start up her agency, Joke had to buy a license. This was only 10000 baht and actually the only thing you really need to start a travel agency with these types of tours. For offering flights more rules are incorporated. She says it is easy to get this money by renting it from friends or relatives.

**Comment [T404]:** License is needed  
LICENSE

Fleur, Tom & Esther

### 5/6/2014 Sophia Garden Resort

The Sophia Garden Resort offers treks and tours to their guest. The employee at the reception told us that they got a commission of 15% for every tour they sell. Last month, the prices had extremely increased. First an elephant tour was about 500 baht, while at the moment they are sold for 850 baht.

**Comment [T405]:** 15% Commission  
COMMISSION

**Comment [T406]:** Prices Increased recently – PRICE RAISE

The commission is for each camp the same, because the prices of all treks are the same. This makes the competition fairer. Also the service will be fairer, because Sophia Resort is not earning more money by recommending a certain camp. (Only for a month now, how will this be in the future?)

**Comment [T407]:** FIXED PRICES ARE FAIR

He recommends some camps more often to the tourists than others. This is because the experience of tourists with a certain camp is better. He told us that he recommended Ban Kwan Chang to his tourists.

**Comment [T408]:** Honesty. Recommends the best camp (in his opinion) - HONESTY

For all hotels/resorts/hostels it is possible to offer trips to their clients. You just ask for some brochures and make an agreement with the companies that you are willing to sell tours. A license is not necessary for the hotels.

**Comment [T409]:** A license is not needed for accommodation – LICENSE

When tourists return from their trip, he asks for feedback. How they experienced the trip, if they would recommend it to others. He does this in order to improve his service and to keep his supply up

**Comment [T410]:** Feedback to know what to recommend and not to recommend – FEEDBACK FROM CUSTOMERS

to date. It is not useful to offer tours where previous guests often had less nice experiences.

- Most of his customers are staying at the hotel. But he also sells tours to other tourists. Sometimes people who had nice previous experiences with buying a tour at the Sophia Garden Resort. But also a lot of Finnish people come to Sophia Resort, because there is someone who speaks Finnish at the resort.

**Comment [T411]:** Not only his guests are customers for trips

- Furthermore he mentioned that due to the increased prices, less tours are sold this month.

**Comment [T412]:** Increased prices, less tourists – PRICE INCREASE

→ Ask managers for higher prices?

### 5/6/2014 Diver Shop (Look for exact name)

- Offered a lot of boat trip tours. He only sold tours to the elephant camp Ban Kwan Chang. He perceived this camp as more animal-friendly as the other camps. For instance he did not like it that the Bin Camp Chang was situated next to the main road.

**Comment [T413]:** Recommends the best park is his opinion (animal-friendly) HONESTY

- He combined his business with selling boat tours and bus and plane tickets. He told us this was not a business to become rich, but good enough to make a living.

**Comment [T414]:** Not only elephant trips – VARIOUS ACITIVITIES

- He had a map with some pages of information about the elephant camp. This information page was developed by himself. He did not get any brochures of the camp.

**Comment [T415]:** Enough income to make a living – ENOUGH INCOME

- The shop had a TAT license (Tourism Authority Thailand). He told us that all agencies are obliged to have one; otherwise you could face big problems. He also told us that some of the smaller agencies, just next to the road, the less professional ones, often did not have such a license. If the TAT would check, then they had to close their business. Before you get the license TAT checks all the tax and insurance papers, to find out if the business is legal and will survive.

**Comment [T416]:** NO BROCHURES

**Comment [T417]:** License is needed LICENSE

- He did not feel competition of other agencies. He did not worry about this. He told us that tourists should just come to him. And they actually did that often enough to sustain the business. He thought this was because his office was more official and serious, something what some tourists really look for.

**Comment [T418]:** NO COMPETITION

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