

Thesis Report

Unravelling the Social Learning in Mountaineering Tourism Toward Pro-Environmental Behaviour

Case study of Mountaineering Tourism Actors in Mount Rinjani National Park



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Abstract

Background -- The opportunity for learning, information sharing, and engaging in a more environmentally responsible behaviour is still limited, especially in mountaineering tourism. In relation to this research, actors in mountaineering tourism may harm environment unintentionally, but through learning within their expedition group, at the end they might foster pro-environmental behaviour. This is because our closest relations or groups considered very important to affecting us to behave more environmentally friendly. In this case, members of expedition group in mountaineering tourism may influence the others' behaviours.

Purpose – The purpose of this thesis is to investigate the possibility of fostering pro-environmental behaviour of the mountaineering tourism actors by assessing the process of social learning within mountaineering activities.

Research design – This research used literature review as the foundation for the conceptual framework. For qualitative data collection, interviews and participant observation were done in Mount Rinjani National Park, Indonesia as the location for study case.

Findings –This research found that there are five main environmental issues in mountaineering tourism in Mount Rinjani National Park, namely garbage, sanitation, water source use, wood use, as well as wildlife and landscape of Mount Rinjani. Actors brought up the issues during mountaineering tourism activities with six different interactions as a learning process, namely argumentation/discussion, knowledge sharing, criticising/blaming, asking question-informing, word-of-power, and peer observation. Peer observation, knowledge sharing, and asking question-informing—respectively—have the largest number of learning outcomes from the interactions that have pro-environmental immediate impacts in mountaineering tourism. Porters and guides have considerable influence on the key actors in mountaineering tourism through the aforementioned type of interactions.

Research implications – This research aims to contribute to *academic knowledge* in pro-environmental behaviour in mountaineering tourism, in which adding to the discourse on how to foster pro-environmental behaviour, especially in mountaineering tourism. The findings will also contribute to *practical knowledge* which can be used by the respective authorities to improve the management of the national park where the mountaineering tourism is set up. It is by showing that in mountaineering tourism activities there are opportunities for role model and knowledge sharing as part of learning to foster pro-environmental behaviour. It can also be taken into account when drafting a policy brief in national park management on how to approach and regulate visitors, porters, and guides.

Keywords: social learning, pro-environmental behaviour, mountaineering tourism, national park, Rinjani, Indonesia

1. Introduction

This first chapter will give an overall picture of the growth of mountaineering tourism in national parks and its impact on the environment. The problem statement is subsequently presented, followed by the research objectives.

1.1 Research background

Tourism activities in national parks are flourishing worldwide (Brown, Ham & Hughes, 2010). As a result of recreational activities, parks are increasingly experiencing negative impacts (Sterl, Brandenburg & Arnberger, 2008). Besides protecting natural biodiversity, national parks promote education and tourism (Gissibl, Höhler & Kupper, 2012). As a model of protected areas, a national park falls under 'Category II' in the International Union for Conservation of Nature (IUCN) protected areas categories.

"Large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities." (IUCN, n.d.)

Mountaineering has become a prominent part of adventure tourism (Pomfret, 2006) and many national parks are located in mountainous areas. In Indonesia, for example, most of the national parks are situated in mountainous areas. In fact, six of the seven highest mountains in Indonesia—or the so-called '7 Summits of Indonesia' — are situated in national park areas (Sinaga, 2018). These circumstances have provided an opportunity for both conservation education as well as mountaineering tourism.

In regard to mountaineering tourism in protected areas and its effect on surroundings, several studies conducted by specific scholars have given the basis for this research to be undertaken. In studies completed in Nepal (2002), it is revealed that environmental damage is one of the principal problems in relation to mountain tourism, especially in national parks and protected areas in developing countries. A further study performed by Nyaupane, Lew & Tatsugawa (2014), indicates the fact that tourism and trekking have a direct impact on the natural environment which causes environmental change. Rubbish (or litter) was the topic that was frequently discussed during the interviews conducted in the study and also the primary problem regarding trekking trails.

In line with the findings of previous studies in regards to the environmental impact of mountaineering tourism, Johnston & Edwards (1994), explain that there are four main environmental concerns regarding the impacts of the growth in mountaineering tourism: garbage, sanitation, deforestation and the pollution of water supplies. Stakeholders in the mountaineering tourism industry have planned and managed to take specific action to tackle the problems. The government, for example, established several regulations to eradicate waste problems, like banning wet tissues and disposable plastic bottles from national park areas (Prodjo, 2016); national park authorities implemented limitations on the number of mountaineers per day to avoid the overflow of visitors via online bookings (Taman Nasional

Bromo Tengger Semeru, 2017). Furthermore, local non-governmental organisations (NGOs) and mountaineering communities also take part in clean-up projects in the mountains (Agustina, 2017; Nyaupane et al., 2014). Even tour operators state the environmental issues associated with mountainous national parks on their websites, from the “Pack it in–Pack it out” policy to useful tips related to checking local experienced guides/porters (Lombok Network, 2017). This is in line with what Brown, Ham & Hughes (2010), suggest is one of the biggest challenges confronting sustainable tourism; encouraging tourists to engage in pro-environmental behaviour.

To avoid environmental degradation in thriving mountaineering tourism in national parks, there are two ways to manage the national park’s environment, according to Apollo (2014); specifically, control by authorities and self-control by actors involved in mountaineering tourism. The national park authorities have already established and enforce regulations, whereas the actors participating in mountaineering tourism as the users of national parks, still appear to lack self-control on occasions. Amongst the numerous stakeholders involved in mountaineering tourism in national parks, visitors, as well as local guides and porters are acknowledged as the key actors (Hull & Richins, 2016; Nepal, 2016). This is because they are the ones who carry out the day-to-day activities in the protected areas and the biggest contributors to the environmental issues (Nyaupane et al., 2014). Calls to promote more environmentally-friendly tourism practices in national parks are strongly needed, in which, as Ballantyne, Packer & Hughes (2009) mention, the actors involved in mountaineering tourism are considered to have a substantial role in encouraging pro-environmental behaviours in national park tourism. Hence, the actors’ environmentally responsible behaviour can limit or avoid damage to the ecological environment.

In this research, the key actors in mountaineering tourism are defined as visitors, guides, and porters who are climbing the mountainous areas in groups. Visitors, porters and guides go on a trip together in an expedition — albeit the composition of the group can be varied—since traveling in a group is necessary in regard to mountaineering activities. This specific behaviour concerning the actors is that they have to go in a group which at least consists of three people (Prodjo, 2017; Taman Nasional Mount Gede Pangrango, n.d.). Brame & Cole (2011), in their book — ‘Soft Paths: How to Enjoy the Wilderness Without Harming it’ — even recommend that a group should consist of four to six individuals, especially when traveling off-trail. They also suggest that a group of four to six people is large enough for safe travel in the wild, while still being manageable to minimise the impact on the environment. In certain mountainous national parks, especially areas higher than 3,000 metres above sea level, they also should be accompanied by local guides or porters (Balai Taman Nasional Mount Rinjani, 2011; Lai, Hsu & Wearing, 2016; Mount Kinabalu A World Heritage Site, n.d.).

There are several studies that have developed an understanding of the issues around tourists in protected areas and their behaviours in regards of environmentally responsible behaviour. Brown et al. (2010), examine the application of theory-based communication in picking up litter, which concludes that to influence tourists’ actions, it is crucial to understand their point of view regarding the particular issue or behaviour. Meaning that people occasionally act environmentally irresponsibly just because of misconceptions rather than due to ‘malicious intent’. In line with the previous study, Imran, Alam & Beaumont (2014), established that presently, the opportunity for learning, information sharing and engaging in more environmentally responsible behaviour remains limited. In relation to this research, actors in

mountaineering tourism may harm the environment unintentionally but through learning and information sharing within their expedition groups they might foster pro-environmental behaviour.

As this research explores the key actors involved in mountaineering tourism, it examines the learning opportunities in mountaineering tourism. The idea is that through their interactions, the key actors could perform environmentally responsible behaviour in their mountaineering activities. The government and respective institutions in mountaineering tourism, especially in mountainous national parks, can use this information to adopt appropriate regulations and management with the aim of assisting the actors to foster pro-environmental behaviour.

1.2 Problem statement

The environmental impact of mountaineering activity is very poorly understood, predominantly because research polygons are difficult to access (researchers need to use mountaineering skills) (Apollo, 2014). Additionally, literatures within this field of study are uncommon, especially when discussing the key actors involved in the mountaineering activity itself.

In undertaking mountaineering activities, such as building a campsite and making a bonfire, mountaineers/tourists and guides/porters influence the use of regional forests and the landscape of the national park (Stevens, 1993). Moreover, garbage from past tourism expeditions has been an ongoing concern for many years in almost every national park area (Brame & Cole, 2011). Even though the national park regulations require mountaineering expeditions and trekking groups to pack up and dispose of their waste appropriately, there are groups that still fail to comply. Consequently, there is a continuing accumulation of trash along the trekking trails, especially at mountaineers' base camps.

Reid, Sutton & Hunter (2010), strongly emphasise the importance of considering communities which is identifiable by heterogeneity (the diversity of actors), collective interest and shared social identity in relation to pro-environmental behaviour. In their research, they argue that the meso level (families and friends, social, community of practice, organisation), functions as an intermediary between the macro (social structures and values) and micro levels (human actor). To summarise, our closest relationships are believed to be highly important in driving pro-environmental behaviour. This is because a community member may germinate new behaviours both in individuals and groups. In this case, communities are referred to as groups of trekkers in mountaineering tourism and the actors' behaviour may influence the others' actions. Hence, I conclude that the activity in mountaineering tourism is where trekkers go on an expedition in a group. Because they are trekking in a group, there will be interactions, including exchanging information and knowledge which I consider to be social learning.

Social interaction is bound to occur, seeing as humans are social beings and susceptible to group pressure and social processes (Schultz & Kaiser, 2012), and moreover, interacting and learning from others is a part of the everyday life of social beings.

A further reason of why mountaineering tourism activities are suitable settings for social learning is because social interaction is one of the reasons why people engage in sports and

leisure. The result of Wen & Lin's (2012) study, reveals that the principal reason why mountaineers wish to be part of and immersed in nature is primarily because they want to interact with others. Their study mentions that some mountaineers want to enjoy the group experience and build interactive relationships with others, friends and relatives. Therefore, in this research, I propose exploring the social learning process of the key actors involved in mountaineering tourism, which may lead to pro-environmental behaviour in environmental issues regarding mountaineering tourism.

1.3 Research objectives

The objective of the present study is to investigate the possibility of fostering pro-environmental behaviour in the mountaineering tourism actors by assessing the process of social learning within mountaineering activities. This research aims to contribute to *academic knowledge* of social learning perspectives in pro-environmental behaviour in mountaineering tourism activities. The findings will also contribute to *practical knowledge* which can be used by the respective authorities to improve the management of the national parks where the mountaineering tourism is established.

2. Conceptual framework and operationalization

The framework on which this research is built provided the researcher with a pair of glasses to examine the issue and to answer the research questions. Mountaineering tourism, pro-environmental behaviour and social learning are the three key concepts in this research. Hence, this conceptual framework will focus on the operationalisation of these concepts.

2.1 Mountaineering tourism in national parks: key actors and environmental issues

In this research, I specifically describe the activities performed by the actors in Mount Rinjani National Park as mountaineering *tourism* activities. Firstly, this is because the national park partly serves as a tourist attraction (Gissibl, Höhler & Kupper, 2012). Secondly, in Mount Rinjani National Park, trekking organisers are commonly used by visitors, whereas in mountaineering activities, the mountaineers do not use such service providers. The regular mountaineering activities also demands active engagement from participants involving such activities as scrambling, rope-work, travelling across glaciers, etc (Pomfret, 2006). There are two points in relation to mountaineering tourism in national parks that I want to emphasise in this research: the key actors and environmental issues. The reason these two aspects are being brought up is because I want to know what the negative impacts in mountaineering tourism are in terms of environmental issues and how the key actors respond to it.

Initially, people climbed mountains for practical reasons, such as local people moving animals to pasture or conducting scientific experiments as scientists. Mountaineering as a means of adventure tourism began to thrive when people started to climb for pleasure. As Johnston & Edwards (1994) put it, “to refresh their spirit, to challenge their limits, to define the boundaries of survival, to live an adventure”. Fuelled by popular press publications and the development of transportation systems, everyone now can access national parks for recreational purposes. Johnston & Edwards (1994), categorise mountaineers as tourists, since they all introduce and reproduce the same socioenvironmental changes to mountainous tourism regions. In this research, I consider mountaineers and tourists, as well as local guides and porters included as the key actors in mountaineering tourism. To simplify the terms mountaineers and tourists, I use the term ‘visitors’ for both of them.

As the key actors in mountaineering tourism, visitors, local guides and porters go on an expedition group within days to complete the trip. Their everyday activities during trekking and staying/resting on a camp site are the biggest contributors to environmental issues (Geneletti & Dawa, 2009). On the one hand, mountainous protected areas are fragile, since the resources are vulnerable to rapid degradation, as they have been exploited as places for amusement and attractions for mass tourists (Nepal & Chipeniuk, 2005). But conversely, tourism in national parks has grown rapidly on a global scale and cultivates environmental transitions besides a number of negative connotations (Panzeri, Caroli & Haack, 2013).

In the previous chapter, I mentioned the four main environmental concerns regarding the impact of the growth in mountaineering tourism introduced by Johnston & Edwards (1994); specifically, garbage, sanitation, deforestation and the pollution of water supplies. The issues are overflowing garbage (e.g. rusted cans and plastics from packaged foods, spent fuel bottles,

toilet paper, even socks and underwear), sanitation (e.g. human faeces irresponsibly disposed of), deforestation (e.g. cutting wood for camp fires or camp sites, forest fires), and the pollution of water supplies (adverse repercussions of high-altitude dumps and chemical products carried by mountaineers) (Johnston & Edwards, 1994). From previous studies, there are cases where the pollution of water supplies includes the latrines of earlier expeditions (Boning, 1986). The *yellow snow*, typical temperate region mountains' phenomenon in which the snow is contaminated with the latrines of earlier expeditions, is a common problem on the more popular climbing destinations (Johnston & Edwards, 1994). To create more sustainable mountaineering tourism, there are expeditions, like "green climbs", which are organised to clear up rubbish. Participants at the Himalayan Adventure Trust Conference, as mentioned by (Johnston & Edwards, 1994) recommended that all non-biodegradable materials be taken away and disposed of appropriately.

When deforestation issues are being mentioned in mountaineering activities, we are not talking about deforestation on a massive scale but rather on a much smaller one. For example, porters cut wood for cooking or make camp fires and break the young trees to use as walking sticks (Imran, Alam & Beaumont, 2014). Therefore, in this research, I refer to deforestation as a 'wood use issue'. I will also use the term 'water source issue' instead of the 'pollution of water supplies' for a more neutral tone.

To conclude, there are at least four environmental issues in mountaineering tourism and self-control by the key actors that are required to preserve the protected areas (Apollo, 2014). Therefore, a study to examine the possibilities of the key actors engaging in pro-environmental behaviour within the predefined environmental issues is needed. This is in order to minimise the negative impact of mountaineering tourism and to prevent the protected areas from environmental degradation. In the following sub-chapter, pro-environmental behaviour in the predefined environmental issues in mountaineering tourism are discussed.

2.2 Pro-environmental behaviour in mountaineering tourism

According to Kollmuss & Agyeman (2002), pro-environmental behaviour is a behaviour that consciously seeks to minimise the negative impact of one's actions on the natural and built world (e.g. minimise the consumption of resources and energy, use of non-toxic substances, reduce waste production). Furthermore, Steg & Vlek (2009) summarise the concept of pro-environmental behaviour as a behaviour that harms the environment as little as possible, or even benefits the environment. The term is extensively used to explain human activities and their impacts on the environment in the realm of environmental psychology (Kollmuss & Agyeman, 2002; Sawitri, Hadiyanto & Hadi, 2015; Schultz & Kaiser, 2012; Halpenny, 2010).

In this research, I adopted the concept of pro-environmental behaviour from Kollmuss & Agyeman (2002), highlighting the effort to reduce the negative impact of mountaineering tourism activities, especially in mountainous national parks. This is because there are few literatures or studies that describe pro-environmental behaviour done by the key actors involved in mountaineering tourism, especially within the predefined environmental issues (e.i. garbage, sanitation, water source use, wood use). Desirable behaviours, which are seen as pro-environmental behaviours in each predefined environmental issue are discussed below.

In terms of the garbage issue, picking up litter (Brown, Ham & Hughes, 2010) and taking the trash away (Brame & Cole, 2011; Sastha, 2007), is considered as the appropriate behaviour in tourism in protected areas. Furthermore, Kurisu (2015), explains that several desirable behaviours in regard to reducing garbage are using reusable bottles instead of disposable ones and separating non-degradable and degradable waste. In their book, Brame & Cole (2011), state that leaving food scraps from cooking and eating, especially in large amounts, is inappropriate and undesirable behaviour. This is because food scraps can attract wild animals and moreover, are simply aesthetically displeasing. Burying food scraps is also considered ineffective because wild animals can smell them and dig them up. The best choice pertaining to pro-environmental behaviour regarding food scraps or other organic waste is to 'pack in-pack out' or bring it down and dispose of it suitably. To create more sustainable mountaineering tourism, there are expeditions, like "green climbs", which are organised to clear up rubbish. Participants at the Himalayan Adventure Trust Conference, as mentioned by (Johnston & Edwards, 1994), recommended that all non-biodegradable materials be taken away.

For sanitation, Brame & Cole (2011), suggest a cathole for the appropriate disposal of individual human waste. To note, a cathole is a shallow man-made hole, dug into the surface of the soil that is used to bury human waste. The cathole is advocated because there is a common belief, as mentioned in Brame & Cole's (2011) book, "soil microorganisms located in the organic layers close to surface decompose faeces in a short time rendering them harmless". To make a cathole, find a place that is out of the way. It can be near bushes or trees. Make sure it is far enough from drinking water sources, trekking trails and the campsite. After being used, the hole must be covered with soil and the surface camouflaged.

Toilet paper is the most commonly used material to clean up after defecating or urinating. If toilet paper is used, it is recommended to get by with the minimum amount and use non-perfumed ones to avoid attracting wild animals. As disposed and uncovered toilet paper can linger and disgust visitors as well as create possible health problems, it is best to put the used paper in a trash bag and take it away. The toilet paper can also be buried in a cathole along with the human waste. Toilet paper will most likely disintegrate within six months. Unbleached paper decomposes faster than bleached paper (Brame & Cole, 2011). To speed up the deterioration, the toilet paper should be disposed of along with the human waste and buried in a warm, dry place. For mountainous national parks in tropical countries like Indonesia, this method is extremely recommended. It is worth mentioning that compared to toilet paper, natural materials are better options, for instance pinecones or rocks. They should also be buried in a cathole. In some places, people use water to clean up after using the toilet.

The issues in relation to water source use sometimes become entangled with other environmental issues, like sanitation and garbage. From previous studies, there are cases where the pollution of water supplies includes the latrines of earlier expeditions (Boning, 1986). A further concern in water source use is the pollution of water supplies regarding the adverse effects of human waste and garbage on high-altitude (mountainous protected areas) and chemical products/substances (e.g. shampoo, soap, etc.) carried by mountaineers (Johnston & Edwards, 1994). From an impact point of view, Brame & Cole (2011), explain that it is important not to use soap at all while carrying out mountaineering activities because "even soap that is marketed as biodegradable may alter water's delicate pH balance and seriously affect aquatic plant and animal life by introducing phosphates and other chemicals". Thus, if soap is still preferred, use one that is phosphate-free and keep it away from streams, water springs and lakes.

In Yellowstone National Park, in the US, areas near campsites have a low density of tree saplings (Brame & Cole, 2011). This is because people are collecting wood for campfires. Most people that collect wood for campfires argue that they only collect downed wood. Even so, downed wood has an important role in relation to the forest ecosystem: food sources, protection and living places for many animals, seeing that as a substance that increases the diversity of the forest floor, it serves as a sink for nutrients for the soil (Brame & Cole, 2011). Therefore, it is advocated to just leave the wood as it is and not use it to make campfires, unless it is really necessary. Every national park has different regulations about the campfire. Consequently, it is best to always check with the local authorities.

The desired behaviours mentioned above are considered as pro-environmental behaviours in four environmental issues found in mountaineering tourism. These desired behaviours are used to assess the pro-environmental behaviour of the key actors, as an impact of the learning outcomes. A description of social learning is presented in the next sub-chapter.

2.3 Social learning: the process, outcomes and possible impact

In previous studies on the realm of mountaineering tourism, Pomfret (2006), considers the “heterogenous nature” of mountaineering tourism when studying mountaineering tourism. This premise was then used by Lai et al. (2016), wherein they identify that within mountaineering tourism, there are three resource groups that can be found; specifically, the mountain tourist (MT), professional and committed mountaineers (CM) and professional guides (PG). They offer adaptive co-management (ACM) with social representation as the theoretical framework to understand each stakeholder’s role and position in resource management. The identification of different key actors (MT, CM and PG) also presents the opportunity to study the dynamic of the key actors in mountaineering tourism and to use it to manage and regulate the resource via communication and learning.

The study conducted by Imran et al. (2014), provides the basic connection between the stakeholders in mountaineering tourism and the opportunity to foster pro-environmental behaviour in mountaineering tourism for this research. Their findings show that there are opportunities for stakeholders in national park tourism to engage in learning and information sharing to enable them to be environmentally responsible. This proposition strengthens this research whilst focusing on the interaction of the key actors in mountaineering tourism.

In this research, I focus on social learning, which in mountaineering activities the key actors should go in groups regarding the challenging landscape and the amount of days to travel. Reid et al. (2008), state that social learning is incorporated with pro-environmental behaviour at the meso level (families and friends, groups, community of practice). The underlying presumption is that our closest relationships are believed to be highly important in driving pro-environmental behaviour. When performing mountaineering activities, the expedition group is regarded as the closest relationship; thus, it can encourage group members to foster pro-environmental behaviour.

In classrooms, workplaces and in other group settings, individuals frequently learn by collaborating with others. This notion is supported by McGregor & Chi (2002) who claim that the study of collaboration focuses on the interactive processes that are thought to underlie

successful collaborative learning. In line with the idea of collaboration, social learning as defined by Beers et al. (2016), indicates that it is “a process of generating new knowledge that takes place in communicative interaction (turns of communicative actions and reactions)”. They argue that social learning occurs in everyday interaction settings rather than in formal educational settings, whereas in this research, social learning potentially occurs during mountaineering activities.

In McGregor & Chi's (2002) study concerning collaborative interaction, it is mentioned that for collaboration in the learning process to be successful, it must consist of interactive patterns. The interactive patterns are for example, peer observation, argumentation, self-explanation, knowledge sharing, and criticising. They explain that the interactions involve observing peers' strategies in solving a problem (observation); engaging in productive argumentation with the other interlocutors (argumentation); explaining what one's own thinking or opinion (self-explanation); providing and sharing new information (knowledge sharing) and providing a constructive critique to others (criticising). To add to the previous interactions that needs to be present in the learning environment, I also scrutinised the study undertaken by Beers et al. (2016), where they present types of interaction and link them to learning outcomes. The results of the study suggest that interaction patterns can be the foundation of sustainability in learning. These types of interactions are antithetic interaction, synthetic interaction, informing, word-of-power, agenda wars and conflict.

Beers et al. (2016), identify three social learning elements; specifically, knowledge, action and relations. These three elements must be presented during the learning process and should be aligned in order to be regarded as learning outcomes. Meanwhile, the learning impacts can be anything, depends on the learning environment. In their study, the impact of social learning is the innovation process, whereas in this study, the learning impacts that I looked for are pro-environmental behaviour. The interactions amongst key actors in mountaineering tourism, when they are undertaking their mountaineering tourism activities are regarded as the learning process.

In this research, I will use the work of McGregor & Chi (2002) and Beers et al. (2016) to examine the interactions between key actors in mountaineering tourism. The key actors' awareness of the issue, their relations amongst themselves and their relationship with the issue or with other key actors, and their actual action or their plan to do it in the future should be aligned in order to be regarded as learning outcomes. The key is the actions content. If at the end, the key actors do something or plan to do something in the future as a result of their interactions during mountaineering tourism activities, it will be regarded as learning outcomes. This is regardless of whether the outcomes were environmentally responsible or not. Pro-environmental behaviour is the desired learning impacts in this research. Therefore, I search for actions that lead or represent the desired behaviour in mountaineering tourism. The predefined environmental issues in mountaineering tourism were being brought up during the interactions. When the key actors have positive outcomes regarding the issues, it leads to pro-environmental immediate impact of the social learning.

2.4 Research question

Based on the aforementioned research objective and the conceptual framework, the main research question (MRQ) and sub-questions (SQ) are formulated as follows:

MRQ: How does social learning take place in mountaineering tourism and does it lead to pro-environmental behaviour?

SQ 1: What environmental issues in mountaineering tourism are raised by the key actors in the interactions during the mountaineering activities?

SQ 2: How do the key actors in mountaineering tourism bring up the environmental issues in their interactions during the mountaineering activities?

SQ 3: What are the social learning outcomes of the key actors from those interactions in regard to environmental issues in mountaineering tourism?

SQ 4: What are the pro-environmental immediate impacts demonstrate by the key actors in mountaineering tourism?

The following section will elaborate upon the use of the conceptual framework to answer the research questions.

2.5 Operationalisation of the conceptual framework

The figure 1 below demonstrates the analytical framework which I used in this research to answer the research questions. The dotted line means that I am not directly studying pro-environmental behaviour, but more as an impact from outcomes of the social learning.

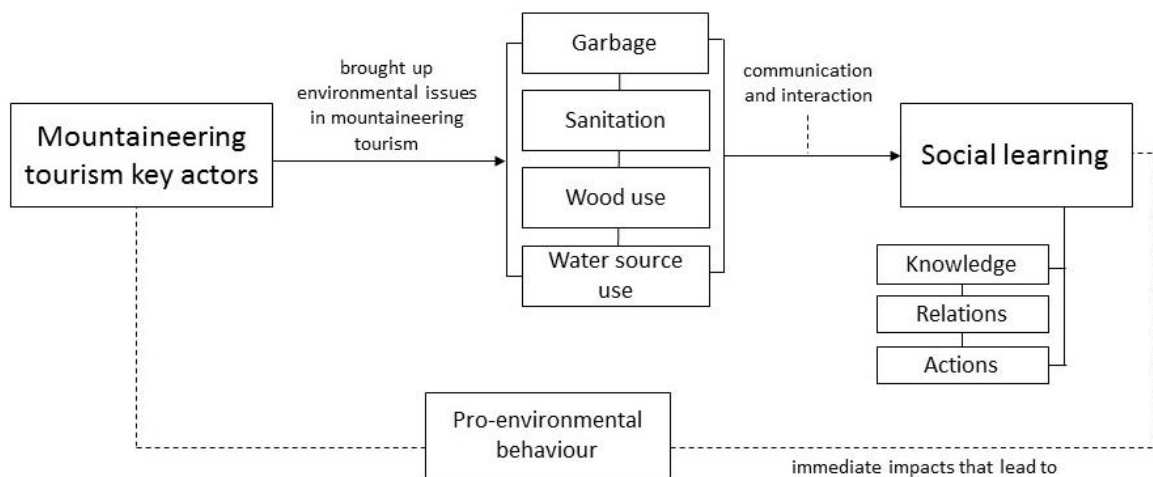


Figure 1. Proposed research framework of 'Social Learning in Mountaineering Tourism Towards Pro-Environmental Behaviour' (Beers et al., 2016; Johnston & Edwards, 1994; Kollmuss & Agyeman, 2002).

From the proposed research framework, I categorised the three levels of analysis which represents the main concepts of this research: social learning and pro-environmental behaviour as an impact from learning outcomes. Table 1 below shows the variables and scope of the analysis used for the operationalisation of the research:

Table 1. Operationalisation of the research: variables and scope of the analysis.

Variables of the Analysis			Scope of the Analysis
Social learning	Process	Communication and interactions	Interactions that the key actors performed during the mountaineering activities when they brought up the environmental issues. McGregor & Chi (2002) and Beers et al. (2016) provided the basis for examining interactions which are the following patterns: peer observation, argumentation, self-explanation, knowledge sharing, criticising, antithetic interaction, synthetic interaction, informing, word-of-power, agenda wars, and conflict.
	Outcomes	The alignment of conceptual content, relational content and action content	<p>To be counted as social learning outcomes, the key actors' knowledge and relations should be aligned and manifested in the real action or at least be discussed as a decision/possibility to accomplish (intention).</p> <p>- Conceptual content includes any statements which described the initiative and problem statement of the environmental issues found in mountaineering tourism.</p> <p>- Relational content was coded if the informant's story or statement mentioned the relationships between actors in mountaineering tourism and their positions/responsibilities in the group regarding handling environmental issues in mountaineering activities.</p> <p>- Action content was identified by any story or statement from the informant which includes any actual decision or an opportunity(option intention) for action in solving environmental problems in mountaineering activities.</p> <p>When the actors had a new idea on how they would treat the environmental issues, but they did not link it to the option of how to do it and they also did not see how as a group they could solve the problems, it was not regarded as social learning outcomes.</p>

Pro-environmental immediate impacts	Environmental issues in mountaineering tourism	Garbage	<p>- Members of the group responsible for their own litter besides the group's accumulative garbage;</p> <hr/> <p>- All non-biodegradable materials are taken away by the expedition groups and biodegradable waste can be buried;</p> <hr/> <p>- Any litter found during the mountaineering activities is being picked up and brought down.</p>
		Sanitation	<p>- Human waste (faeces and urine) is disposed of properly by burying it at least 20cm below ground level (Apollo, 2016);</p> <hr/> <p>- If using tissue, only use biodegradable tissue, which is buried as well;</p> <hr/> <p>- The disposal is far enough from camping areas, the water supply and trekking trails;</p>
		Wood use	<p>- Building a campfire is allowed in some national parks with regulations, but it is recommended that a campfire is built only when it is necessary;</p> <hr/> <p>- Wood for the campfire should follow the rules. It could be collected from the area;</p> <hr/> <p>- Woods/trees should not be chopped down.</p>
		Water source use	<p>- In water springs, using biodegradable or natural cleaning products. For example, baking soda, lime or honey for washing the face; betel leaf for brushing teeth or simply not washing your face and brushing your teeth with water only.</p>

3. Research design

Regarding the research design, Mount Rinjani National Park is utilised as the case study. Moreover, the use of interviews and participant observation as data collection methods and how the data analysis was conducted are explained. The research was conducted using qualitative approach with a single case study in Mount Rinjani National Park, Indonesia. Table 2 below indicates how the data sources and data collection answered the research questions.

Table 2. The relationship between the research questions, data sources and data collection method.

Research Questions	Data Sources	Data Collection
MRQ: How does social learning occur in mountaineering tourism. Does it lead to pro-environmental behaviour?	Interview transcripts Field notes	Semi-structured and in-depth interviews Participant observation
SQ 1: What environmental issues in mountaineering tourism are raised by the key actors in the interactions during the mountaineering activities?	Interviewees' remarks during the interviews and field notes from participant observation, which contain garbage, sanitation, wood use, and water source use issues.	Semi-structured and in-depth interviews Participant observation
SQ 2: How do the key actors in mountaineering tourism bring up the environmental issues in their interactions during the mountaineering activities?	Interviewees' remarks during the interviews and field notes from participant observation of the behaviours and speech that they performed during the mountaineering activities which involve social interactions.	Semi-structured and in-depth interviews Participant observation
SQ 3: What are the social learning outcomes of the key actors from of those interactions in regard to environmental issues in mountaineering tourism?	Information from SQ 2 is followed up with questions to indicate whether the new/changed knowledge/ideas, relations and actions are interlacing regarding the environmental issues in mountaineering activities. For example: - Knowledge: The actors are aware that there is a great deal of garbage near the resting and campsite areas; - Relations: One of the group members suggested that everyone should be responsible for their own garbage; - Actions: Each of the group agreed to bring down the non-degradable waste, while the organic waste is buried near the campsite.	Semi-structured and in-depth interviews Participant observation

SQ 4: What are the pro-environmental immediate impacts demonstrate by the key actors in mountaineering tourism?

Information from SQ 1, 2 & 3 is followed up with questions to indicate whether all the environmental issues that they found and all the conduct that they completed during mountaineering activities make their (and/ planned to do) behaviour more environmentally friendly and how.

Semi-structured and in-depth interviews

Participant observation

3.1 Case study area

The research was conducted in Mount Rinjani National Park which is situated in the Mount Rinjani complex on Lombok Island, Indonesia, as depicted in figure 2 below. Mount Rinjani National Park was established in 1997 (Taman Nasional Mount Rinjani, n.d.) and comprises 41,330 hectares of land approximately that is managed by the Ministry of Environment and Forestry. It is one of the largest parks includes the third highest volcanic mountain peak in Indonesia. Mount Rinjani National Park is known for its accessible wildlife and picturesque landscape (Cochrane, 2006). The visitors take around 3-5 days to complete a trek in Mount Rinjani National Park, while enjoying its scenery. Due to the challenging nature, the national park suggests that groups of visitors are accompanied by local guides and porters. This setting may then allow social learning to take place during the mountaineering activities.



Figure 2. Map of Mount Rinjani National Park and its surroundings (Myers & Bishop, 2005).

Mount Rinjani National Park is selected to represent a case of social learning in mountaineering tourism regarding pro-environmental behaviour because of its characteristics of protected mountainous areas and its growth in mountaineering tourism. Amongst the other national parks in Indonesia, Mount Rinjani National Park generates some of the largest income.

This is primarily derived from entry tickets and tourism attractions, which produces around R4,476,745,000 (Directorate General of Ecosystem and Natural Resources Conservation, 2015).

Figure 3 below illustrates that the number of visitors in Mount Rinjani National Park for mountaineering tourism within the last seven years has significantly increased (Balai Taman Nasional Gunung Rinjani, 2017), although the environmental problems caused by the tourism activity have also continued to rise. It reveals that Mount Rinjani National Park is an important destination in the light of mountainous protected areas in Indonesia. The data was taken in November 2017. Therefore, the number of visitors in 2017 was expected to increase.

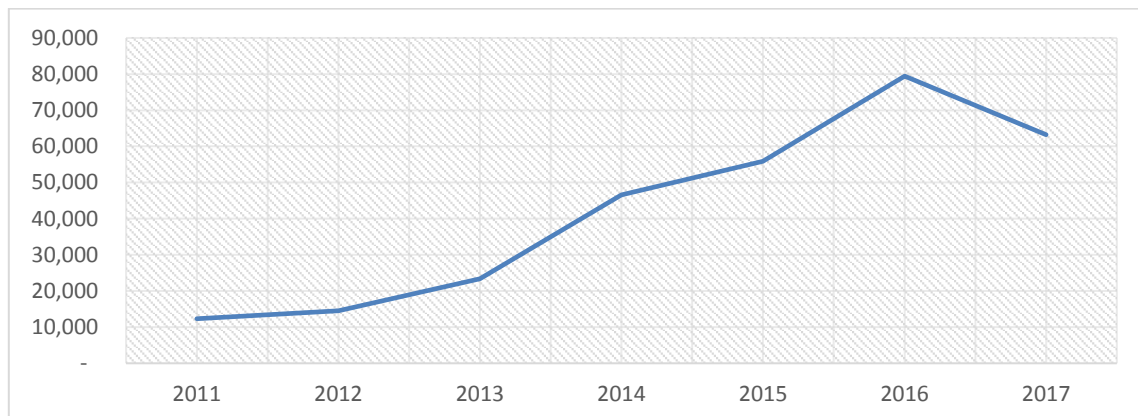


Figure 3. Visitor numbers in Mount Rinjani National Park from 2011 until 2017 (Balai Taman Nasional Gunung Rinjani, 2017).

As shown by figure 4 below, the growth of foreign visitors in mountaineering tourism is relatively steady compared to local visitors. Local visitors were outnumbered by foreign visitors over the last several years, except for the years 2014, 2015 and 2016. In 2017, the number of local visitors declined, whilst the number of foreign visitors continued to grow. This fact will contribute to the recommendations, because if the number continues to rise, it will affect the positions of porters, guides and foreign visitors in terms of social learning and pro-environmental behaviour in mountaineering tourism.

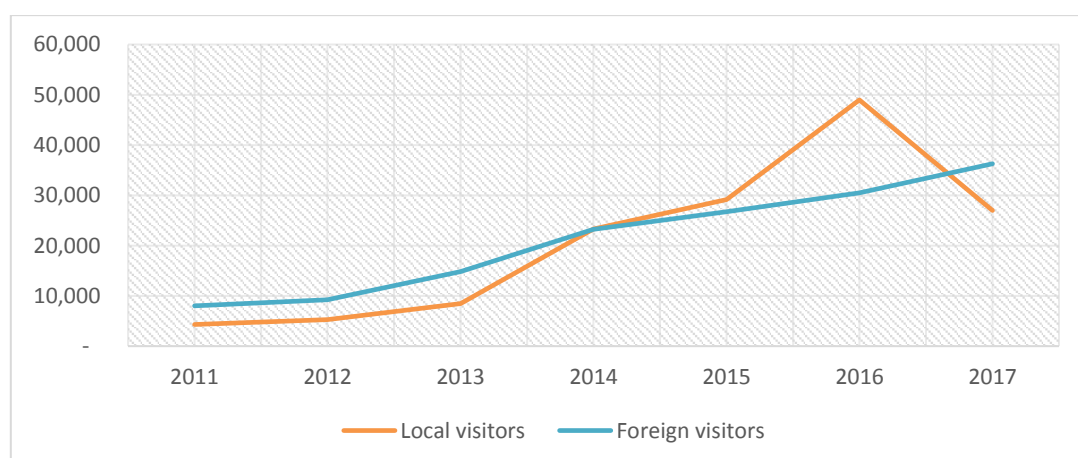


Figure 4. The number of local and foreign visitors in Mount Rinjani National Park from 2012 until 2017 (Balai Taman Nasional Gunung Rinjani, 2017).

3.2 Data collection

This research was orchestrated using two methods of data collection which complement each other: personal interview and participant observation. Convenience sampling was used as the sampling design due to time constraints, accessibility and geographical proximity. Data were collected from mid-November to the end of December 2017, prior to Mount Rinjani National Park being closed until early 2018 due to heavy rain as a result of the 'wet' season.

3.2.1 In-depth and semi-structured interviews

The gist of the in-depth interview as stated by Baxter & Babbie (2004) is to understand the informant's perspective on various circumstances or experiences, in a detailed manner. This is also emphasised by McGehee (2012), who asserts that "interviewing is valuable when the researcher wants to capture an informant's ideas, thoughts and experiences in their own words". As a researcher, I have also developed good listening skills and to be very attentive to non-verbal cues. The semi-structured interview is chosen instead of the structured interview to gather and explore related topics which might not be identified in the literature review. The aim of the qualitative study is to explore diversity. Hence, sample size and sampling strategy do not really matter in the selection of sample because the data can be collected until it reaches saturation point (Kumar, 2014). However, there are studies which demonstrate that 'saturation' is largely achieved after 12-16 interviews, especially in relatively homogeneous groups (Galvin, 2015; Hagaman & Wutich, 2017). Additionally, I used a set of open-ended questions in my interviews.

The interviews were undertaken with 20 individuals from several expedition groups, whilst three group interviews were conducted via face-to-face interviews after they completed the mountaineering tourism activities and by way of WhatsApp calls, seeing as many of the visitors did not have much time to stay and had to move on to other destinations. For the face-to-face interview, I met the interviewees at a resting place near the end gate and at the authorities' office where the guides/porters report back (there are two end gates in Mount Rinjani National Park: Senaru and Sembalun).

An audiotape was used to record the interviews. I wrote down any significant non-verbal information with the consent of the informant. Their anonymity and confidentiality also assured to permit participants to express what they think and what did really happen (Russel, 2015). The interview gave me the informants' point of view of what happened during the mountaineering activities, which led to pro-environmental behaviour as an impact of the social learning. The detailed action and speech were examined in the participant observation method.

3.2.2 Participant observation

The use of multiple methods for data collection is highly encouraged to improve the validity and reliability of the research (Dobbert, 1982). In this research, the personal interview was corroborated with more in-depth analysis from the participant observation. In the participant observation, the researcher interacted with people and took part in the daily activities, rituals, interactions and events in their regular, natural setting in favour of learning more about the obvious and *not-so-obvious* aspects of their routines and culture (Kawulich, 2005; Ribeiro & Foemmel, 2012; DeWalt & DeWalt, 2011).

For this research, participant observation was used as a backdrop to the interviewing method. It allowed me to connect with the informants and their activities, to build a better rapport, and to enhance my understanding of the occurrences investigated by means of the interviewing method (DeWalt & DeWalt, 2011). The participant observation process may sound simple: sit, listen, observe, record (Reger, 2001), nevertheless, the researcher can easily be too involved in the process. Berg (2004), addressed that the presence of researchers in the study setting may influence what occurs, due to their presence. From Reger's (2001) 'failed' research project, it is noted that in order to minimise the ethical violence of participant observation, I should not be emotionally affected by the subject of the study.

Given the time constraint due to the wet season, which meant the national park was closed and the journey time to Mount Rinjani National Park took around 3-4 days to complete, I only joined their activity in the resting area or a camp site. I was involved with five expedition groups. During the observation, I took field notes and some photographs. The unit of analysis was the individual respondent and their interactions in social learning.

As the interactions typically transpired when the group was resting or staying on a camp site, field notes was taken during that time. Given the time constraint and challenging landscape, I was only able to observe several activities regarding the predefined environmental issues. For example, I witnessed that there were people who used wood as tent pegs but did not really witnessed the actual interactions that led to the action. Therefore, I made sure about the action in the interviews and sought to look for the patterns in the interviewees' words.

The detailed jot notes consisted of crucial remarks concerning specific events or conversation, non-verbal expression and gestures, patterns of actions, as well as situational circumstances in the activities. For example, small talk during resting time in the campsite, direct questions when setting up a campfire or looking for a water supply, and moreover, an observation regarding how the other members of the expedition handle their own garbage/human waste. The data from the participant observation offers a more comprehensive understanding in regard to actions and patterns during the mountaineering activities.

I undertook the participant observations to search for patterns in key actors' actions in the predefined environmental issues, regarding their interactions and what they did as actions that has pro-environmental immediate impacts, whilst the interviews were used to examine the link between their interactions, relationships and their actions during the mountaineering activities. I regarded action as something that they did when they were doing mountaineering activities and behaviour as recurring actions. For example, when the interviewee said that he put his garbage in the trash can instead of bringing it down (action). In the interview, I tried to ask whether he had already done it beforehand or planned to do it again in the next trip (behaviour). In this research, I only study the outcomes of social learning (actions) that has pro-environmental immediate impacts in mountaineering tourism.

3.3 Data analysis

Prior to starting the data analysis, I reflected on the research and ensured the validity and reliability of the data by sharing the transcribed interviews and observational notes comprising the information with the informants to confirm it and gain their approval. Various photographs which were taken during the participant observation are also evidence of the validity and reliability of the information. All interviews transcripts were examined relating to audio recordings to achieve more accurate data. Additionally, certain data were translated into English given that the informants were from Indonesia, which is a non-English speaking country.

ATLAS.ti software and Microsoft Excel were utilised to assist me to systematically analyse and organise the transcripts. I developed a coding system by using category methods based on literature reviews and the operationalisation of the research. A deductive-inductive approach was subsequently used for content analysis. In contrast, the field notes from the participant observations were analysed via description and interpretation into categories based on the operationalisation of the research to support the findings obtained from the interviews. According to Guba (1978), if any 'regularities' emerge in the data, they should be arranged into categories based on 'internal homogeneity' and 'external heterogeneity'. Guba further explains, as mentioned in Obijiofor (2010), that "internal homogeneity is the extent to which data that belong to a particular category are similar and external heterogeneity indicates the degree to which the differences among categories are apparent". This note was considered when analysing the data.

In coding the social learning process, interactions were identified from informants' remarks during the interview and field notes from the participant observations to examine the process of social learning. For example, when the interviewee's story indicated an explanation of why he performed such an action and the other person who asked about it first can accept his behaviour, it is classified as self-explanation; or when a person censured her fellow in the group for using a chemical substance at the water spring, her interaction is categorised as criticising. To examine social learning outcomes, I examined the connection between the knowledge (knowledge of the situation or the issue), relationships (relationship between the subject and the issue) and actions (things that people actually do or plan to do) that the actors projected onto their interactions and actions to code an outcome from the social learning. Learning outcome that leads to pro-environmental behaviour is coded when the interviewees describe the desired actions, as previously explained in table 1, in mountaineering tourism activities as something that they did and, which they planned to do again in the next trip.

The next chapter presents the results of the qualitative data collection. The structure of the chapter is based on the research questions. First, the actors that were being studied in this research will be introduced, followed by the environmental issues that were raised by the actors during the mountaineering tourism activities. This is subsequently followed by an explanation of the types of interaction that took place between the actors, while the social learning outcomes that occurred during the interactions are discussed. To conclude, the impact of social learning concerning pro-environmental behaviour is elaborated upon.

4. Mountaineering tourism in Mount Rinjani National Park and its environmental issues

The actors in mountaineering tourism who are the principal subjects in this research; specifically, local and foreign visitors, porters and guides will be described in this chapter. This is to give a lead-in to the characteristics of each actor and the genuine situation concerning mountaineering tourism in Mount Rinjani National Park. Getting to know the actor's profile is vital because it is linked to what environmental issues they talked about, why did they raise the issues and how the interactions took place during the activities. Even though this sub-chapter does not directly answer the research questions, it helps to rationalise the other sub-chapters that specifically elaborate upon the research questions. The profile data were based on literature, participant observation and interviews.

On a larger scale, numerous actors are involved in mountaineering tourism in Mount Rinjani National Park. For instance, the Mount Rinjani National Park authorities, tourism service providers that are under the local tourism service providers association, guides and porters, as well as visitors (both local and foreign). Each element has a different role and position in mountaineering activities in Mount Rinjani National Park and is interlinked with each other. Amongst these actors, guides, porters and visitors are the ones who carry out the mountaineering tourism activities inside the national park areas. Looking at their activities—trekking, building campsites, cooking, even leaving faecal material—in Mount Rinjani National Park, they are the main direct contributors to the environmental issues in the national park areas (MU, forest ranger in Mount Rinjani National Park, 21 December 2017; GU, Chief of Senaru Resort of Mount Rinjani National Park, interview, 26 December 2017; fieldnotes, 15 December 2017). Thus, they are the key actors involved in mountaineering tourism in Mount Rinjani National Park to focus on. First, let us investigate how mundane activities are usually performed at the national park office, then examine the profiles and activities of the foreign visitors, local visitors, guides and porters.

4.1 Mountaineering tourism actors in Mount Rinjani National Park

To enter Mount Rinjani National Park, visitors have to buy the entry ticket at the national park office manually. At the ticketing desk, the visitors were divided into two: local and foreign visitors, as shown in figure 5. Moreover, the price of the entry tickets and the treatment of both the local and foreign visitors was different (fieldnotes, November 22, 2017). Foreign visitors paid more than the local visitors for the entry tickets and they were expected to hire a guide and porters. Generally, they had already signed up with a local tourism service provider or a TO (*trekking organiser*). The TO organises all the equipment and necessities for the expedition, including hiring a guide and porters.

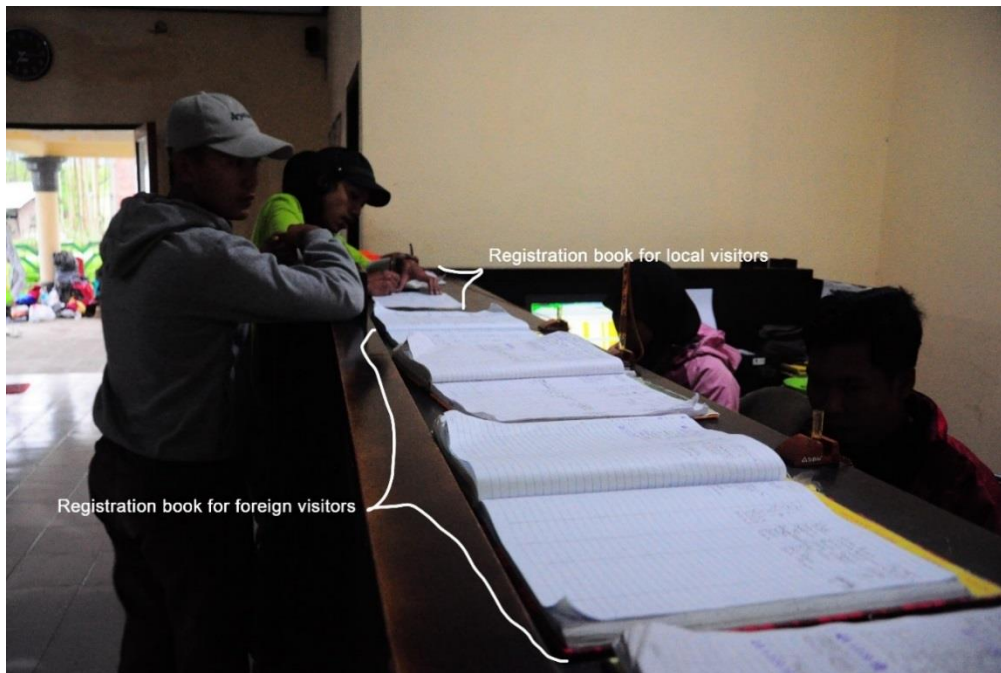


Figure 5. The ticketing desk in Sembalun Resort office, Mount Rinjani National Park.

4.1.1 Foreign visitors

According to my foreign interviewees, they had already planned ahead for the trip and prepared for the expedition. Two foreign interviewees made the following comments:

“We kind of made up our mind already that we wanted to climb Rinjani, so we just Googled it. We found our tour organiser on the internet” (RU, foreign visitor, interview, 18 January 2018).

“We got most of our info from the internet because we were already prepared” (SI, foreign visitor, interview, 21 January 2018).

Furthermore, other foreign visitors, according to my interviewees, were not prepared at all and did not really know what they would do at the national park. Their equipment was occasionally incomplete and inadequate for mountaineering activities.

“Others in our group, the Australians and the one from New Zealand, had no idea what they signed up for. To be honest, they were not prepared at all and didn't really know what they were going to do over there. They wore casual shoes for trekking in that kind of landscape” (SI, foreign visitor, interview, 21 January 2018).

Foreign visitors are encouraged to hire guide and porter for their trip. Guide and porter will take care of their needs and mountaineering equipments, such as tent, sleeping bag, even trekking pole. Figure 6 below shows camping site arrangements of foreign visitors.



Figure 6. Foreign visitors' tents set up and equipped with toilet tents. The grey tents are the porters and guides' tents.

A group of foreign visitors typically consists of a guide, porter (the number can vary depending on how many people are in the group), and foreign visitors (the number of visitors ranged from two to ten people) (fieldnotes, 16 December 2017). Many of them had just met each other for the first time prior to undertaking the trekking.

"We were six people in the group. My boyfriend and me. There were also two Australians, also a couple, and two other people from Singapore. Yeah, we just met them there really briefly" (KI, foreign visitor, interview, 2 January 2018).

When they were communicating with their friends, they commonly used their native language. However, when they had to interact with different nationalities in the group, they used English. Even with the porters and guides, regardless of the language limitations (fieldnotes, 15 December 2017).

4.1.2 Local visitors

The situation was the opposite with the local visitors. They usually knew their expedition members beforehand. Local visitor interviewees said that they knew the members of their expedition group from school, work, and even from previous mountaineering activities (fieldnotes, 20 December 2017).

"We were with five people. We knew each other from work" (WI, local visitors, interview, 21 January 2018).

"We knew each other from our previous mountaineering activities. There were also several people we met on social media and ended up arranging this trip together" (MA, local visitors, interview, 23 December 2017).

Additionally, a few of them also met random people on the spot prior to going on the expedition and decided to have a joint group.

“We met Bang Iyud at the resting area in post 2. We had a chat while resting. He was trekking alone, so we invited him to join us” (local visitors, group interview, 21 December 2017).

It should be mentioned that the national park authorities did not encourage the local visitors to hire guides or porters as much as the foreign visitors. Notwithstanding, some of them hire porters to carry their belongings (fieldnotes, 23 December 2017), as one of the interviewee also mentioned:

“We hired a porter to carry the equipment, like tents and food” (WI, local visitor, interview, 21 January 2018).

Unlike foreign visitors, local visitors usually arrange their mountaineering equipments themselves and divide their load within members of their expedition group as seen in figure 7.



Figure 7. A group of local visitors packing their belongings to go down having camped for a night at the crater rim campsite.

Local visitors shared the same native language within their expedition group. Consequently, they experienced no difficulties in interacting with each other in the group. Occasionally, local visitors connected with other people in different expedition groups, even with porters and guides who were not in their group (fieldnotes, 14 December 2017).

4.1.3 Guides

The guide is responsible for leading the expedition group. They have to coordinate with porters regarding expedition supplies and accompany the visitors, *or guests* — their term for visitors who use their service/hire them — in assisting them with their needs and answering their questions. The guides generally take care of all the guests communication needs. One of the guides mentioned that even though guides do not take heavy equipment like the porters, they have a huge responsibility with respect to taking care of the guests. For example, the safety of

the guests is in their hands, which means a matter of life and death. Thus, if something happens to the guests, the guide will be accountable for it (DI, guide, interview, 10 December 2017).

4.1.4 Porters

In an expedition group, two or more porters usually work together with one guide. They receive orders from the guide: what should they do; what should they cook for the guests; where should they erect the tents; where should they put the toilet tent, etc. From the interviews with porters, guides and visitors, it is evident that the porters are the ones who take care of everything, from bringing the belongings and cooking the food, as seen in figure 8 below, to setting up the tents and handling the garbage.

“The porters took care of all the equipment and needs: tents, mattresses, sleeping bags, also the food and the trash” (SI, foreign visitors, interview, 21 January 2018).



Figure 8. A porter serving out lunch to foreign visitors at the crater rim campsite.

Guides and porters are people who work in a service industry. They will unquestionably attempt to serve the guests as best as they can. This is also partly because they have their eyes on a good tip and a good reference for their service, as narrated by one of the interviewees:

“We’re aiming for customer satisfaction. If we want to get tips, our service should be on-point” (NA, guide, interview, 19 December 2017).

After each key actor in mountaineering tourism in Mount Rinjani National Park and their profiles have been introduced here, the following sub-chapter, will explore the environmental issues raised by the actors, which occur during mountaineering activities.

4.2 Environmental issues raised by the actors

This chapter expands on the findings related to SQ 1 and examines the environmental issues that emerged in the interaction during the mountaineering activities. There are five issues present in this sub-chapter; specifically, the garbage issue, sanitation, water source use, wood use, as well as wildlife and landscape issues. The four initial issues were already predefined in the conceptual framework, whereas the latter issue was found during the fieldwork. These environmental issues were examined from 20 personal interviews and 3 group interviews. When the actors discussed environmental issues during mountaineering tourism activities, the topic did not appear out of thin air. Hence, there must be something that provoked the conversation. Therefore, besides discussing the issues, the triggers that cause them to comment on the environmental issues will also be explained.

4.2.1 Garbage

Garbage was the first topic that the interviewees mentioned when they were asked whether environmental issues were discussed within the group during the mountaineering activities. The issue of garbage came up the most amongst the interviewees at the crater rim campsite — Plawangan Sembalun and Senaru — and at the resting places along the way. Several of my interviewees brought it up in the group and discussed it with their friends or significant other, whilst a few other interviewees sought to ask their guide about the garbage as follows:

“At the place where we camped we saw trash that I think got thrown down by the monkeys. You can see it all over the hill and of course we talked about that mostly with Kim. It was also because we try to live as environmentally friendly as possible and it's always a big issue when we go to the mountains to always bring your stuff back to the base camp. So, of course we talked about that and of course it looked kind of trashy up there” (SI, foreign visitors, interview, 21 January 2018).

“When we went to the top and finally got there at the end of day one and you are charged for getting there. But the beautiful view is kind of spoiled by all the plastic that's laying around; all the garbage that's there. We sort of tried to bring it up with our guide. His English wasn't really good enough to explain most of it” (RU, foreign visitor, interview, 18 January 2018).

Interestingly, the guides and porters who were part of my interviewees never raised the issue first, seeing as they were embarrassed by the amount of garbage discarded in the mountains. Their guests were always the ones who initiated the conversation concerning the very apparent garbage at the crater rim campsite. The porters and guides' remarks were spoken with a degree of embarrassment about the garbage being present there, as can be noted in the comment below:

“The guests often brought up the issue, especially about garbage. They asked the guide, “Why is there so much trash here?” Sometimes the guides didn't know what to say because they felt so embarrassed about all this trash, especially at the crater rim” (FA, porter, interview, 20 December 2017).

Other environmental issues emerged when I dug deeper during the interview. This was merely because they were not aware that they were talking about environmental issues. For example,

when my interviewees asked someone about the water source and how to get there, unconsciously they were talking about environmental issues.

"We excused ourselves if we wanted to do our business, just in case anyone was looking for us. Sometimes we asked the direction of or the best place to make a cathole. After that, if we found something that was really annoying, like the available latrine was too dirty and smelled awful, we brought it up during a short talk in the group, but not much. Just to give the others a heads-up" (NU, local visitor, 23 December 2017).

"I told my friend not to use his facial wash because it contains chemical substances. We shouldn't let the chemical substances get into the water stream" (AM, local visitor, interview, 13 December 2017).

"It was pretty much about the garbage, especially in Rinjani. Everything else was fine" (MO, guide, interview, 12 December 2017).

To give an image of how serious the actors regarded this garbage issue, when I tried to ask about other environmental issues, one of the local visitor interviewees emphasised his concerns regarding the garbage issue as follows:

"I didn't really notice the sanitation or the toilet. What concerned me the most was the garbage issue. It was pretty awful up there" (AM, local visitor, interview, 13 December 2017).

Guide interviewees mentioned that their guests participate in mountaineering tourism activities for leisure. Thus, the last thing they have on their minds are environmental issues, unless something had triggered it.

"During our activities, like trekking, our guests usually ask things related to the mountain itself, like when it last erupted. Or, something related to our activities, like when are we going to reach the campsite. They didn't seem to care about the environmental issues, especially because we were already tired" (AG, guide, interview, 19 December 2017).

"People are coming here to feel refreshed, not to talk about environmental issues" (MO, guide, interview, 12 December 2017).

This point of view is also supported by one of the local visitor interviewees, who said that everyone who did the trekking was exhausted, which lessened their concern about other issues, including environmental issues. Their focus was only to alleviate their tiredness. So, to talk about environmental issues, someone or something needs to raise it in the conversation (MA, local visitors, interview, 23 December 2017).

The presence of garbage cans, as shown in figure 9, in the resting areas generated discussions amongst the visitors. Not only within their group. For example, several local visitors whom I interviewed, also posed questions to the guide or porter about their surprise and irritation regarding the garbage cans in the mountains. When I joined several expedition groups comprising local visitors, I noticed they had discussions about why there were garbage cans in the mountains, seeing that each visitor should take their trash away (fieldnotes, 14 December 2017). This was predominantly because they used to take their garbage away when undertaking mountaineering activities. But with the garbage cans being up there, it was as if it was okay to leave your garbage up in the mountains.

"We talked about it when we got to the crater rim, where we built the camp. Our tent was kind of right next to all the garbage cans, where all the monkeys pulled everything back out" (RU, foreign visitor, interview, 18 January 2018).

"We saw trash cans at post 1, Sembalun. Joko saw it first, then we started to talk about it. We even questioned ourselves whether there should be trash cans in the mountains. It is better for the mountaineers to take their trash away, so that they can be more responsible" (NU, local visitor, 23 December 2017).



Figure 9. A garbage can at the crater rim near the campsite with garbage discarded around it.

Being the most discussed environmental issue during the mountaineering activities, garbage is perceived by the actors as the most critical environmental issue in Mount Rinjani National Park. Besides the apparent presence of the garbage, especially in the crater rim and other resting places, garbage cans also provoked discussions amongst the actors. Even though talking about environmental issues was not the foremost choice for people to talk about during their mountaineering activities, the subject of garbage was still being considered a great deal. The following sub-chapter will also present other environmental issues that the actors deliberated during their activities, though these issues were not as heavily discussed as the pressing issue of garbage.

4.2.2 Sanitation

When we are travelling, the issue of our bowel movements is problematic, especially when moving about the wilderness. Therefore, one of the guides I interviewed said that from his experience, the most important thing is to be polite to the guests because it is a sensitive yet crucial factor (AG, guide, interview, 19 December 2017). Therefore, they — the guides and porters—always try to take a toilet tent, as shown in figure 10, as part of their service.



Figure 10. A toilet tent erected by the porters for their guests.

Other than the garbage issue, most of the interviewees mentioned that situations regarding sanitation, water source use, wood use, besides wildlife and the landscape was something that they already expected. Therefore, they did not have much to say about it. As a foreign visitor I interviewed said when I asked him about his concerns about defecating or urinating in the mountains:

"I guess when everybody is camping you have to find a way" (SI, foreign visitors, interview, 21 January 2018).

One of the foreign visitors interviewed also stated that defecating or urinating in the mountains was not a problem for her, even though the situation was different from where she came from. Then she emphasised that the problem is the number of people that visit the mountains because there are too many at times.

"I think peeing is not so much of a problem. And the other thing. I have never had an issue with actually, because sometimes we have some huts in the mountains and there's toilets there. The situation is different here, but I think it wouldn't be a problem at all. But there are so many people and yeah it becomes a problem of course" (KI, foreign visitor, interview, 2 January 2018).

From what I understood, foreign visitors do not appear to have a problem with 'taking care of their business' up in the mountains, as their porters had already prepared the toilet tent for them. Meanwhile, the local visitors had to go to the bushes and 'do their business' there. Thus,

their conversations around sanitation were about asking for directions to the nearest bushes or the conditions, and whether or not it was already full of human faecal material.

“When I saw my friend walking away from the tent and going to the bushes, I asked him where he was going and what he was going to do. He then answered that he wanted to defecate and pointed to a place behind the bushes. After he came back, I asked him about the situation there, and whether or not it was already full. He said yes. The conditions were awful” (NU, local visitor, interview, 23 December 2017).

Besides asking for directions, the conversation concerning sanitation also triggered something. One of local visitor whom I interviewed said that when he saw his friend — another local visitor in his expedition group — he was carrying a small shovel somewhere. It turned out, his friend was going to the bushes to defecate and the small shovel was used to make a cathole — to dig and bury his faecal matter. He ended up borrowing the small shovel to make a cathole for himself (RY, local visitor, interview, 12 December 2017). Another local visitor interviewee mentioned that he and his group discussed the toilet tents they encountered in the campsite (MA, local visitor, interview, 23 December 2017).

As for the guides and porters, the conversation as regards sanitation was related to the toilet tent and where it should be erected for the guests to use (JE, porter, interview, 20 December 2017; FA, porter, interview, 20 December 2017; AG, guide, interview, 19 December 2017).

4.2.3 Water source issue

In several cases, the issue of water source was entangled with other environmental issues, namely garbage and sanitation. Several of my interviewees said that the water spring was dirty and they found a lot of garbage laying around it. Moreover, people also defecate near the water spring and leave it uncovered, which is annoying and unsightly. This matter invoked a discussion as mentioned by a porter when I asked about the water source issue:

“When a colleague and I walked to the water spring to get water, sometimes we encounter human faeces. We talk about it, of course, mostly in anger. I once said to my colleague, “what were they thinking of leaving such an awful thing by the water spring when they know a lot people rely on this as a water source.” Whoever they were, they are so mean and heartless. I hope they are banned from going to the mountains if they do not change their attitude” (JE, porter, interview, 20 December 2017).

One of the porters I interviewed backed-up the previous statement with an added point and blamed the local visitors for these incidents.

“In the wet season like nowadays, we don’t have any problems with the water spring. It is a little bit dirty. There is a lot of garbage in the surroundings. Local visitors are the ones to blame. Sometimes they even defecate near the water spring” (FA, porter, interview, 20 December 2017).

The issue of garbage and human faeces in the water spring was also addressed by one of the guides who works with foreign visitors. His guest asked why people defecate near the water spring. He said that his guest followed him to the water spring because he wanted to refresh himself, whereas foreign guests usually don’t go to the water spring (AR, guide, interview, 9 December 2017).

The water source in the mountains is not limited only to the water spring. Mount Rinjani National Park also comprises Segara Anak Lake, which is considered a valuable source of water. One guide interviewed mentioned that he even rebuked local visitors who washed their dirty cooking utensils directly on the lakeshore.

“It is okay if you want to clean your dirty plates or cutlery, but not on the lakeshore. It will contaminate the lake. I even saw a bunch of local mountaineers wash their cooking utensils on the lakeshore. They even used a dish soap. I said to them to move about 3-4 metres from the lakeshore and bring some water from the lake. They just ignored my advice and continued to do so instead” (MO, guide, interview, 12 December 2017).

The use of a chemical substances near or in the water source remains one of the main concerns with respect to the water source issue, as addressed by a guide interviewed previously.

Another time when the actors raised the water source issue in a conversation was when they were looking for a water spring. Being new to the area, local visitors frequently asked the porters or guides, who are familiar with the area about the water spring. This situation occurred between porters/guides and local visitors or sometimes amongst local visitors (NU, local visitor, interview, 23 December 2017; MA, local visitors, interview, 23 December 2017).

4.2.4 Wood issue

The wood issue was seldom raised by the actors because they hardly ever use wood in their mountaineering tourism activities (NU, local visitor, interview, 23 December 2017; MA, local visitors, interview, 23 December 2017). Nonetheless, the issue was still being alluded to by the actors, as mentioned by a porter interviewee below:

“We rarely use wood now. We bring our portable gas stove, so we don’t use wood to cook anymore. Our guests are equipped with trekking poles to help them walk in the steep hills. But sometimes they forget to bring a pole and ask us to look for something else to use as walking sticks, like wood or tree saplings” (DA, porter, interview, 19 December 2017).

The wood issue was primarily raised by the porters and guides because they occasionally need wood to make a campfire for their guests and they discussed who would look for the wood to set up the campfire. A further point that was raised was about the use of tree saplings or tree branches for their guests to use as walking sticks. Now and then their guests asked for a sapling or branch because they had forgotten to bring one (ED, porter, interview, 8 December 2017; DA, porter, interview, 19 December 2017; NA, guide, interview, 19 December 2017).

Regarding the wood issue, the only different point that one interviewee brought up concerning mountaineering activities was the fact that one of the trekking organisers, Green Rinjani, promotes the planting of trees while trekking. One guide whom I interviewed, who is also a guide for Green Rinjani, said that his guests always praised their initiative (FA, porter, interview, 20 December 2017).

4.2.5 Wildlife and landscape

Wildlife and landscape issues were also mentioned when I asked the interviewees about environmental issues that they discussed during mountaineering activities.

"I saw some trash and I saw trees, just below the place where we camped I think. There were the remains of burnt trees. The tour guide told me about the burning incident. He said that it had happened recently" (SY, foreign visitor, interview, 3 January 2018).

"I think that we also talked about the fact that nature is impressive. There are so many different kinds of plants and animals. We were talking about how that sooner or later it will all be destroyed if we keep living the way we are living" (KI, foreign visitor, interview, 2 January 2018).

Nevertheless, although the actors discussed the landscape and wildlife issue in the conversation, most did not see it as a problem. This differs with other environmental issues that were previously explained. Rather they mentioned it in a positive context, as explained by one of the guides I interviewed:

"My guests said to me that the trees and the landscape in Rinjani are remarkable and still natural. They found many tropical trees" (NA, guide, interview, 19 December 2017).

"I had a little talk with a porter that I met at the resting place about the flora and fauna there. He said that the habitat is still pristine. I saw birds, dogs, a wild boar and a lot of monkeys" (AM, local visitor, interview, 13 December 2017).

To summarise, each of the predefined environmental issues mentioned in the conceptual framework were discussed by the actors during their mountaineering activities, specifically garbage, sanitation, water source use and wood use. Additionally, some interviewees also mentioned Mount Rinjani National Park's wildlife and landscape as an environmental issue, in a positive context. The most talked about environmental issue is garbage. The topic can be found in all 23 excerpts obtained from interviews. The second is sanitation, which was considered by 15 interviewees. The third is water source issue, which 11 interviewees said they had discussed with members of their expedition. The fourth is wood use with 7 interviewees. The issue that was raised the least during the mountaineering tourism activities was other concern. In this case, this is related to wildlife and landscape issues and was brought up by 4 interviewees only.

5. Interactions during mountaineering tourism activities

This chapter develops the findings to answer SQ 2. Types of interaction regarding how the actors brought up the environmental issues will be discussed. This will also entail what environmental issues were raised by whom, when and where it was brought up during the mountaineering activities. Based on the analysis of 23 interview transcripts — interviews of 20 individuals and 3 groups — and the field notes, I found 73 episodes of interactions related to environmental issues. From the 73 episodes of interactions, 6 specific types of interaction emerged: (1) argumentation/discussion, (2) knowledge sharing, (3) criticising/blaming, (4) asking question-informing, (5) word-of-power and (6) peer observation. These types of interaction will be described and elaborated upon along with examples from the interviews. These types of interactions pertain to five key environmental issues in mountaineering tourism at Mount Rinjani National Park: garbage, sanitation, water source use, wood use, besides the wildlife and landscape.

5.1 Argumentation/discussion

The argumentation or discussion typically concerned one participant engaging in productive argumentation with the other participants. It was a two-way interaction, in a sense that each participant that engaged in the interaction gave their opinions. According to Baker (2002), argumentative interaction is a situation in which a group of people cooperate in solving or discussing a particular problem. It happened when someone in the expedition group brought up one of the environmental issues as a topic and subsequently the others became involved in the discussion. In this case, the others can be counted as members of the participant's expedition group or other expedition group that the participants encountered along the way. They could agree or disagree with the first person. The point is that when a person brought up issue, the others responded to it.

From 73 episodes of interactions that I found based on the interviewees' remarks related to environmental issues, 6 interactions were coded as argumentation/discussion. Figure 11 illustrates the idea of how regularly this type of interaction occurred when the interviewees discussed environmental issues during their mountaineering tourism activities.

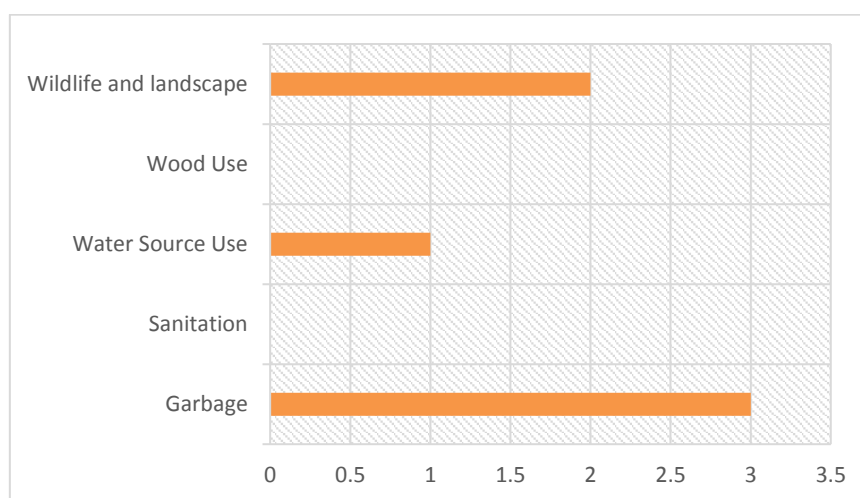


Figure 11. The frequency of argumentation/discussion interaction when environmental issues were raised by the interviewees.

Garbage was brought up the most in the argumentation/discussion, which counted for 3 interactions, followed by the wildlife and landscape issue with 2 interactions, besides the water source issue with 1 interaction. In relation to the garbage issue, 2 local visitors and 1 foreign visitor was found to have raised the topic using argumentation/discussion interaction with their other group members. To generalise, their discussion revolved around the handling of garbage: who should have carried the cumulative garbage from the cooking and whether it was okay just to throw the garbage in the garbage cans or whether the garbage should be brought back down.

“From the discussion with all the members of the group, we decided to merge all cumulative garbage from the cooking and I was the one responsible for carrying it. Meanwhile, trash from personal snacks will be a personal responsibility” (MA, local visitors, interview, 23 December 2017).

“At first, I brought all the trash with me and put it in the trash can. We then changed and put it back in our bag. I discussed with my girlfriend and the intuition just told you. The first one is that we were not quite sure how often the trash cans get emptied and if not, the thing is it has too much trash. Everything just gets put next to it. Of course, the other thing is with the monkeys” (SI, foreign visitors, interview, 21 January 2018).

One interaction observed a local visitor with a group member when they deliberated water source use. He mentioned that he saw his friend take some soap to the water spring with the intention of showering. He and his friend then had a little debate whether it was okay to use any chemical substance near the water source. In the end, the group member followed his suggestion and cancelled his plan to wash himself using soap in the water source (AM, local visitor, interview, 13 December 2017).

In the interviews, one foreign visitor was established to have had a conversation with her significant other about the impressive nature found in Rinjani, whilst one local visitor had a brief talk with a porter that he met at the resting place about the flora and fauna in the mountains. I coded both interactions under wildlife and landscape issues.

“I think that we also talked about the fact that the landscape is impressive. There are so many different kinds of plants and animals. We were talking about how that will be destroyed sooner or later if we keep living the way we are living” (KI, foreign visitor, interview, 2 January 2018).

“I had a little talk with a porter that I met at the resting place about the flora and fauna there. He said that the habitat is still pristine. I saw birds, dogs, a wild boar and a lot of monkeys” (AM, local visitor, interview, 13 December 2017).

Each of the interviewees stated that all the conversations occurred while they were at the resting places or at the campsite on the crater rim. I noted that at the resting place or when they had already pitched their tents at the campsite and had a free time, they started to discuss things. Environmental issues were one of the topics, especially garbage, given that it was easy to spot a pile of garbage at the campsite. I also found that they discussed garbage cans on numerous occasions and almost all of the local visitors in the expedition groups that I joined

were in opposition to the idea of putting garbage cans up in the mountains (fieldnotes, 15 December 2017).

5.2 Knowledge sharing

Knowledge sharing was coded when the interviewee stated that there was knowledge/view/opinion being posed during the interaction. This type of interaction is similar to the interaction mentioned previously — argumentation/discussion — but knowledge sharing was rather a one-way interaction where one participant shared his/her knowledge/view/opinion, whereas the interlocutors did not say something in reply or just agreed with it. This type of interaction happened when one participant is more experienced in mountaineering activities than other participants. It occurred between visitors, visitors and porters or guides, as well as amongst the porters and guides.

In this case, out of 73 episodes of interactions that I found based on the interviewees' comments on the environmental issues, 11 interactions were coded as knowledge sharing. Figure 12 illustrates the idea of how often this type of interaction occurred when the interviewees deliberated environmental issues during their mountaineering tourism activities.

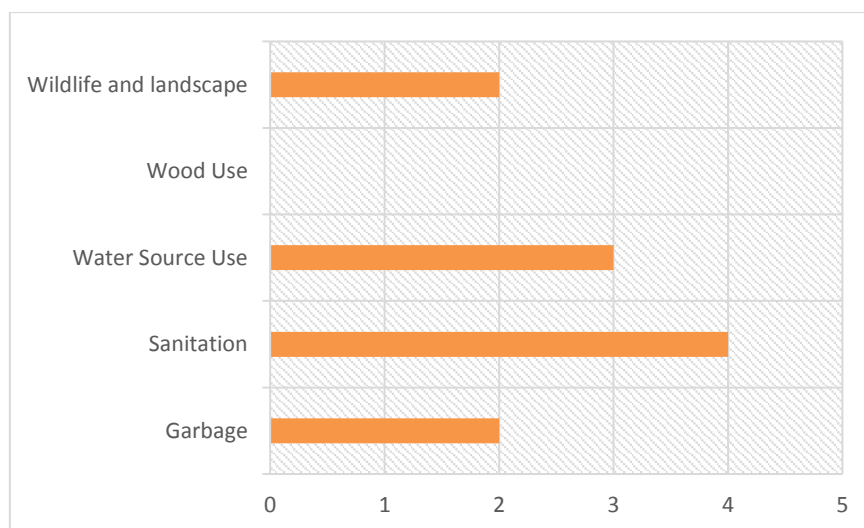


Figure 12. The frequency of knowledge sharing interaction when environmental issues were raised by the interviewees.

The issue of sanitation was found the most in knowledge sharing with 4 interactions coded. Two interactions from a guide and a porter were coded under knowledge sharing because they mentioned knowledge being shared on how to prepare and set up the toilet tent amongst their colleagues (senior guides/porters passed their knowledge on to their juniors). Meanwhile, one of the guides interviewed said that his guest shared another way to handle the issue of sanitation, which he considered to be more environmentally friendly. The idea was to put the human waste into a plastic bag and take it down instead of burying it up in the mountain. Another knowledge sharing interaction coded under sanitation was an interaction that took place between a foreign visitor with another member of her group. The other participant shared how he looked for a place to defecate because he felt uneasy about using the toilet tent

(because he had a problem with diarrhoea) at the campsite on the crater rim. The latter interaction was more about sharing a story.

“The porters and guide are the ones who take care of the toilet tent. If my porters don’t know how to prepare one, I will teach them the most effective way. This is because I was a pupil too for my senior” (AR, guide, interview, 9 December 2017).

Two interactions from local visitors were coded under the garbage issue. One of the local visitors interviewed mentioned that a guide from another expedition group, whom he and his group met at the camping site shared his experience in using a mini can to put cigarette butts. The other was a local visitor who shared his opinion about the unusual placement of the garbage cans in the mountains to other members of his group, whilst they were at the resting area.

“I was really puzzled because there were garbage cans in the resting areas and campsites. Then I told my friends in the group that the garbage cans should be up in the mountains because visitors will be too lazy to take their garbage down. With the presence of the garbage cans, it was like giving people a reason to act environmentally irresponsibly. I said to my friend that it shouldn’t be here and they all agreed” (AF, local visitors, group interview, 1 December 2017).

Three guides who participated in the interviews were coded under the topic water source use. They shared knowledge with other guides on things a guide needs to know when undertaking mountaineering tourism activities, for instance chemical substances should not be used near the water source, using a reusable jerrycan instead of a plastic water bottle, or even sharing the location of the water spring. These three guides specifically mentioned how senior guides share their knowledge with their juniors.

Regarding the wildlife and landscape issue, two interactions from a foreign visitor and a guide were coded. Both interactions were between guides and foreign visitors, in which one of the them shared their opinion and knowledge on the wildlife and landscape issue in Mount Rinjani National Park.

“I saw some trash and I saw trees. I think, just below the place where we camped there were the remains of burnt trees. The tour guide told me about the burning incident. He said that it happened recently” (SY, foreign visitor, interview, 3 January 2018).

5.3 Criticising/blaming

Interaction criticising or blaming emerged when the interviewee’s comment showed that he/she or other members in the group criticised or blamed other people for the environmental problems found in the mountains. It could be in the form of rebuking or criticising other actors in mountaineering tourism activities for what they did. It could also be in a way that the interviewee or the interlocutors blamed other actors for the environmental problems occurring in Mount Rinjani National Park.

In this case, 12 interactions were coded as criticising/blaming out of 73 episodes of exchanges. Figure 13 presents the idea of how often this type of interaction occurred when the interviewees discussed environmental issues during their mountaineering tourism activities.

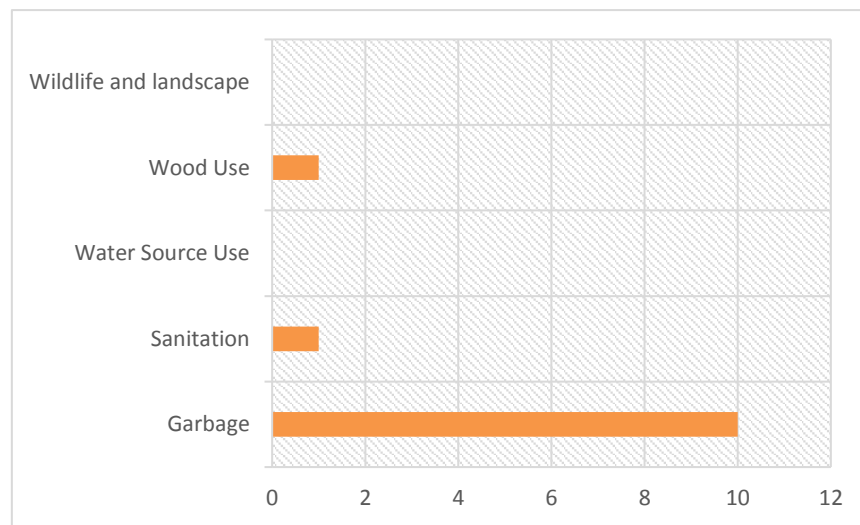


Figure 13. The frequency of word-of-power interaction when environmental issues were brought up by the interviewees.

The environmental issue that emerged the most in the criticising/blaming interaction was the issue of garbage which counted for 10 interactions. I found 4 porters, two guides, 2 local visitors and 2 foreign visitors, which means all the actors were observed to have this type of interaction about the issue of garbage. The 4 porters rebuked other porters or other local visitors who did not take back the trash and put it in the trash can instead; the 2 guides criticised other groups of visitors because of their negligence of their own garbage; the 2 local visitors blamed other local visitors who did not dispose of their garbage properly; and the 2 foreign visitors blamed the people who are careless concerning their trash (did not mention specifically who), for all the garbage at the crater rim.

“I saw this group of local visitors, they were taking a break at the resting place. Some of them were eating lunch and then they just tossed their trash carelessly, not even into the garbage can. So, I rebuked them and said that they had to pick up their trash. They felt offended and said that Rinjani was their mountain because they were locals. I had to stop myself from getting into a fight with them because I was so irritated” (AR, guide, interview, 9 December 2017).

“We were talking about how some people obviously don’t care about it and then we were talking about experiences we had with people from different nationalities or countries” (KI, foreign visitor, interview, 2 January 2018).

One interaction was coded under sanitation and wood use issue. One local visitor criticised his junior because at first, he was not aware of the right conduct in terms of sanitation in the mountains. Then after he gave his junior a reason why and how to do it properly, his junior immediately changed his behaviour (IY, local visitor, group interview, 21 December 2017). My interviewee, a porter, stated that he even rebuked a local visitor because he was chopping

down wood. Several of them responded by apologising, whereas the others were furious with him.

“I even warned a local visitor because when I saw him, he was chopping down the wood. I told him to stop doing it, but he was mad at me. One time I did the same thing to another local, he said sorry because he said he didn’t see the signage” (JE, porter, interview, 20 December 2017).

5.4 Asking question-informing

In the asking question-informing interaction, the pattern is that the interviewee asked a question despite of his/her lack of knowledge, although they did not ask for clarification. If the informing was preceded by someone posing a question to the interlocutor, it was categorised under asking a question interaction.

From 73 episodes of interactions that I found based on the interviewees’ remarks related to environmental issues, 17 interactions were coded as asking question/informing interactions. Figure 14 presents the idea of how frequently this type of interaction occurred when the interviewees discussed the environmental issues during their mountaineering tourism activities.

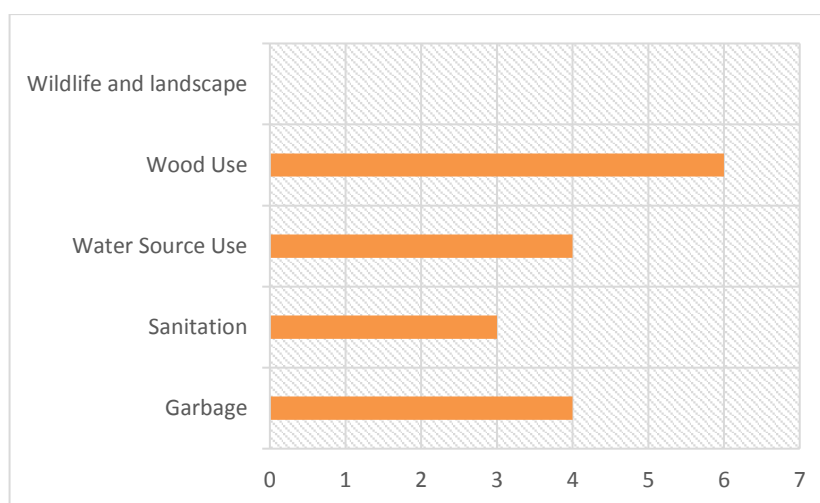


Figure 14. The frequency of asking question-informing interaction when environmental issues were raised by the interviewees.

The environmental issue that emerged the most in the asking question-informing interaction was wood use, which counted for 6 interactions. Here, 3 porters and 3 guides were coded under the asking question-informing interaction with wood use because their guests sometimes asked for a campfire or walking sticks.

In relation to the garbage issue, I found 4 interactions with the asking question-informing pattern, where 2 interactions were counted for local visitors who asked porters whether it was okay to put garbage in the garbage cans instead of taking it back. Another interaction with the garbage issue was from a porter who informed me about the incentives for bringing back trash

after the other porters asked about it (because the trekking company where he worked gave incentives for every trash bag that their porters and guides brought down). One question-informing interaction was coded between a guide and his foreign guest who asked him why there were so much trash in Mount Rinjani National Park.

“One foreign guest asked me why there were so much trash in Rinjani. Sometimes I didn’t know what to say and I replied with a reason that the authorities are already working hard to at least have a clean-up every month, even every week. Our trekking company is also trying to join the clean-up effort every two months” (DI, guide, interview, 10 December 2017).

In water source use, 4 asking question-informing interactions were found amongst local visitors and a foreign visitor. Two of the three local visitors asked the other local visitors, porters and guides about the location of the water spring, whilst the other one asked his other group members whether he could use soap to wash his face near the water spring. Meanwhile, a foreign visitor asked the guide whether it was okay to swim in the lake, wherein the guide replied that it was okay to swim. An example of this interaction pattern presents NU, a local visitor who asked a porter for directions to the water source:

“Joko told me not to get the water from that water source. He then asked the porter that was with us by chance. Turned out, we were at the wrong water source” (NU, local visitor, interview, 23 December 2017).

Three patterns of this interaction were coded under the sanitation issue: two local visitors asked other members of their group about where to defecate and a porter mentioned that his foreign visitor guest asked about where to defecate. The porter subsequently replied that he would put up the toilet tent for him to use so he did not have to go to the bushes.

5.5 Word-of-power

‘Word-of-power’ (Beers et al., 2016) was coded if the interviewee's comment showed that a member of her/his expedition used her/his position or knowledge or opinion to inform and to make a decision for the group. In the case of word-of-power, the person’s remark to the group sometimes felt more like an imperative sentence.

From 73 episodes of interactions that I found based on the interviewees’ comments related to environmental issues, 8 interactions were coded as word-of-power interactions. Figure 15 presents the idea of how often this type of interaction occurred when the interviewees talked about environmental issues during their mountaineering tourism activities.

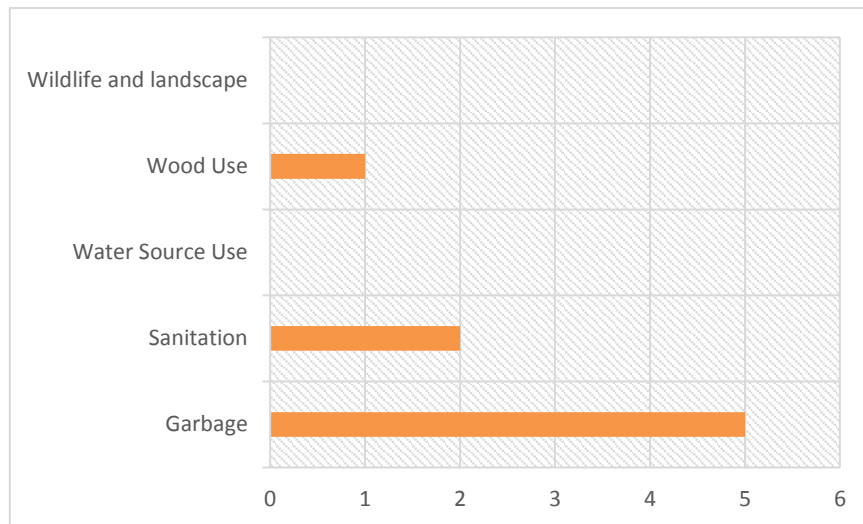


Figure 15. The frequency of word-of-power interaction when environmental issues were brought up by the interviewees.

Garbage was the most talked about environmental issue in the case of word-of-power. I found 5 interactions coded with the garbage topic in word-of-power. Additionally, 4 word-of-power patterns were noticed where porters and guides discussed the topic of handling garbage: the guest asked the porter to take care of the garbage and the guide told the porter to just leave the organic trash and bring down the non-organic one only (or to burn the trash instead of taking it back). There was also a local visitor who volunteered to be the one who was in charge of the garbage. He also established a rule for his expedition group: all the collective trash from the cooking could be given to him, whilst people should keep small amounts and bits of trash from snacks in their bags.

In regard to the sanitation issue, two patterns were coded: a guide who told his porter to erect the toilet tent once they (he and the guests) arrived at the campsite and a foreign visitor who mentioned that that his guide told him to defecate in the bushes.

“Bang Ikhsan told me that I should just go to the bushes because everyone does that. I saw a lot of tissues in the bushes. Bang Ikhsan said it. He pointed at the place. So, I went there, but I didn’t have a tool to dig a cathole” (SY, foreign visitor, interview, 3 January 2018).

There was only one interaction coded under wood use. There was a porter who mentioned that his guide asked him to look for a tree sapling or a tree branch for the guests to use as walking sticks.

“Sometimes when the guests feel really tired, we look for a tree sapling or a tree branch for them to use as walking sticks. Sometimes we bring a sturdy trekking pole, but if we don’t bring it, the guide will order me to look for one, like a tree branch or something else” (ED, porter, interview, 8 December 2017).

5.6 Peer observation

The peer observation interaction pattern involved one party observing another party undertaking mountaineering activities. If this party copied the action of his/her peer, it will be discussed as learning outcomes in the following chapter. Regarding the 73 episodes of interactions that I found based on the interviewees' remarks related to environmental issues, 19 interactions were coded as peer observation interactions. Figure 16 presents the idea of how often this type of interaction occurred when the interviewees considered environmental issues during their mountaineering tourism activities.

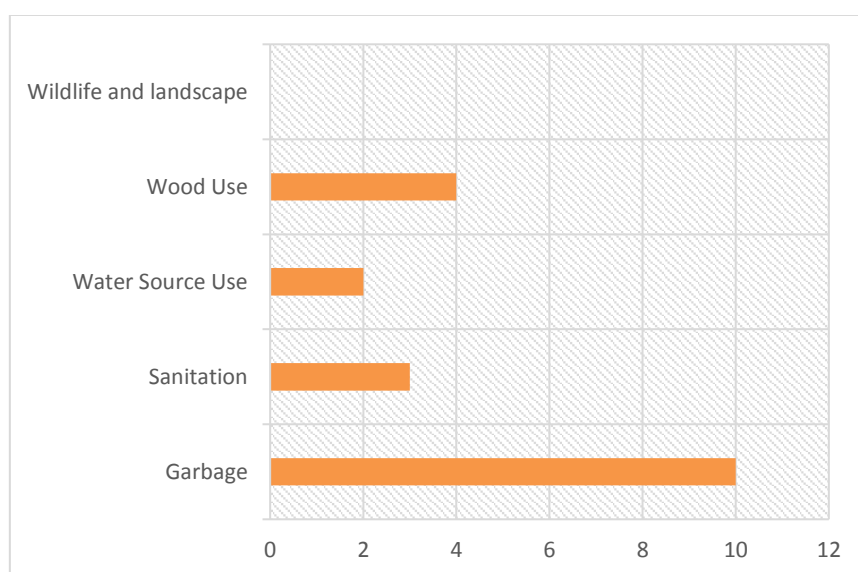


Figure 16. The frequency of peer observation interaction when environmental issues were raised by the interviewees.

In relation to the garbage issue, 10 peer-observation episodes of interaction were coded under 5 topics: (1) throwing garbage in the garbage cans instead of bringing it down; (2) porters and guides as role models in handling garbage; (3) organic and non-organic garbage; (4) burying the trash; and (5) bringing down the trash.

There were 5 interactions of peer observation coded under 'throwing garbage in the garbage cans instead of bringing it down' topic, in which 2 foreign and 2 local visitors interviewed mentioned that they saw porters and guides putting garbage in the garbage cans. Moreover, a guide I interviewed said that he saw other guides and porters who did not take their trash down.

Two peer interaction patterns were coded involving foreign visitors and their guide, which suggested that porters and guides were the role models for the visitors in handling garbage and to bring the trash down.

One topic related to organic and non-organic garbage where a local visitor mentioned that she saw other visitors who did not separate their garbage and just mixed it and then put it in the garbage can was coded (NU, local visitor, interview, 23 December 2017).

One foreign visitor interviewed stated that she witnessed a porter who buried the trash underneath the soil, as she and her significant other were strolling around (KI, foreign visitor, interview, 2 January 2018). Under the 'bringing down the trash' topic, one guide I interviewed mentioned that he saw guides and porters who brought down their garbage.

"There were porters who didn't bring their garbage down. There were also porters who burned their garbage up in the mountain instead of taking it down. I just followed those who brought the garbage down" (NA, guide, interview, 19 December 2017).

A further environmental issue found under peer-observation was wood use with 4 peer observation patterns. One local and one foreign visitor interviewed revealed that they saw their porters use tree branches or young trees for tent pegs and walking sticks. This foreign visitor said that his porter picked up a tree sapling to use as a walking stick. He was only observing the behaviour but did not act upon it (SY, foreign visitor, interview, 3 January 2018). The other two interactions were voiced by two guides I interviewed, who said that they saw other guides and porters make campfires. Therefore, they said that they looked for downed wood to make fires for their guests.

Regarding sanitation, 3 different topics were noticed in the peer observation interactions. A local visitor said that he saw one of his expedition members with a small shovel he had brought along to make a cathole when went to the bushes to defecate. A porter I interviewed stated that he noted that foreign visitors always brought tissue instead of water when they were going to the toilet. A foreign visitor interviewee said that no one in his group was told to bury their human waste, as they did not have the tools to do it (a wooden stick or a small shovel). Therefore, he assumed that everyone, just like him, left the bushes without burying their faeces.

Only two peer observation interactions were found in water source use. The first one was noted by a local visitor who said he noticed that one of his friends in the group brought a camelback water container to collect water from the water spring (MA, local visitors, interview, 23 December 2017). He was surprised and said that it was the first time he had seen someone bring a camelback water container on an expedition. The second one, a porter I interviewed, said that he observed other porters using reusable jerrycans instead of plastic water bottles to collect water from the water spring (JE, porter, interview, 20 December 2017).

To conclude, amongst 6 types of interaction that emerged during mountaineering activities when the environmental issues were being brought up, peer observation and criticising/blaming interactions were mentioned the most by the interviewees. As Figure 17 reveals, the garbage issue was found the most in peer observation, followed by the criticising/blaming interaction. It appears that in terms of garbage, the key actors tended to observe the other key actors before they acted on something. They also criticised and blamed each other for the garbage problem in Mount Rinjani National Park.

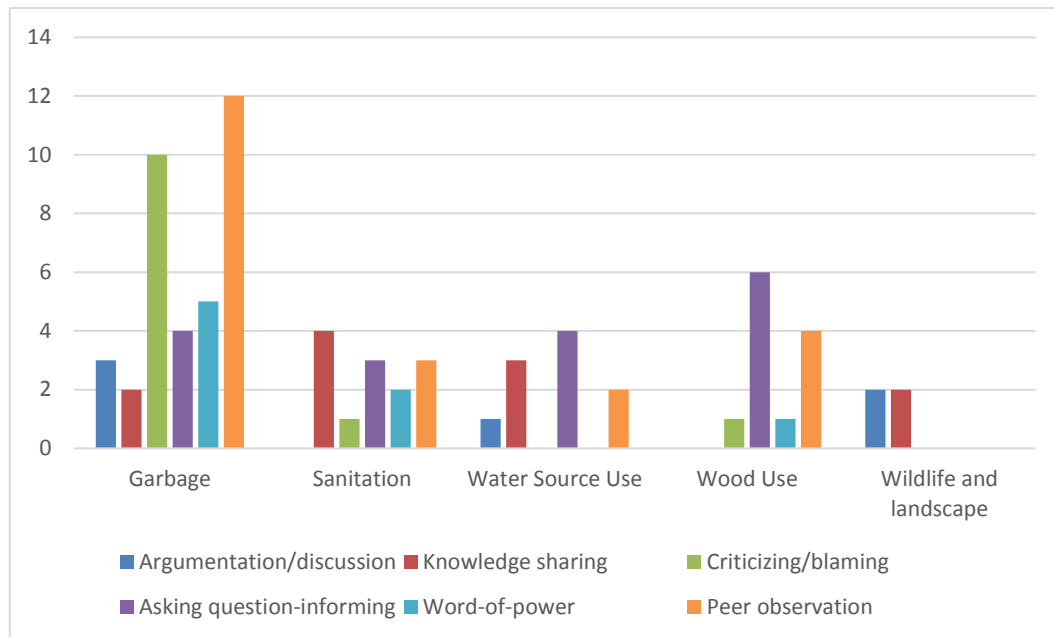


Figure 17. Comparison of the frequency of all types of interaction posed by the interviewees when talking about environmental issues.

Concerning the sanitation issue, knowledge sharing was determined to be the most used pattern, where half of the pattern demonstrated knowledge being shared on how to prepare and set up the toilet tent amongst the guides and porters (senior guides/porters passed their knowledge on to their juniors). In relation to the water source issue, the asking question-informing pattern was the most coded interaction. Practically all the interactions were coded with the topic about water spring location. The asking a question-informing interaction also touched upon the wood use issue the most with many porters and guides occasionally being asked by their guests for a campfire or walking sticks, which meant they had to search for downed wood or young trees. In the wildlife and landscape issue, argumentation/discussion and knowledge sharing shared the same number of interactions. The actors commonly shared their knowledge about Rinjani's nature and several discussed it within their expedition group.

6. Social learning outcomes during mountaineering tourism activities

This chapter aims to see social learning in a natural setting — mountaineering tourism activities rather than set-up meetings — and answer SQ 3 from the findings. I coded episodes of interactions from the interviews — 20 personal interviews and 3 group interviews supported by field notes from the participant observation. I examined 75 episodes from 6 types of interactions with respect to social learning outcomes. From the aforementioned interactions, social learning took place 57 times as an outcome of interaction patterns. The elaboration on social learning outcomes as per each environmental issue will be discussed. I need to emphasise that one interviewee can be counted for several episodes of interactions and learning outcomes.

In environmental issues, what I considered as learning outcomes from interactions was the alignment between conceptual content, relational content and the actions. From their comments, interviewees should demonstrate that they were aware of the issue (conceptual content), they can relate themselves to the issue or to other people (relational content), or moreover, that they actually did things or planned to do them in the future (action content). The key is the action content. When the interviewees indicated at the end that they did something or had a plan to do something in the future as a result of the interaction, I coded that interaction episode to have a learning outcome. This is regardless of whether or not the outcomes were environmentally responsible. The latter concern will be discussed in the next chapter to see the impact of learning outcomes with regard to pro-environmental behaviour.

6.1 Social learning outcomes in garbage issue

From 34 total episodes of interaction, 26 were counted to have social learning outcomes. Table 3 below shows that episodes with peer observation have the highest number of social learning outcomes followed by criticising/blaming and word-of-power interaction.

Table 3. Interaction types with social learning outcomes regarding the garbage issue.

	Argument/ discussion	Knowledge sharing/ synthetic	Criticising/ blaming	Asking question- informing	Word-of- power	Peer observation
Frequency	3	2	10	4	5	12
With learning outcomes	3	2	5	3	5	10

In this case, I categorised learning outcomes pertaining to the garbage issue into four major topics: bringing back the trash, putting the garbage in the garbage cans, incentives from the trekking organiser and separating organic and non-organic trash. An example from a group of local visitors (group interview, 1 December 2017) of criticising/blaming interactions concerning the 'bringing back the trash' topic resulted in the learning outcome presented below:

- Knowledge: *We put all garbage in a plastic bag. When we saw the garbage cans in the mountain, we thought about leaving the garbage in the garbage cans, because that's what the garbage cans are for.*
- Relations: *We met a middle-aged man, presumably a guide, who rebuked us for putting our garbage in the garbage can. He told us to take our garbage away because we were still young and were able to carry our it ourselves and there was too much garbage there already.*
- Actions: *At the end, we took our garbage away because we thought it wasn't right to leave it up in the mountain.*

From this remark, the alignment of knowledge, relations and action in this '*bringing back the trash and not putting it in the trash can*' topic can be seen. At the knowledge level, the group were aware of the situation and the issue, yet they did not take any action. At the relational level, because someone rebuked them, they can relate to what the man said about the garbage situation. In the end, they decided to take their garbage down from the mountain.

Concerning the garbage issue, peer observation has the highest number of learning outcomes. However, not all episodes of interaction of peer observation contained learning outcomes. This is because in peer observation, the learning outcomes can be seen directly, as simple as when the interviewee said that he/she saw people were throwing their garbage into the garbage can (peer observation). Later he/she imitated their behaviour by putting the garbage in the garbage can as well. An example of the learning outcomes in peer observation displayed by a guide I interviewed with the topic, putting the garbage in the garbage cans (KI, foreign visitor, interview, 2 January 2018) is presented below:

- Knowledge: *I was watching our guide, several times actually, picking up trash from the post, that little house used for rest. So, I watched and he picked up some trash. I think I even said that I think it's cool. He was taking that trash to the porters because they had like a bag thing where you could put the trash and they will bring it down.*
- Relations: The cumulative group trash was taken care of by the porters. Each person handled their own personal garbage.
- Actions: *I can only speak for my boyfriend and me. Because of that, we either kept our trash from our cookies in our backpacks or if we were eating them outside we could always give it to the porters.*

6.2 Social learning outcomes in relation to the sanitation issue

From 13 total episodes of interactions regarding the sanitation issue, 11 were counted to have social learning outcomes. Table 4 below, reveals that episodes with peer observation, asking question-informing and knowledge sharing share the same number of social learning outcomes.

Table 4. Interaction types with social learning outcomes regarding the sanitation issue.

	Argument/ discussion	Knowledge sharing/ synthetic	Criticising/ blaming	Asking question- informing	Word- of- power	Peer observation
Frequency	0	4	0	3	2	3
With learning outcomes	0	3	0	3	1	3

I classified several major topics with learning outcomes in sanitation; specifically, not burying the human waste, making a cathole and burying the human waste, responsibility for erecting the toilet tent, material used to clean and places to do the 'business'. Below is an example of asking question-informing interactions from a local visitor (MA, local visitors, interview, 23 December 2017) with places to do the 'business' topic that resulted in the learning outcome:

- Knowledge: *I know that when you are in the wilderness, it will take an extra effort to find a place to defecate, especially in Rinjani, where most people are here for the first time.*
- Relations: *When someone in my group asked for directions to a place where he could defecate, another member in my group, who was the most experienced one replied that the most important thing is to find a place that is far enough from the campsite and trekking trails and secluded enough that people cannot see you. He then pointed to a place where there were bushes in the hill.*
- Actions: *Since then, we all went around there to do our 'business'.*

Regarding the remarks made by this local visitor, the alignment of knowledge, relations and action in asking question and informing about places to do the 'business' can be seen. At the knowledge level, the local visitor was aware of the situation and the issue. At the relational level, his relations with other members of the group allowed him to be in the middle of the asking question-informing situation concerning the sanitation issue. In the end, the local visitor, besides the other members of the group followed the information given by someone in his group on where to go to take care of his 'business'.

All peer observation interactions resulted in learning outcomes in the sanitation issue. The learning outcomes in peer observation can be as simple as when you see people going to the bushes to defecate carrying a small shovel with them (peer observation) and you imitate their behaviour by borrowing the small shovel when you go to defecate (RY, local visitor, interview, 12 December 2017). This can be noted in the example below.

- Knowledge: *I saw a friend from my expedition group, who is from Jakarta, take a small shovel when he went to the bushes to defecate. Because he took that small shovel, it made me think that if I bury my faeces, maybe it could act as a fertiliser for the soil. Burying it will also hide the smell. Before that, I did not even think about it. I just left the crime scene without covering it up.*
- Relations: It is suggested that he can relate to the advantages of using a small shovel to bury human faeces.
- Actions: *So, each time I wanted to defecate, I always asked my friend if I could borrow his small shovel. In the end, all the group members used that small shovel*

to bury their faeces. I have already made a mental note that a small shovel should be in the next expedition.

6.3 Social learning outcomes in relation to the water source use issue

Of the 10 episodes of interaction, all were analysed to have social learning outcomes. In Table 5 below, episodes with asking question-informing interaction had the highest number of social learning outcomes followed by knowledge sharing and peer observation.

Table 5. Interaction types with social learning outcomes in the water source use issue.

	Argument/ discussion	Knowledge sharing/ synthetic	Criticising/ blaming	Asking question- informing	Word- of- power	Peer observation
Frequency	1	3	0	4	0	2
With learning outcomes	1	3	0	4	0	2

Based on the episodes of interaction, I categorised learning outcomes in water source use into three major topics: water spring location, chemical substances near the water source and material to collect the water from the water spring. Below is an example of the learning outcomes displayed by a guide (DI, guide, interview, 10 December 2017) in the knowledge sharing interaction with ‘chemical substance near the water source’ topic:

- Knowledge: *“Usually, the seniors — guides or porters who are more experienced— shared their experiences and knowledge in guiding or handling things in the mountains by having a brief discussion during our trips when we were newbies.”*
- Relations: It is suggested that the guides have a close relationship with one another, especially seniors employed by the same company. Thus, it was easy for him to request that they to do things which are aligned with the regulations.
- Actions: *“It also happened with us and the newcomers — guides and porters — we told them the dos and don’ts. Even though some of them already know what to do, there are still people that are not familiar with the mountaineering tourism activities. We asked our fellow guides not to use soap or any other chemicals near the water source.”*

The alignment of knowledge, relation and action in asking questions and informing about ‘chemical substances’ near the water source can be seen from the guide’s comment. At the knowledge level, the local visitor was aware of the situation and the issue. At the relational level, his relationship with the other actors (other porters who were more senior or junior) allowed knowledge sharing in water source use issue to occur. As in the action at the end, both he and his porter colleagues also passed down the knowledge about not using soap or any other chemicals near the water source to his junior porter colleagues.

Peer observation has two learning outcomes. An example of the learning outcomes from peer observation identified by a porter interviewee about using tissue instead of water is presented below (JE, porter, interview, 20 December 2017):

- Knowledge: *I usually collected the water from the water spring using plastic bottles. I saw other guides collecting water using jerrycans. It seemed easier and the cans are able to carry a large amount of water in one trip to the water spring. So, I bought jerrycans and I have used them ever since.*
- Relations: "The porters were the ones who were responsible for getting the water from the water spring as soon as we arrived at the campsite, whereas the guide accompanied the guests. The porters already knew their role.
- Actions: *"It also happened with us and the newcomers — guides and porters — we told them the dos and don'ts. Even though some of them already know what to do, there are still people that are not familiar with the mountaineering tourism activities. We asked our fellow guides not to use soap or any other chemicals near the water source."*

6.4 Social learning outcomes in the wood use issue

From 12 total episodes of interaction, 10 were counted to have social learning outcomes. In Table 6 below, episodes with asking question-informing interaction have the highest number of social learning outcomes followed by peer observation.

Table 6. Interaction types with social learning outcomes regarding the wood use issue.

	Argument/ discussion	Knowledge sharing/ synthetic	Criticising/ blaming	Asking question- informing	Word- of- power	Peer observation
Frequency	0	0	1	6	1	4
With learning outcomes	0	0	1	5	1	3

I classified learning outcomes in wood use into three major topics: making a campfire, using tree saplings as walking sticks and chopping down wood. An example of the learning outcomes displayed by a porter I interviewed during an asking question-informing interaction (FA, porter, interview, 20 December 2017) with a topic that sums up two concerns: making a campfire and walking sticks:

- Knowledge: *"Sometimes the guests asked me for a campfire or requested walking sticks to help them to walk in a challenging landscape. I told them that we will try to look for them, but we couldn't promise anything. I looked for dry wood, because many trees were already dead and there were not many left."*
- Relations: It is suggested that the porters and guides will always fulfil their guest's requests.

- Actions: *"I used wood or tree saplings to make walking sticks for the guests. Sometimes we also used wood for the tent pegs or we made a campfire."*

From this guide's remark, the alignment of knowledge, relations and action in asking a question and informing about the use of wood and tree saplings can be seen. At the knowledge level, the local visitor was aware of the situation and the issue that there was very little dry wood left. At the relational level, his relationship with his guests made him cater to their requests as part of the service. As in the action at the end, he mentioned that he used wood and tree saplings for walking sticks, tent pegs and occasionally for a campfire.

As in other environmental issues, peer observation has a high number of learning outcomes. This type of interaction occurred in almost all environmental issues, except for wildlife and landscape. Peer observation was coded when the interviewee mentioned that they saw other people making a campfire or using saplings as walking sticks (peer-observation) and they imitated their actions by also making a campfire or using saplings as walking sticks. An example of the learning outcomes identified by a porter I interviewed with a campfire issue is presented below (FA, porter, interview, 20 December 2017):

- Knowledge: *As far as I know, it is forbidden to build a campfire. I know that from reading or I think I saw a sign. But I have still seen other people doing it, so I guess there was no harm if I did it as well.*
- Relations: It is suggested that the porter never rejected the guest's request to build a campfire. Therefore, they have to look for ways to collect the wood.
- Actions: *At the end of the day, if the guide asked me to make a campfire for the guest, I will go for it, even though I know that it is forbidden.*

7. Pro-environmental immediate impacts in mountaineering tourism

This chapter will answer SQ 4 and further explain what the interviewees discussed related to pro-environmental immediate impacts; specifically, their actual actions as a direct impact of the learning outcomes. The pro-environmental immediate impacts can be recognized from the intentions mentioned in the interview, self-reported behaviour, and behaviour of the key actors observed during the participation observation. In this research, I examined the interaction patterns that resulted in pro-environmental immediate impacts. I rely primarily on the interviewees' comments and observation to understand the outcomes. I will discuss each environmental issue and explain the pattern of interactions that resulted in learning outcomes that potentially initiate pro-environmental immediate impacts.

7.1 Pro-environmental immediate impacts in garbage issue

In this case, 26 learning outcomes were coded under the garbage issue, though only 14 were considered to have pro-environmental immediate impacts. Table 7 below shows that learning outcomes from peer observation and word-of-power have the greatest pro-environmental immediate impacts.

Table 7. Frequency of interactions, learning outcomes and their pro-environmental immediate impacts in the garbage issue.

	Argument/ discussion	Knowledge sharing	Criticising/ blaming	Asking question- informing	Word-of- power	Peer observation
Frequency of interaction	3	2	10	4	5	12
With learning outcomes	3	2	5	3	5	10
Pro- environmental immediate impacts	2	1	2	1	4	5

All interactions that had learning outcomes were found to have pro-environmental immediate impacts in relation to the garbage issue. Out of the 4 major topics pertaining to learning outcomes in handling garbage, 3 learning outcomes potentially resulted in pro-environmental behaviour: bringing back the trash, incentives from the trekking organiser, as well as separating organic and non-organic trash. These 3 behaviours were in line with the desirable behaviour in handling garbage.

In 'bringing back the trash' topic, a guide I interviewed (JE, porter, interview, 20 December 2017), mentioned that a colleague in the expedition asked him to leave the organic garbage because it is degradable and to take only the non-organic trash so that it would not burden him so much. He then ended up burying the organic waste near the trees. From his explanation, it can be seen that the desirable behaviour-- burying the organic waste—was obtained as a

learning outcome from the word-of-power interaction because the guide asked him to do so at the first place.

Not all learning outcomes in handling garbage have an impact on pro-environmental behaviour. Peer observation, for example, has the largest number of learning outcomes from the interactions, but failed to have a greater impact regarding pro-environmental behaviour. This was caused because not all the behaviours that the interviewees imitated were behaviours that were desirable in mountain tourism. The guides, porters and local visitors interviewed mentioned that because they saw people who left their trash in the trash can, they also put their waste in the trash can most of the time. This also materialised in relation to the asking question-informing interaction, where I established that people replied to the question, “*Can I put my garbage in the garbage can?*” with “*Yes, you can,*” an answer that generates undesirable behaviour concerning handling garbage. However, referring to the undesirable behaviour list, leaving the garbage at the campsite or resting place, even if there are garbage cans is not recommended. Therefore, it is strongly advised that people take their garbage back down.

7.2 Pro-environmental immediate impacts in sanitation issue

Here, 11 learning outcomes were coded under garbage issue, wherein only 8 have impacts that has pro-environmental immediate impacts. Table 8 below shows that knowledge sharing has the greatest pro-environmental impact pertaining to social learning outcomes followed by interactions related to asking question-informing and peer observation.

Table 8. Frequency of interactions, learning outcomes and their pro-environmental immediate impacts in sanitation.

	Argument/ discussion	Knowledge sharing	Criticising/ blaming	Asking question- informing	Word- of- power	Peer observation
Frequency	0	4	0	3	2	3
With learning outcomes	0	3	0	3	1	3
Pro- environmental immediate impacts	0	3	0	2	0	2

Not all interactions that had learning outcomes in sanitation also have pro-environmental immediate impacts. Out of the 5 major topics concerning learning outcomes in sanitation (not burying human waste, making a cathole and burying human waste, responsibility for pitching the toilet tent, material used to clean and places to do the ‘business’), there were 3 learning outcomes that had a prospective resulting in pro-environmental behaviours: making a cathole and burying human waste, responsibility for pitching the toilet tent and places to do the ‘business’.

Under the topic 'places to do business', a local visitor interviewed (MA, local visitors, interview, 23 December 2017), stated that when someone in his group asked for directions or a proper place to defecate or urinate, another friend in his group informed the person to look for a place that was not near the trekking trail and far from the camp, but not that open so people would not see. He mentioned that his friend who answered the question was the more experienced one. His suggestion complied with the desirable behaviour list. It can be inferred that if the members of your expedition group are experienced in mountaineering activities and — the most important thing — recognise the desirable behaviours required in mountaineering tourism activities, the interactions resulted in learning outcomes. These learning outcomes led to pro-environmental behaviour.

Practically all learning outcomes in sanitation led to pro-environmental behaviours. What was lacking from the learning outcomes for it to be fully environmentally responsible was that the actors did not talk much about how human waste (faeces and urine) should be disposed of properly by digging a 'cathole' and burying it, as mentioned in the desirable behaviour list.

Regarding the sanitation issue, the role of knowledge sharing interaction is important for the pro-environmental behaviour. A porter I interviewed (HU, a porter, interview, 15 December 2017), said that his fellow porter in the expedition group helped him a lot in preparing equipment as well as sharing information about what he should do. For sanitation, porters are expected to bring a toilet tent, dig a cathole and to bury the business afterward. He mentioned that his fellow porter reminded him to bring the toilet tent and showed him how to prepare it. In this sense, knowledge sharing/synthetic interaction has a positive impact towards pro-environmental behaviour, whereas the porters pass on their knowledge to the newbies.

In the expedition group, knowledge sharing between guides and porters is common in practice. The seniors teach and share their knowledge with the newcomers, as emerged in knowledge sharing interactions with 'responsibility for pitching the toilet tent' topic. This type of interaction has strong potential to produce pro-environmental behaviour. Porters and guides still require training on how to carry out their profession safely and ensure that it is environmental friendly. The authority or the trek organiser should consider the pro-environmental behaviour of the porters and guides more seriously by giving them proper training, not only on the safety and service aspect, but also pertaining to the environmental concerns.

7.3 Pro-environmental immediate impacts in water source use issue

Ten learning outcomes were coded under garbage issue, in which 9 of them led to pro-environmental behaviour. Table 9 below reveals that knowledge sharing and the asking question-informing interactions share the greatest pro-environmental impact from social learning outcomes followed by peer observation.

Table 9. Frequency of interactions, learning outcomes and their pro-environmental immediate impacts in water source use.

	Argument/ discussion	Knowledge sharing	Criticising/ blaming	Asking question- informing	Word- of- power	Peer observation
Frequency	1	3	0	4	0	2

With learning outcomes	1	3	0	4	0	2
Pro-environmental immediate impacts	1	3	0	3	0	2

Practically all learning outcomes in water source use had an impact with respect to pro-environmental behaviour. All 3 major topics of learning outcomes in water source use potentially resulted in pro-environmental behaviour; specifically, water spring location, chemical substances near the water source and material to collect water from the water spring.

In the 'water spring location' topic with learning outcomes from knowledge sharing interactions, local visitors see porters and guides as resourceful and knowledgeable since they carry out the mountaineering tourism activities on a daily basis. Every so often, local visitors ask porters and guides how to do things correctly, from looking for the right path while trekking or for the water spring to handling trash. By recognising how much power and influence porters and guides have in mountaineering tourism activities, the authorities and the trekking organisers should invest more in training them, not only to provide an excellent tourism service but also to acquaint them with pro-environmental behaviour in mountaineering tourism.

The use of any chemical substances near/at the water spring is forbidden, as mentioned in the undesirable behaviour list, because it can contaminate the water source. From the interview excerpts, it can be seen that some actors were already aware of this, whereas other actors did not appear to acknowledge it. A local visitor interviewed mentioned, as I coded under the argumentation/discussion interaction, that he had an argument with his friend over whether or not it is allowed to use a soap to wash your face in the water spring. From his remark, it showed that he was more aware of the desired behaviour in mountaineering tourism than his friend. Nevertheless, it did not mean that his friend had the intention to be malicious. After giving a reasonable argument, his friend cancelled his plan to wash his face using soap and just used water instead. This situation shows that there are opportunities for social learning in mountaineering tourism activities, especially amongst members of expeditions.

Figure 18 below is an example of the use of jerrycans as material to collect water from the water spring. Nowadays, jerrycans are commonly used by the porters to collect water from the water spring, whereas previously plastic bottles were used. From peer observation, the porters were able to come to a learning outcome that led them to use more environmentally friendly material to collect the water because jerrycans can be re-used numerous times compared to single use plastic bottles.



Figure 18. A porter brought jerrycans to collect water from the water spring followed by another porter with empty mineral plastic bottles.

7.4 Pro-environmental immediate impacts in wood use issue

Despite the fact that ten learning outcomes were coded under the garbage issue, only one had an impact that led to pro-environmental behaviour. Table x below illustrates that criticising/blaming was the only interaction that had an impact on leaning outcome in relation to pro-environmental behaviour.

Table 10. Frequency of interactions, learning outcomes and their pro-environmental immediate impacts in wood use.

	Argument/ discussion	Knowledge sharing	Criticising/ blaming	Asking question/informing	Word- of- power	Peer observation
Frequency	0	0	1	6	1	4
With learning outcomes	0	0	1	5	1	3
Pro- environmental immediate impacts	0	0	1	0	0	0

Only one interaction successfully resulted in a learning outcome which had an impact on pro-environmental behaviour criticising/blaming. Out of the 3 topics concerning learning outcomes in wood use (making a campfire, using tree saplings as walking sticks and chopping wood), only one learning outcome that potentially resulted in pro-environmental behaviour; specifically, chopping wood.

Criticising/blaming was the only interaction that had an impact on pro-environmental behaviour and therefore confirmed that reminding or rebuking people who performed an undesirable action according to pro-environmental behaviour in mountaineering tourism activities can be one of the interactions that can generate the social learning process. It is worth stating that the idea of a community watchdog to help the authorities manage the mountainous protected areas can be used to assist people to adopt more environmentally friendly behaviour during mountaineering tourism activities.

Below is an excerpt to give a picture of an episode of criticising/blaming interaction with social learning outcome and impact on pro-environmental behaviour:

“I even warned a local visitor because when I saw him, he was chopping down the wood. I told him to stop doing it, but he was mad at me. One time I did the same thing to another local and he said sorry because he said he had not seen the signage” (JE, porter, interview, 20 December 2017).

8. Discussions

The present study focuses on social learning that takes place in mountaineering tourism and the learning outcomes with pro-environmental immediate impacts. In this chapter, results of the research are analysed and discussed in order to answer the research questions. First, the environmental issues (SQ 1) will be discussed in 8.1, followed by key actors' interactions (SQ 2) in 8.2, then continued by the learning outcomes (SQ 3) with pro-environmental immediate impacts (SQ 4) in 8.3. Furthermore, considerations of the research will also be presented.

8.1 Environmental issues raised by key actors in Mount Rinjani National Park

Based on the interviews and observations, garbage is the most discussed environmental issue in Mount Rinjani National Park, especially at the crater rim and any other resting places where visitors can pitch a tent and stay overnight, besides having a break and eat or drink. The interviewees also commented that the garbage cans are not necessary because it could mislead people into throwing out their garbage their instead of taking it back down, which is a more desirable behaviour.

Besides garbage, the interviewees also mentioned sanitation, water source use, wood use, as well as the wildlife and landscape as environmental issues that they raised during their mountaineering activities. This concurred with the study conducted by Geneletti & Dawa (2009), which describes garbage and poor sanitation in the camp site, groundwater pollution, along with disturbed wildlife as the issues that mountaineering activities produced in the mountainous national park.

Figure 19 below illustrates the comparison of environmental issues brought up by the interviewees during their mountaineering tourism activities. It can be clearly seen that garbage is the most popular issue to discuss, followed by sanitation, water source use, wood use and lastly, the wildlife and landscape.

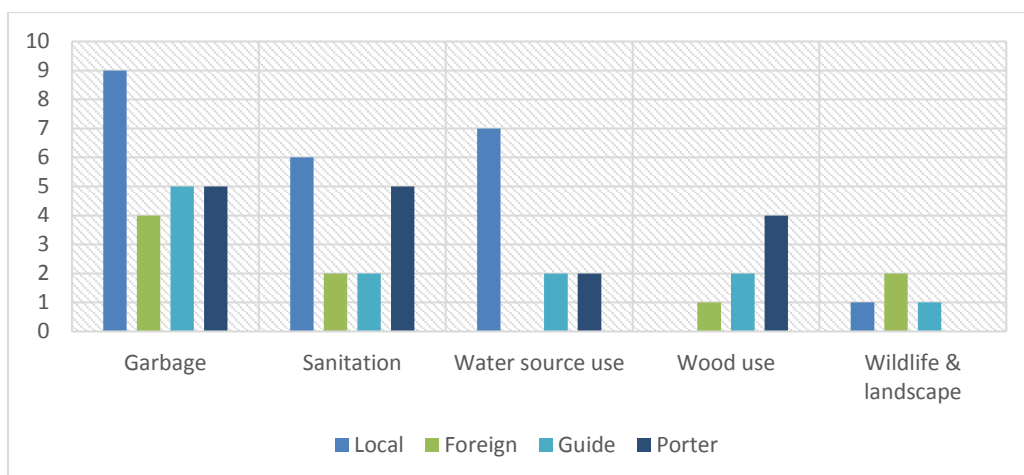


Figure 19. Comparison between environmental issues in mountaineering tourism activities with the actors that raised it.

8.2 The key actors' interactions in Mount Rinjani National Park

Local visitor, foreign visitor, guide, and porter are the key actors in mountaineering tourism in Mount Rinjani National Park. In terms of interactions, there were 6 types of interactions that emerged amongst actors during their mountaineering tourism activities, namely argument/discussion, knowledge sharing, criticising/blaming, asking question-informing and word-of-power. Figure 20 below presents the frequency each interaction regarding of key actors.

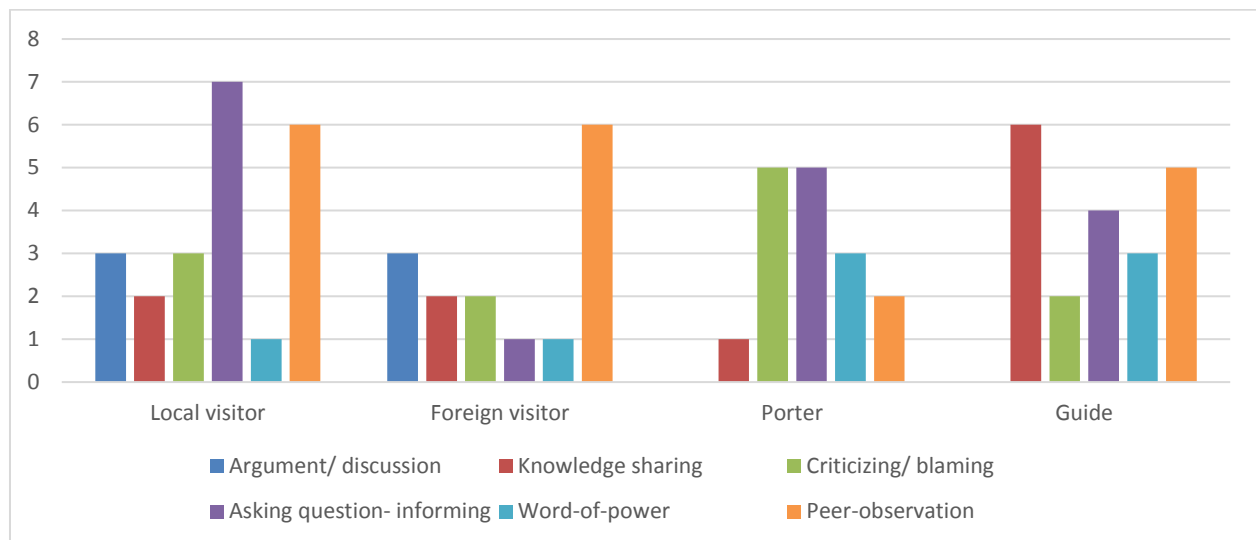


Figure 20. Comparison between actors and types of interaction they used the most during the mountaineering tourism activities.

In their study, McGregor & Chi (2002), mention that peer observation, argumentation, self-explanation, knowledge sharing and criticising are required for the learning process to be successful. Beers et al. (2016), also present types of interaction and link them to learning outcomes. These types of interactions are antithetic interaction, synthetic interaction, informing, word-of-power, agenda wars and conflict. In this study, the interactions that emerged within the key actors were represented by both studies.

Peer-observation was predominantly performed by local visitors and foreign visitors. From their interactions, they mentioned that it was the action of porters and guides that they observed the most, particularly in handling the garbage and wood use. This suggests that porters and guides were the role models for the visitors. The guides were also noted to observe their fellow porters and guides under the same issues as local and foreign visitors.

The guide is the leader of the expedition group. The guide is responsible for coordinating with the porters about the expedition's necessities and accompanying the visitors *or guests* — their term for visitors who use their service/hire them — in assisting them with their needs and answering their questions. All communications with guests during the mountaineering tourism activities were usually being taken care of by the guides. The porter is the individual who takes care of everything, from pitching the tent, cooking meals, handling the garbage, erecting a toilet tent, and on occasions, looking for tree saplings.

Seeing this, the guides and porters are essential in mountaineering tourism activities in Mount Rinjani National Park. This is because the guides and porters are not only responsible for their own groups, local visitors who are not in their group also rely on them for information and imitate their actions in handling environmental issues in mountaineering tourism. Recommendations for further action to maximise their role in mountaineering tourism in Mount Rinjani National Park will be discussed in the subsequent chapter.

By knowing which environmental issue that the actors considered and the types of interaction they use, we got to understand more about the role of communication and social learning in the potential behavioural changes that are desired in mountaineering tourism. This information is valuable for creating a conducive situation for social learning to take place amongst the actors, which in turn may lead to pro-environmental behaviour.

8.2 The opportunity to foster pro-environmental behaviour through for social learning in mountaineering tourism

Social learning takes places in mountaineering tourism via interactions. Learning outcomes from interactions do have pro-environmental immediate impacts that could lead to pro-environmental behaviours. As shown in the previous sub-chapters, porters and guides have considerable influence on the key actors in mountaineering tourism. Local visitors, foreign visitors, even their colleagues copy their actions in handling environmental issues during mountaineering activities.

Lack of knowledge concerning pro-environmental behaviour amongst porters and guides also emerged in the study conducted by Moghimehfar & Halpenny (2016), as a constraint in mountaineering tourism. Therefore, it is exceedingly important for the national park authorities to invest in porters and guides because from the study of Moghimehfar & A. Halpenny (2016), they believe that people only participate in pro-environmental activities if they recognise what the desirable and undesirable behaviours are, besides the consequences of their actions.

According to the results, peer-observation, knowledge sharing, asking question-informing type of interactions occurred the most amongst the key actor and have the most learning outcomes in which generate pro-environmental immediate impacts. As mentioned before, porters and guides have the most influence on other key actors from their acts and information sharing. Even so, members of expedition group also influence each other on pro-environmental immediate impacts from social learning in mountaineering tourism. For example, in sanitation issue, member of the expedition group usually asked their peers on where and how to defecate. One of my interviewees, a local visitor, mentioned that because of his friend brought a small shovel to make a cat-hole to bury the human waste, he borrowed it and considered to also bring it in the next mountaineering expedition trip. This creates another possibility to encourage members of expedition groups to have the correct information on pro-environmental behaviours in mountaineering tourism before going on an expedition in mountainous areas.

On the one hand, social learning can be a beneficial means of learning to foster pro-environmental behaviour in mountaineering tourism. Conversely, social learning was certainly not the only learning mechanism. One of my interviewees, a local visitor, mentioned that because he saw a sign near the water source that prohibits the use of any chemical substances near the water source. From his remark, he mentioned that previously he wanted to wash his

face but after he saw the warning sign, he abandoned his intention. This showed that even just a warning sign can prevent a visitor from behaving in a less environmentally friendly manner.

In this case, social learning cannot be the sole approach for the actors to foster more environmental responsible behaviour. The use of clear signage, law enforcement, briefing at the ticketing office before the visitors start their trek and checking the visitors' belongings are also helping the visitors to have a comprehensive understanding of what type of behaviour is expected from them during their mountaineering activities.

8.4 Considerations

As in any other social research, there are several strengths as well as limitations in this research. The differences in the research and its limitations are presented as a consideration of the findings and with respect to further research.

Distinctions of the research:

- The study of mountainous protected areas in tropical climates like in Indonesia remains extremely limited, whereas studies that cover mountainous protected areas such as in Nepal (Sagarmatha National Park with Mount Everest) or other areas in subtropical and temperate regions are plentiful. The course of action in handling environmental issues in every region vary. For example, regarding the sanitation issue, where human waste can be buried in individual cat-holes, whereas in subtropical or temperate regions that is not always the case because of the snow.
- This study adds more information on key actors in mountaineering tourism from the previous studies undertaken by Lai, Hsu & Wearing (2016) and Pomfret (2006). Thus, this knowledge can be used to advocate on national park management and to establish a better programme for more environmentally friendly mountaineering tourism, especially in protected areas.

Limitations of the research:

- The interviewees might not fully represent the population of mountaineering tourism actors since I used convenience sampling due to time constraints and the challenging mountainous area.
- The climate characteristics of mountains significantly influence the seasonal movement of mountaineering tourists. In Indonesia, November-December is considered the beginning of the wet season. Consequently, there are fewer tourists than in the dry season. These circumstances could have affected the quality of interviewees and the observations.
- Social learning may seem simple, but it is a fairly complex concept. To apply it in a new field of study like mountaineering tourism (mountaineering tourism is not a common field of study), is quite challenging due to the limited amount of literature available as references.

- Since I took into account both the real actions and the discussed possibilities (intention) to accomplish the desired behaviours, there is a discrepancy between stated and actual pro-environmental behaviour. This gap can be the starting point for the intended behaviour–action gap study in pro-environmental behaviour in mountaineering tourism.
- Finally, while I sought to remain objective in my role as a researcher, I might have also influenced the generalisation of the findings, since I am also a periodic trekker.

9. Conclusion and recommendations

The main conclusion of this research is presented in this chapter to sum up the way social learning takes place and leads to pro-environmental behaviour in mountaineering tourism (MRQ). Followed by the research implications in social learning theory, the concept of pro-environmental behaviour and tourism in protected areas, together with recommendations for future action.

9.1 Main conclusion

In this research, I examined the opportunities for the key actors in mountaineering tourism to be involved in social learning and to foster pro-environmental behaviour in this way. There are several conclusions that can be drawn from this research.

Firstly, amongst five environmental issues in mountaineering tourism in Mount Rinjani National Park, the garbage issue is the most talked about amongst the key actors. This is because it is extremely apparent and every key actor has experienced and complained about it. Therefore, since Mount Rinjani National Park is a well-known mountaineering tourism destination, it is important to address this issue so that it will not spoil the experience of the key actors involved in mountaineering tourism in Mount Rinjani National Park.

Secondly, peer observation emerged as the interaction that occurred the most amongst the key actors in relation to environmental issues. Virtually, all of the local and foreign visitors that were interviewed mentioned that they observed the behaviours of their guides and porters the most. This suggests that porters and guides were the role models for the visitors and exert considerable influence on learning outcomes in mountaineering tourism that will lead to more environmentally responsible behaviour. Guides also found to observe their fellow porter and guide colleagues as local and foreign visitors. Therefore, the need to educate them and to make them as the champion for mountaineering tourism is urgently needed.

Lastly, knowledge sharing and asking question-informing interactions ranked the second and third after peer observation in terms of number of occurrences amongst the key actors and resulted in pro-environmental immediate impacts. This proves that information sharing also holds a place in social learning which could lead to pro-environmental behaviour. Information sharing does not only count guides and porters as the source of information but also within one's expedition group and amongst friends.

9.2 Recommendations

This research tries to unravel social learning in mountaineering tourism toward pro-environmental behaviour in Mount Rinjani National Park, Indonesia. A similar study in other mountainous protected areas in tropical climates like in Indonesia can be conducted for further research in social learning in mountaineering tourism since it is still poorly explored. Furthermore, other mountainous protected areas have different characteristics and different key actors. Guides and porters may not commonly used in other mountainous national parks,

such as Bromo Tengger Semeru National Park or Mount Gede Pangrango National Park. As mountaineering tourism keeps on thriving, a study on ways for the key actors to foster pro-environmental behaviour in mountaineering tourism is greatly needed to conserve the nature.

In order to generate a sustain impact in pro-environmental behaviours in mountaineering tourism, based on the research findings in Mount Rinjani National Park, the following recommendations mentioned below are also proposed with regard to future actions:

- The national park authorities can use the role of guide and porter in the expedition to stimulate social learning that leads to pro-environmental behaviour by educating them and making them the champions in mountaineering tourism in Mount Rinjani National park, or in any other mountainous national park.
- There is considerable discussion regarding garbage compared to other environmental issues in Mount Rinjani National Park. This demonstrates that garbage is the most visible and most straightforward issue to discuss. It is also occasionally interwoven with other environmental issues, for instance the wildlife and landscape issue. Hence, it should receive more attention from the national park authorities so that it is addressed and solved.
- Knowledge is an important supporting element in social learning. A correct background information about the desired behaviour is needed for a social learning to take place and to bridge the knowledge gap amongst key actors. Therefore, a clear signage, leaflets and briefing for the key actors prior to participating on treks are essential in mountaineering tourism. As the key actors undertake a trip with their expedition group, social learning becomes the medium for the key actors to share knowledge and hopefully resulted in immediate impacts that lead to pro-environmental behaviour.
- As a “non-coercive natural resource governance”, social learning can be a complementary policy instrument as Blackmore, Chris, Ison & Jiggins (2007) suggested in their study. The successful introduction and management of social learning in water governance can be replicated in managing natural resources in protected areas. Therefore, social learning should be much better understood, not only as a conceptual framework, but also as “an operational principle, a policy instrument and a process for systemic change” (Blackmore, Chris et al., 2007).

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Appendix I: Interview Guidelines

Before conducting an interview, I will introduce myself by the same instruction:

“Greeting (good morning/afternoon/evening), my name is Novita, I am a master student of Communication, Health and Life Sciences. Currently, I am conducting a research for my thesis on how groups of mountaineers talk about environmental issues during mountaineering activities. Do you have some time for this interview? It will take around 30-45 minutes.

I will guarantee the anonymity of your information which means that you can share anything that you think and whatever happened during your mountaineering activities. The information will solely be used for academic purposes and a better national park in the future.

Would you mind if I record this interview?”

1. Social learning in mountaineering tourism activities

a. Social learning process

- 1) How do you know the people in your expedition group?
- 2) What are the things that you talk the most during the activities?
- 3) Are there any environmental issues being brought up? What are those?
- 4) How did you talk about it? How many times? How did people respond to that?
- 5) Who is the one that brought up the issues?
- 6) Do you remember when is that happened? Where?
- 7) Do you recall any occasions that caused the issues to be talked about? What was that?
- 8) How did the others (other mountaineers/tourists/guides/porters) respond to that?
 - ☐ Peer observation: Did the others just observe/see/witness it without giving any comments?
 - ☐ Criticizing: Did anyone give any critiques regarding to the issue?
 - ☐ Argumentation: Did anyone reply to the critique and involved in an argumentation?
 - ☐ Self-explanation: Did anyone explain something about it and support it with prior knowledge?
 - ☐ Knowledge sharing: Did anyone engage in knowledge sharing and discuss the issue?
- 9) How did you respond to that? Why?
 - ☐ Peer observation: Did you just observe/see/witness it without giving any comments?
 - ☐ Criticizing: Did you criticize someone? Or did someone criticize you?
 - ☐ Argumentation: Did you involve in an argumentation with others?
 - ☐ Self-explanation: Did you explain an information given your prior knowledge?
 - ☐ Knowledge sharing: Did you engage in knowledge sharing with others?

b. Social learning outcomes

1) Garbage

a. Conceptual content

- What do you think about the garbage condition during mountaineering activities? What did you talk about when you talk about the garbage? The people, the system, the lack of infrastructure?
- During this expedition with your group, do you now have new/different perspective knowledge/ideas on how to handle the garbage issue the mountaineering activities?
- What is that?
- Where/from whom did you get that? From looking at the other mountaineers, porters/guides, or even from other member of your expedition group? (peer observation, argumentation, knowledge sharing, self-explanation, and criticizing)
- When? In what occasion?

b. Relational content

- What is each group member's role in handling the garbage issue in the mountaineering activities? Is there any specific division of work? (mountaineers/tourists/porters/guides)
- Did other people handle their garbage differently?
- How did your group manage to solve the garbage issue? Did you have a talk or someone just volunteered or how?
- Whom did you usually talk about the garbage issue in mountaineering activities with? Why?

c. Actions content

- Is there any new/different behavior in handling garbage issue in the mountaineering activities from this expedition? (From yourself or from the group) When? What is that?
- Can you give me an example of occasion when and where did that happen?
- Did you or your group decide on something or you have an opportunity/option on how to handle the garbage issue which might be implemented in your next expedition in mountaineering activities? Can you tell me about it?

2) Sanitation

a. Conceptual content

- What do you think about the sanitation during mountaineering activities? What did you talk about when you talk about the sanitation?
- During this expedition with your group, do you now have new/different perspective knowledge/ideas on how to handle the sanitation issue the mountaineering activities?
- What is that?

- Where/from whom did you get that? From looking at the other mountaineers, porters/guides, or even from other member of your expedition group? (peer observation, argumentation, knowledge sharing, self-explanation, and criticizing)
- When? In what occasion?

b. Relational content

- What is each group member's role in sanitation issue in the mountaineering activities? Is there any specific division of work? (mountaineers/tourists/porters/guides) Looking for the place to 'do the business' perhaps.
- Did other people handle their sanitation issue differently?
- How did your group manage to solve the sanitation issue? Did you have a talk or someone just volunteered or how?
- Whom did you usually talk about the sanitation issue in mountaineering activities with? Why?

c. Actions content

- Is there any new/different behavior in handling sanitation issue in the mountaineering activities from expedition before? (From yourself or from the group) What is that?
- Can you give me an example of occasion when and where did that happen?
- Did you or your group decide on something or you have an opportunity/option on how to handle the sanitation issue which might be implemented in your next expedition in mountaineering activities? Can you tell me about it?

3) Wood use

a. Conceptual content

- What do you think about the situation of wood use condition during mountaineering activities? What did you talk about when you talk about the wood use?
- During this expedition with your group, do you now have new/different perspective knowledge/ideas on how to handle the wood use issue the mountaineering activities? For example, whether to build the campfire or not.
- What is that?
- Where/from whom did you get that? From looking at the other mountaineers, porters/guides, or even from other member of your expedition group? (peer observation, argumentation, knowledge sharing, self-explanation, and criticizing)
- When? In what occasion?

b. Relational content

- What is each group member's role in the wood use issue in the mountaineering activities? Is there any specific division of work? (mountaineers/tourists/porters/guides) Who is in charge on building the campfire or looking for the wood fuel for example.
- Did other people handle their wood issue differently?

- How did your group manage to solve the issue? Did you have a talk or someone just volunteered or how?
- Whom did you usually talk about the wood use issue in mountaineering activities with? Why?

c. Actions content

- Is there any new/different behavior in handling the wood use issue in the mountaineering activities from this expedition? (From yourself or from the group) What is that?
- Can you give me an example of occasion when and where did that happen?
- Did you or your group decide on something or you have an opportunity/option on how to handle the wood use issue which might be implemented in your next expedition in mountaineering activities? Can you tell me about it?

4) Water source use

a. Conceptual content

- What do you think about the water source use condition during mountaineering activities? What did you talk about when you talk about the water source use?
- During this expedition with your group, do you now have new/different perspective knowledge/ideas on how to handle the water source use issue the mountaineering activities?
- What is that?
- Where/from whom did you get that? From looking at the other mountaineers, porters/guides, or even from other member of your expedition group? (peer observation, argumentation, knowledge sharing, self-explanation, and criticizing)
- When? In what occasion?

b. Relational content

- What is each member's role in handling water source use the mountaineering activities? Is there any specific division of work? Who is responsible in getting the water supplies and see someone is using chemical substance in the water spring for example.
- How did your group manage to solve the water source use issue?
- Whom did you usually talk about those issue with? Why?

c. Actions content

- Is there any new/different behavior in handling water source use issue in the mountaineering activities from this expedition? (From yourself or from the group) What is that?
- Can you give me an example of occasion when and where did that happen?
- Did you or your group decide on something or you have an opportunity/option on how to handle the water source use issue which might be implemented in your next expedition in mountaineering activities? Can you tell me about it?

2. Pro-environmental behavior and environmental issues

1) Garbage

- a. What did you do with your personal garbage during the mountaineering activities?
- b. Did you separate the organic and non-organic waste? By how?
- c. How did you handle the two types of waste (organic and non-organic)?
- d. Did you know how do your friends do with theirs? Did you ever share the experience and knowledge regarding on how to handle the garbage in mountaineering activities?
- e. What about the group accumulative garbage? Mineral water bottle, snacks packaging, waste from cooking, for example. What did you do with that?
- f. Who was responsible in handling the group garbage?
- g. Where did you dispose all the garbage?
- h. Did you clean up your campsite before leaving it? By how? Who is responsible for that?
- i. During the trekking or in the resting/camping site, what did you do when you found someone else's litter? Did you pick it up or just leave it there? Why?
- j. Did you ever burn your garbage using campfire or gas stove? Why?
- k. Did you have any unpleasant experiences regarding waste in mountaineering activities? When? Where? Why?
- l. Do you know what is the proper behavior in disposing garbage and how is it supposed to be done?
- m. Do you think that garbage is an important issue in mountaineering activities? Why?

2) Sanitation – end with this

I'm sorry if the following questions make you uncomfortable.

- a. What did you do when you have the urge 'to go to the toilet' while doing the mountaineering activities? Where did you usually 'do the business'?
- b. How did you usually scouting a place 'to do the business'? From whom did you know that?
- c. Do you know how did your friends deal with theirs? Did you ever share the experience and knowledge on how to deal with that?
- d. What did you use to clean up? Why did you choose that material?
- e. If the answer is tissue: Was it the wet one or dry? What did you do with the used tissue? Why?
- f. If the answer is other materials: What did you do with the used materials? Why?
- g. Did you have any unpleasant experiences when 'doing the business'? When? Where? Why?
- h. Do you know what is the proper behavior and where is it supposed to be done?
- i. Do you think that sanitation is an important issue in mountaineering activities? Why?

3) Wood use

- a. Did you make a campfire during your stay in the campsite?
- b. Who did prepare it?

- c. Did you know where was the wood/fuel comes from? Where?
- d. If you did, how did you make sure that the fire is completely off? Who was responsible for that?
- e. If you did not make a campfire, why?
- f. Did you know whether it is allowed or not to make a campfire in the national park areas? From where did you know that?
- g. Did you have any unpleasant experiences regarding making a campfire? When? Where? Why?
- h. What kind of utilities do you use during for the cooking? Who was responsible for the cooking?
- i. If using wood, where did you get the wood? Who got that?
- j. Did you need a pole or stick to help to walk while doing the trekking? If you did, what kind of pole or stick did you use? Why?
- k. What about your friend? Did anyone need a pole or stick to help to walk while doing the trekking?
- l. For guides/porters, if your your guest needs help to walk (feeling too exhausted or has an injury), what do you usually do? How?
- m. Do you know what is the proper behavior for the wood use and how is it supposed to be done?
- n. Do you think that wood use is an important issue in mountaineering activities? Why?

4) Water source use

- a. What did you use to refresh yourself? Washing your face or brushing your teeth for example
- b. Where did you do it? When? How?
- c. Do you know how did your friends deal with theirs? Did you ever share the experience and knowledge on how to deal with that?

In water spring (You can skip this if you did not go to the water spring)

- d. Did you find any the water spring? Where did you found it? How many are there? From whom did you know that?
- e. What did you usually use the water spring for?
- f. Did you know what kind of behaviors are allowed and not allowed in the water spring? From where did you know that?
- g. Did you have any unpleasant experiences when using water spring? When? Where? Why? What did you do about that? What was your other friend response?
- h. Did you ever see human waste or chemical substance or any waste near the water spring? What did you do about that? What was your other friend response?

In Segara Anak Lake (You can skip this if you did not go to Segara Anak Lake)

- i. Did you go to the Segara Anak Lake? How many nights did you stay?
- j. What kind of activities you did when you were staying in there? What about your friends?

- k. Did you know what kind of behaviors are allowed and not allowed near Segara Anak Lake? From where did you know that?
- l. Did you have any unpleasant experiences in Segara Anak Lake? When? Where? Why? What did you do about that? What was your other friend response?
- m. Did you ever see human waste or chemical substance or any waste near the Segara Anak Lake? What did you do about that? What was your other friend response?

In hot spring (You can skip this if you did not go to the hot spring)

- n. Did you go to the hot spring as well? What did you do in there? What about your friends?
- o. Did you know what kind of behaviors are allowed and not allowed in the hot spring? From where did you know that?
- p. Did you have any unpleasant experiences in the hot spring? When? Where? Why? What did you do about that? What was your other friend response?
- q. Did you ever see human waste or chemical substance or any waste near the hot spring? What did you do about that? What was your other friend response?
- r. Do you think that water source use is an important issue in mountaineering activities? Why?