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Evaluation of Tourism Impacts
– a sustainable development perspective

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– a sustainable development perspective

Abstract:

With the growth of tourism, impacts of tourism development have become more and more visible in society. There have been calls from researchers to examine the whole array of impacts and not stop at economic impacts which have previously been the custom. This goes in line with the increased focus on sustainable tourist development where economic impacts are considered alongside sociocultural and environmental impacts.

This thesis develops and applies a framework based on sustainable tourism development in order to evaluate economic, sociocultural and environmental impacts. A case study of Kiruna and Jukkasjärvi (site of the Icehotel) in Northern Sweden serves as the empirical example where a direct flight from London has recently opened up and increased the number of visitors.

The Triple Bottom Line-model (TBL) is chosen as the most suitable framework. Adapting and developing this framework and linking it to other theoretical concepts such as Carrying Capacities and Capital constructs is one of the thesis' contribution.

Moreover, the empirical results work as a test of the framework as well as a contribution to the discussion on the sustainability of tourism development.

The results show that TBL is a step forward when doing more holistic evaluations of tourism impacts, but more research is needed in order to find ways of comparing the results of the different impact dimensions. Being able to measure, describe and understand tourism impacts, other than economic, also helps destinations and tourism developers plan and execute steps in tourism development which is more sustainable.

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This thesis is dedicated to Måns, my brother and a true traveler.

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1 INTRODUCTION

Since the dawn of mass tourism in the 60s the impacts of tourism have been more and more visible at tourist destinations. This implies also impacts other than the financial gains made by destinations, tour operators, national states, tourist entrepreneurs, and local residents. With an industry which is estimated to double from 2009 (880 million) until 2020 to 1.6 billion tourists ("Tourism 2020 Vision", 2010; "UNWTO World Tourism", 2010), it is most likely that tourism will make even larger footprints on our societies. Previous research on tourism impacts has predominantly focused on economic effects (Getz, 2009; Wall & Mathieson, 2006). However, it has been pointed out by several researchers that it is of importance to look beyond the economic impacts and include social, cultural, environmental and other impacts (Deery & Jago, 2010; Dogan, 1989; Gössling & Hall, 2008; Lankford & Howard, 1994; Pizam, 1978; Turner & Ash, 1975) together with economic impacts.

This thesis aims to contribute to the growing research focusing on more holistic tourism impact evaluation, combining economic, social, cultural and environmental impacts.

In the late 60s, fishing villages in southern Spain and on Spanish islands were, in a short period of time, transformed into cities to cater for the rising mass tourism invasion from northern Europe. The insufficient planning, the speculation over land, and the control over supply and demand by foreign tour operators, created negative impacts in the long-run for the destinations. The overdevelopment impacted negatively on the local environment and social fabric of the destination and as a result affecting the number of tourists and local residents' perception of tourism development negatively (Knowles & Curtis, 1999). The case of Mallorca can be seen as an example or a symbol for this development with negative impacts of mass tourism visible already 40 years ago (Lindström, 2003). The notion that large volumes of tourists concentrated to a limited destination (in size) could bring negative social and cultural impacts appears in research notes already in the 70s (Pizam, 1978; Turner & Ash, 1975).

As mentioned above, when evaluating impacts of tourism, the norm has been to exclusively look at the economic consequences in monetary terms. Economic impact evaluation has a long history in tourism research (cf Archer, 1973; Fletcher, 1989; Wanhill, 1983) and there are several well-developed methods in order to calculate the economic impacts of tourism (Andersson, Armbrecht, & Lundberg, 2008). It is imperative to cover the economic impacts, but with the spotlight on other impacts it is also crucial to include these other aspects.

Even if the focus among tourist developers, authorities and consultants is still primarily focused on calculating the economic benefits of tourism development, there is a growing interest in research trying to understand, describe and measure other impacts of tourism. Pizam (1978)

attempted to build a tourism impact scale and understand the negative social impacts of tourism. Following this, several studies have focused on developing similar scales to measure social impacts in the field of tourism research (Ap & Crompton, 1998; Chen, 2001; Delamere, Wankel, & Hinch, 2001; Fredline, Jago, & Deery, 2003; Lankford & Howard, 1994). Moreover, environmental impacts have also been discussed from a negative perspective. American research from the 60s tried to estimate limits or caps for the number of visitors to national parks in order to preserve their biodiversity and ecosystem (Coccosis & Mexa, 2004). Today in the era of global warming alerts, the emphasis within tourism research has been on quantifying emissions connected to tourism activities and calculating our use of resources (eg. Gössling, Hansson, Hörstmeier, & Saggel, 2002; Hunter & Shaw, 2005).

The rise of impact studies focusing on social and environmental impacts of tourism development have been parallel to the institutional pressures from state and international bodies to implement the concept of sustainable development in planning and development. The UN-led commission on Environment and Development in 1988 lead the way with a definition of sustainability as “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (World Commission on Environment and Development, Brundtland, & Hägerhäll, 1988). From a tourism research perspective the inclusion of economic, social, cultural, and environmental impacts has been put forward when discussing the evaluation of tourism from a more holistic sustainable development perspective (cf. "Global Sustainable Tourism Criteria", 2010; Timur & Getz, 2009).

Noticeably, the research concerning social and environmental impacts, described above, discuss one set of impacts at a time, in isolation. However, to describe the larger picture and to understand tourism development from a holistic, *sustainable* perspective there is a need to combine economic, social, cultural, and environmental impacts into one framework that would make a more extensive and correct evaluation of tourism development possible. This has, in the research community, been requested and different frameworks have also been suggested (Getz, 2009; Hunter & Shaw, 2007) although, seeing the current growth rate of the industry, more focus is needed on this effort.

In addition to a review of the literature and development of a framework that contributes to the understanding and measuring of impacts of tourism development from a sustainable perspective there is also of interest to test such a framework empirically. The results of an empirical case study would illustrate positive and negative impacts, but also the constraints and possibilities of such a framework. The empirical results and the following discussion would contribute to the development and advancement of an evaluation tool capable of measuring

and understanding impacts of tourism development from a sustainable tourism development perspective.

1.1 RESEARCH PROBLEM AND RESEARCH QUESTIONS

The over-arching problem of how to measure and understand impacts of tourism development from a sustainable tourism development perspective will be discussed further below. Following this will be a discussion of the empirical part and how it can contribute to the development of a framework to evaluate tourism impacts. As a consequence, the research questions for this thesis will follow these discussions.

There have been some attempts to make evaluations of tourism impacts using a broader scope than only economic, sociocultural, or environmental impacts separately. Back in the 60s the concept of carrying capacity (CC) was developed with an aim to set limits to how much a tourist attraction (most often natural reserves) or destination could cope with in terms of visitor numbers (Coccosis & Mexa, 2004). From a focus on ecology and the protection of biodiversity the CC-concept has been widened to contain estimation of social, sociocultural, perceptual, economic, political, and administrative CC (Getz, 1983; McCool & Lime, 2001; O'Reilly, 1986; Yoel, 1992). Another, although to some extent similar, approach is the idea of capitals. The economics literature is based on the idea of capital stocks that can increase due to investment and be depleted or depreciated when used over a period of time. Different capital stocks and their constructs have been developed over time from different scientific disciplines and the financial capital, physical capital, human capital, natural capital, social capital, cultural capital, and administrative capital have all been discussed in liaison with tourism development at destinations and how these capitals are affected. Either separately or together in different frameworks (cf Ashley, 2000; Cater & Cater, 2007; Mykletun, 2009). Moreover, the Triple Bottom Line-approach (TBL) is a framework which lends its principles from the business world and a concept developed by Elkington (1997, 2004). Calculating not only the financial bottom line, but also the social and environmental bottom lines illustrates the company's result in terms of sustainable development. This basic idea has been translated into the tourism context and specifically into evaluation of festival and event impacts where economic, social, and environmental impacts have been examined. The development of this framework has mostly taken place in an Australian context (Fredline, Raybould, Jago, & Deery, 2005; Hede, 2008; Sherwood, 2007).

To examine the disparities and similarities of these frameworks would give an interesting and useful overview of the field and put the light on the challenge of measuring and understanding tourism impacts from a broader perspective. It would also make way for an important methodological discussion. How is it possible to measure and describe tourism impacts such as

economic, social, cultural, and environmental separately and in a holistic framework? How has it been done previously in tourism research?

A case study of a destination with an apparent, recent step in tourism development would contribute to the development of a framework as described above. The imminent increase in tourists globally and the institutional demand for sustainable tourism development calls for empirical examples to develop knowledge on how to measure, describe, and understand tourism impacts.

According to Getz (1983), tourism development could be either incremental or radical. Incremental development in tourism “implies planned or unplanned changes which vary only slightly from current conditions” (Getz, 1983, p. 257). In contrast to radical development, incremental development is done in smaller steps so that residents can get habituated to an increase in visitors and in order to minimize the risk of major negative impacts. Radical development takes a bigger leap in terms of the existing product and includes therefore a higher proportion of risk (Aldred & Jacobs, 2000; Getz, 1983; McDonough, 1993). The case study in this thesis, which will be used to test a framework of evaluating tourism impacts, has recently experienced a step in incremental development in terms of the opening of a direct flight increasing accessibility and thus the number of tourists coming in to the destination. The destinations, Kiruna and Jukkasjärvi, situated in the north of Sweden, will be described more thoroughly in chapter 1.3, but the prime reason for choosing this case is the recent increase in passenger numbers which is possible to identify and isolate, thus making it possible to test a framework.

The step in incremental tourism development will be measured and described using a framework grounded in previous research, developed and adopted to suit the context of the case study and regarding the latest advancements within the research fields of tourism impacts and sustainable tourism development.

This leads to the following research questions;

- 1. How can a framework be developed in order to measure, describe and understand impacts of tourism development from a sustainable development perspective?**
- 2. How does a step in incremental tourism development impact on a destination from a sustainable development perspective?**

The first research question concerns the development of a framework that can be applied when the aim is to measure, describe and understand tourism impacts in a sustainable tourism development perspective, i.e. a methodological problem.

The second research question concerns the empirical problem and will use the framework to analyze and discuss the impacts due to the step in incremental tourism development. The result, having applied the framework, will also illustrate which stakeholders at the destination that experience negative impacts (costs) and which stakeholders that experience positive impacts (benefits), thus understanding not only the impact on the destination as a whole, but also the impact on the different stakeholder affected by tourism development at the destination.

The contribution of this thesis will hopefully be twofold. Firstly, it intends to contribute to the existing tourism research literature on the evaluation of tourism impacts from a broader, more holistic sustainable tourism development perspective. Moreover, it intends to add to the body of empirical knowledge, i.e. is tourism development at a rural or peripheral destination, referring to the impacts found in relation to the step in incremental development, sustainable or not, why and to what degree? As a consequence the results will contribute to the discussion on the concept of sustainable tourism development. An empirical contribution will also hopefully be to see the results of a method, which has formerly not been frequently used, applied in a Swedish context.

1.2 AIM OF THE STUDY

The thesis aims to develop a framework for evaluating tourism impacts from a sustainable perspective, or more specifically evaluating impacts on a destination facing increased demand through tourism development.

The aim is also to measure, describe, and understand tourism impacts using empirical data from a case study and thereby contribute to the discussion on sustainable tourism development, both in an academic and in an industry context. The intention is to further more holistic methods in evaluating tourism impacts.

1.3 CASE: DIRECT FLIGHT TO KIRUNA AND THE ICEHOTEL

Kiruna and the region of Lapland is a peripheral destination with historical dependency on the mining industry, but with a resurgence of a vital tourism industry during the last decades. It is foremost the winter season that is the focus of attention with the iconic attraction of the Icehotel, with 50 000 visitors per year (Kuoksu, 2009), situated some 20 km outside of the city of Kiruna in the village of Jukkasjärvi. This attraction and its main entrepreneur, Yngve Bergkvist, has been a driver for the region during the last 19 years when the first Icehotel was built. It has particularly increased the inflow of foreign visitors to the destination.

Kiruna is built around, and has long been depending on the iron ore extraction industry. It is the largest underground iron ore mine in the world today ("Kiruna in Swedish Lapland", 2010), and

is still very much active. Although extraction techniques have become more efficient, the mine is still a large and profitable employer, but there is still no multitude of businesses similar to what can be found in larger metropolitan areas.



Figure 1: Map of Swedish Lapland and Sweden

Looking at demographical data, the municipality of Kiruna has had a trend of out-migration during the last 30 years; over 30 000 inhabitants in 1978 and close to 23 000 in 2009 (“SCB”, 2010). Being the geographically largest municipality in Sweden, the population density is extremely low and concentrated around the city of Kiruna. Around 28% of the population has an education on a higher level than high school or equivalent, which is lower than the national average (38%) and compared to generating centers, such as Stockholm (53%), there is a rather large difference (“SCB”, 2010).

Many northern, often mountainous and geographically peripheral, Swedish regions have a similar history. Traditionally, the sole industries have been extraction and

exploitation of the rich natural resources and reindeer-herding¹, which has led to a complete focus on gearing the infrastructure around these industries. When industries needed less people for the same level of production, there were no alternative employment readily available and the options were often limited to out-migration to generating centers or a job in the public sector.

Tourism has been given the role of rescuer in many rural, peripheral regions during the last decades. Development of tourism infrastructure and tourism in general often seems to be the last straw of hope for economic revitalization (Allen, Hafer, Long, & Perdue, 1993; Blomgren & Sørensen, 1998; Briedenhann & Wickens, 2004; Hohl & Tisdell, 1995). Local politicians, governing rural municipalities, need to secure jobs and fiscal incomes and therefore turn to tourism since it is often a generator of capital to the region and has the built-in characteristic of being bound to a physical place. Tourism is not, as often local traditional industries are, something that can be moved to other countries or regions. Consumption and job opportunities are tied to the destination to a larger extent and is therefore seen as a suitable and effective

¹ Reindeer-herding is the traditional livelihood of the Sami, indigenous population, living in the north of Sweden, Norway, Finland, and Russia.

alternative or supplement to traditional industries (Wall & Mathieson, 2006). Examples of destinations described above are regions such as the ski resort of Tärna (see Arell, 2000) or Kiruna.

Kiruna and Jukkasjärvi can, according to the categorization by Blomgren & Sörensen (1998), be said to be *geographically* peripheral as it is situated in the far north of Sweden, 145 km north of the Arctic Circle. There are daily regular flights to Stockholm (90 min)², but it is at a certain cost and the only fast way to get in to the region from Stockholm, Sweden's major generating centre. Thus, accessibility is a problem for the destination especially for tourists coming from abroad. Good market access, i.e. highway infrastructure, direct flights, low travel time etc., makes a destination (and also the business region in general) more attractive to visitors (Crouch, 1994; Halpern, 2008; Schürmann & Talaat, 2002; Williams & Baláž, 2008). A maturation of a destination and the possibility to evolve is more feasible with increased accessibility (Müller & Jansson, 2007).

The task of getting visitors to their destination, physically, has been a challenge (Sweden; Halpern, 2008). Due to the spatial distance (in time and space) the assumption is that a higher cost and more time consuming travel arrangement decrease demand for a destination, and that an improvement in the two mentioned prerequisites would increase demand (Crouch, 1994). Prideaux (2000) highlights the importance of linking transportation that it is cheap and adequate, i.e. accessibility issues, with destination development. Also Halpern (2008) suggest that improvements in transport infrastructure play a significant role in destination development and growth, particularly in peripheral destinations. However, he does also underline that investment into e.g. airport infrastructure cannot by itself lead to development but is a part of an integrated tourism system. A destination must first and foremost have tourist attractions that create tourism demand. The increase in demand, in turn, facilitates infrastructure development. This is supported by Crouch and Ritchie (1999) who state that accessibility is a supporting factor among others, such as the destination's infrastructure, facilitating resources and entrepreneurship.

In time for the winter season 2007/08 the English tour operator Discover the World (DTW)³ set up a direct charter flight from London, Heathrow to Kiruna airport in order to get quicker and more convenient access to the region for their customers, thus increasing accessibility to Kiruna. Having many years of experience, selling package trips to Scandinavia, this was seen as a natural step for expansion, a way to circumvent the accessibility issue. DTW took the financial risk for the direct flight, although marketing of the flights and the destination was co-funded by

² Information from www.kiruna.se.

³ www.discover-the-world.co.uk

the DMOs Swedish Lapland and Kiruna/Lapland, Swedavia, Visit Sweden, the Icehotel, and Björkliden (M. Åström, personal communication, May 26, 2010).

Kiruna has had an increase of international incoming passengers from 6,616 in 1999⁴ to 16,394 in 2005 and 17,996 in 2009 (K. Johnsson, personal communication, November 11, 2010). About one third of the Icehotel's foreign customers come from Great Britain according to the Icehotel⁵.

Another destination in the Arctic region which has invested a lot into accessibility is Finnish Lapland. Their success has been an example of how a peripheral destination with similar preconditions can expand by ameliorating accessibility. Finnish Lapland has increased the number of international passengers from 18,539 in 1990 to 206,731 in 2005⁶ (Halpern, 2008). One big difference between Swedish and Finnish Lapland is that there are no imminent plans of expanding airport infrastructure on the Swedish side, but only an increase in seat capacity. Moreover, the investments in Finnish Lapland have been on a completely different level. In relation to the discussion on radical and incremental development in the introduction above, Kiruna's new direct flight can be treated as a step in incremental development while Finnish Lapland's big and groundbreaking investments in airport infrastructure could be classified as a radical innovation with larger risks involved.

One of the reasons for the upswing in the number of international visitors to Kiruna and Jukkasjärvi, over the last 15 years or so, has been the emergence, awareness, and success of the Icehotel. This hotel is created solely of ice from the Torne River close to Jukkasjärvi (app. 20 km east of Kiruna) and has been an unprecedented success for the regional tourism industry. Its basic business idea has been to invite people to spend the night inside the ice-made hotel and experience the wilderness and climate of the north of Sweden, combined with activities related to the region, such as reindeer herding, snow mobile excursions, and dog sleighing (www.icehotel.com).

The development of tourism infrastructure which has e.g. decreased the destination's geographical peripherality (increased accessibility), i.e. the direct flight from London, and the concentration of the tourism flow to the Icehotel, makes the case a suitable example of how incremental tourism development can be evaluated from a sustainable development perspective.

1.4 DISPOSITION

⁴ Swedavia started measuring international passenger in 1999.

⁵ App. number from 2009.

⁶ 5 airports (Rovaniemi, Kittilä, Ivalo, Kemi-Tornio, Enontekiö) are included in these numbers, and only 1 (Kiruna airport) will be under scrutiny in this case.

After the presentation of the problem area, the aim of the thesis and the case study (chapter 1), the disposition of the thesis will be as follows: Firstly, there will be a theoretical background to sustainable development and different impact dimensions of tourism with specific theoretical areas deemed important for this thesis (chapter 2). Chapter 3 will be dedicated to the research design of the thesis including an overall discussion of methodology, based on the literature review in chapter 2, and also methods used for the impact studies. Thereafter, results from each impact study (economic, sociocultural, and environmental) will be presented in chapter 4 and analyzed and discussed in chapter 5. Finally, chapter 6, will link the initial research questions and the literature together using the empirical data from the case study. A model for evaluation of tourism impacts, based on the findings and the literature review is proposed. Furthermore, this last chapter will make recommendations for further research.

2 SUSTAINABLE TOURISM DEVELOPMENT

The following chapter will introduce the shift towards sustainable tourism development (2.1) and its link to different frameworks for evaluation of tourism in a sustainable development context (2.3.4). Before that, three impact dimensions, economic, sociocultural and environmental impacts, are discussed (2.2). This literature review will make way for a synthesis of evaluation frameworks and lay the foundation for the methods used and discussed in chapter 3. The aim of the chapter is to create an understanding for the concept of sustainability and its building stones (economic, sociocultural, and environment) in the tourism research field.

2.1 SHIFT OF FOCUS: FROM ECONOMICS TO SUSTAINABILITY

Sustainability might not be every tourism entrepreneur's ambition, but is a growing public concern. Therefore national policy makers are turning in the direction of creating sustainable tourism. However, there has been a concern within the tourism industry on how exactly sustainable tourism development should be defined and how companies can be certified and marketed as sustainable to the consumer. A number of UN led organizations have responded to this confusion. Since they had a hard time finding good unifying definitions and standardizations, a partnership called "the Partnership for Global Sustainable Tourism Criteria" (GSTC) was formed by the Rainforest Alliance, the United Nations Environment Programme (UNEP), the United Nations Foundation, and the United Nations World Tourism Organisation (UNWTO) in 2008. The goal of the partnership was to increase the understanding for sustainable tourism and to set minimum universal criteria for being a sustainable tourism provider. The main pillars of the criteria as of now are:

- Demonstrate effective sustainable management
- Maximize social and economic benefits to the local community and minimize negative impacts
- Maximize benefits of cultural heritage and minimize negative impacts
- Maximize benefits to the environment and minimize negative impacts

("Global Sustainable Tourism Criteria", 2010)

As in tourism research literature, the main themes are economic, social, cultural and economic impacts, but GSTC has also highlighted the management aspect where planning and long-term sustainability is put in the forefront.

Going back a couple of decades, the environmental impact of tourism development and growth was increasingly debated. The debate on environmental impacts slowly widened and was merged within debates on socio-cultural impacts. But it was not until the late 80s that the large institutional frameworks, with UN at the helm, tried to set out goals for a sustainable

development. Goals for tourism specifically were not formulated until the 90s. Following voiced critique about development in the world, in general focusing solely on economic growth and a rising notion of environmental threats inherent with existing paradigms of industrialization, modernization, and economic neoliberalism, a conference was organized by the United Nations in 1989, popularly called the “Earth Summit”. This meeting discussed the incorporation of sustainability in future development strategies in order to preserve and stop deterioration of natural, social, and cultural resources (Holden, 2005).

*“Sustainable development can be defined as development satisfying the needs of today without endangering the possibilities of coming generations and their needs.”*⁷ (World Commission on Environment and Development, et al., 1988)

The definition above, by an UN-led report commission, grew out of the above mentioned notion that the development as it was did not sustain resources and leave a proper heritage to future generations. It has become an important definition and most of all a ground breaking report for institutions dealing with sustainable development.

After the “earth summit”, leading up to the declaration of Agenda 21 at the Rio summit in 1992 on how world development should be geared towards sustainability, the UN and governments set out to implement the policies agreed upon. In 1995, the EU published a report on how the implementation was progressing and listed tourism as a problematic area where more emphasis was needed in order to realize a move towards sustainable development. (Lindner, 1997)

Tourism research has, if put in the context of Thomas Kuhn’s ideas of paradigms and scientific revolutions altering the fundamentals within any given research field (Kuhn, 1996), lived through three paradigms. In the beginning, research was based on economics and tourism as a commodity. The focus then shifted to a more sociological stance with sociocultural aspects of tourism as starting point, arriving at the sustainability issue as the third and present “paradigm” (Jafari, 2003; Tribe, 2006). However, it is not a clean break between these currents of research, a more appropriate name would perhaps be trends or traditions, but they are still thriving side by side although focus has shifted. The first wave of sustainable tourism was seen as a counterweight to large scale mass tourism, and Clarke (1997) categorized the first wave of sustainable tourism research, or *positions of understanding* as she calls them, as *polar opposites*. The opposites refer to mass scale tourism vs. small scale tourism. They are opposites and therefore not possible to combine. Small scale tourism was popularly called alternative tourism. As the name articulates, it was an alternative way of travelling, interacting with hosts at destinations without leaving too much of an impact. The critique against this proposition and

⁷ Author’s own translation from Swedish.

way of polarizing small vs. large scale tourism is manifold and Clarke (1997) mentions the simplicity of the idea of “good”, as in small scale tourism vs. “bad”, as in large scale, mass tourism. Secondly, it does not get to the core of the problem with masses of tourists flowing into overcrowded destinations (Clarke, 1997). But it did get the dilemma of tourism on the table and presented an alternative to the norm. Another poignant detail is “the economic value of mass tourism..., and second, the fact that many people seem to enjoy being mass tourists” (Smith & Eadington, 1992, p. 32). A reasonably clear cut comment, which holds true also today, 17 years later, considering that the number of sold package trips to mass tourism destinations does not seem to falter. But it is also important to point out that it is not as easy as just putting different tourists in separate static boxes based on unique characteristics. In the words of Sharpley (1994), the “distinctions between different categories [of tourists] are likely to be much more blurred” (p. 86). An individual can be a “mass tourist”, and at the same time be an “explorer” or “traveler”. The supply is enormous and individuals are not static or willing to always be limited to the bubble that is a charter trip, often involving lack of authenticity and adventure (Sharpley, 1994).

Moreover, a tourist today is often aware of the non-authenticity of tourist attractions or the faked events that meet tourists at mass tourism destinations and accept them for what they are, playing along. This “new” type of tourist has been named the *post tourist* (Sharpley, 1994; Urry, 2002), and it is partly thanks to new information systems and the internet revolution that it is possible to be better informed about destinations and their supply. The tourist knows his role in “the tourist game” (Sharpley, 1994, p. 88) and choose the role of a mass tourist or individual traveler according to mood, envies, and needs . A parallel can be made to postmodern consumer culture where the self awareness of the consumer is elevated, or as the post-postmodern consumer, as described by Holt (2002), that looks for brands, or destinations in the case of tourism, that help fulfilling individuals’ self image or cultural identity.

Returning to the initial discussion on *positions of understanding* in sustainable tourism development, Clarke (1997) distinguishes three further positions in addition to *polar opposites*. Since all types of tourism use the same basic tourism infrastructure, it is straightforward to think of the development as a *continuum*, where small scale, alternative tourism could develop into a mass tourism phenomenon. The third position can be seen as a position of *movement* where the goal is to move large scale tourism into being more sustainable, and the last position, referred to by Clarke (1997), is a position of *convergence* where sustainability is seen as the ultimate goal to strive for, not only for large scale tourism, but for all types and shapes of tourism. These last two positions differ from the initial ones since they do not consider sustainable tourism as a possession inherited in some types of tourism, but a direction to go in and strive for. Also Lee (2001) sees sustainable tourism development as a concept with *moving* goals arguing that these goals constantly change in the long-term, but to attain these *moving*

goals is something to constantly strive for at a destination in order to call itself sustainable. To sum up, sustainable tourism development cannot be said to be static, but developing and evolving gradually over time.

Parallel with the different waves of research positions, as defined by Clarke (1997), different typologies for new types of tourism, linked to sustainability, have emerged in research. What today is normally labeled as sustainable tourism has originally been called “alternative tourism” and “new tourism” (Smith & Eadington, 1994). Other alternatives to mass tourism is and has been ecotourism, pro-poor tourism, fair trade in tourism, peace through tourism, volunteer tourism and justice tourism (Higgins-Desbiolles, 2008). Not all of these labels can be said to be types of tourism with specific destinations or mainstream content, but they set an agenda, be it eco-friendly travelling or social and cultural interaction in order to create understanding between the visitor and the host. The agenda is often in response to havoc caused by mass tourism, and according to Higgins-Desbiolles (2008), they do often have an anti-capitalist agenda. A bridging theme, among these “new” types of tourism, can be said to be the focus on sustainability. Higgins-Desboilles (2008) is a strong proponent of the “justice tourism” movement, which she means is the only true alternative left, which is not soiled by mass tourism operators. This implies that it has not been adopted, or kidnapped, for marketing purposes. In short, justice tourism “promotes just forms of travel between communities to achieve mutual understanding, solidarity, and equality”. It is still a centre-periphery mobility, where travelers from (often) the western world travel to developing countries, and all social exchange comes with impacts, although they can be demonstrated in a different ways, being positive or negative from the host perspective.

2.2 IMPACT DIMENSIONS

To widen the understanding of tourism impacts, it is vital to discuss and understand the research literature on the different dimensions of impact that follows tourism development at a destination. Based on the Global Sustainable Tourism Criteria (GSTC), discussed above, concerning impacts of tourism, the social, economic, cultural, and environmental benefits should be maximized and their negative impacts should be minimized. Here below follows a literature review on economic (2.2.1), social and cultural (2.2.2), and environmental (2.2.3) impacts of tourism, focusing on measuring, describing and understanding these impacts.

2.2.1 ECONOMIC IMPACTS

An extensive amount of research has been undertaken over the last decades in looking at economic impacts. Some of this research includes social impacts (mostly job creation) of tourism of varying kind. The research is based on different models and approaches, and focusing on different kinds of tourism such as; events and festivals (Getz, 2008); countries (e.g. Archer, 1989; Fletcher & Snee, 1989); sports tourism (e.g. C.-K. Lee & Taylor, 2005; Noll & Zimbalist, 1997); cultural tourism (e.g. Bedate, Herrero, & Sanz, 2004); destinations (e.g. Halpern, 2008; Wagner, 1997); the meetings industry (MICE) (Mistilis & Dwyer, 1999), and many more. However, there has been a lot of critique against the general results of impact studies, criticizing their exaggerated positive economic and social impacts and ignoring other, negative or positive, impacts (Andersson, et al., 2008). Also the way studies are performed and models are used has been criticized for not being accurate or objective (Baade, Baumann, & Matheson, 2008; Crompton & McKay, 1994; Jackson, Houghton, Russell, & Triandos, 2005).

The challenge with measuring economic impacts of tourism is partly the fragmented nature of tourism, i.e. it covers a wide range of industries, and partly the absence of a clear output. This is particularly evident when governments look at their national economies and have problems identifying the benefits of tourism in their accounts, while the output of traditional industries is possible to see and quantify more easily (Spurr, 2006)⁸.

It is important to bear in mind that numerous scientific (and “non-scientific”) economic impact studies are used to promote projects and initiatives concerning tourism by entrepreneurs, policymakers and politicians in order to e.g. legitimize their actions or to attract subsidies via external funds (state, EU, regional, private sponsors etc.) to regions and cities. These tourism project evaluations in development strategies or in political strategies are often based on inaccurate or at least debatable or questioned tools of measurement and have therefore been controversial (Crompton, 2006; Egan & Nield, 2000).

⁸ The “Tourism Satellite Accounts” (TSA), built on an Input-Output table, has been one solution for governments. See Spurr (2006) for more details on TSA.

Except for the additional expenditure accrued by the increased number of incoming tourists there are other positive economic impacts as a result of tourism in general. These include e.g. increased tax revenues for the local municipality and the state and an increased number of jobs (Andereck, Valentine, Knopf, & Vogt, 2005). Tourism research highlights the positive economic effects, but there can also be noticeable downsides economically. There could be a regional or statewide inflation due to increased demand and expenditure on certain goods and local government debt and increased tax burdens are also negative impacts that can occur due to investments into e.g. tourism infrastructure (Andereck, et al., 2005).

Economic impact assessments have a long history in research, so also within the field of tourism research. Wall and Mathieson (2006) states that the initial attempts at mapping economic effects were primarily targeted at international tourism or national tourism, but over time numerous regional, local, and event based analyses have been made, starting in the 70s and 80s with several studies by e.g. Archer (1973, 1982) and Fletcher (1989) focusing on the use of Input-output analyses and multipliers on nations and regions. But it has been a field with constant development and attention, with an emphasis only on visitor spending to more complex models including interrelations within the whole economy (see more below; 2.2.1.1, 2.2.1.2, 2.2.1.3).

A misconception is that all increase in expenditure from tourists automatically boosts the economy with the same amount. There are several factors determining the final impact of an increase in demand. Firstly, the tourism industry is fragmented and intertwines with other branches of industry within the economy. There are often constraints in a local economy which means that an increase in demand cannot be fully absorbed into the economy, if there are not idle capital and resources waiting to be utilized (Mules & Dwyer, 2005). Imports are often needed, especially in smaller local economies, in order to cater to visitors' needs. Most often the smaller the economy, the more imports are needed. Not only the size of the economy, but also development and diversification of the economy and the expenditure patterns of the tourists influence the size of imports, i.e. the intra-regional linkages (Archer, 1973). All imports can be seen as tourism expenditure leaking out of the economy, i.e. not benefiting the region, but companies elsewhere in the country or abroad. One example is hotels and resorts, or sometimes a whole tourist value chain, which is owned and controlled by foreign investors. Another example is foodstuff, beverages and other goods and services, in demand from tourists, which might not be produced in the local economy. Most tourist expenditure would in this case leak out of the local economy, benefiting foreign investors and suppliers in other regions. (Hohl & Tisdell, 1995; Wall & Mathieson, 2006)

These challenging scenarios can explain why tourism is not the "rescuer" of rural or peripheral regions in some cases. However, there are ways of minimizing leakages and maximizing local

economic gain, by increasing backward linkages throughout the local economy (Cai, Leung, & Mak, 2006; Telfer & Wall, 2000). This means that tourism suppliers promote local goods for sale to tourists, buy raw material and services locally, and hire local staff for operations or construction. In this way, tourist expenditure benefits the local economy to a higher degree. Destinations and specific suppliers in developing countries, and their linkages back to the local economy regarding tourism, has been studied several times in the past, as in the case of Indonesian hotels in Telfer & Wall (2000) or the emphasis on linkages discussed by Meyer (2008) in the context of Pro-poor tourism.

Today, there are three major models, and variations thereof, that are used when calculating economic impacts. These are Input-Output analysis (I-O), Cost Benefit analysis (CBA) and Computable General Equilibrium (CGE). There are clear differences, but also similarities between these models (Andersson, et al., 2008).

2.2.1.1 INPUT-OUTPUT ANALYSIS

The most frequently used tool of analysis has been the Input-output model (I-O). It basically measures the financial flows of tourism expenditure throughout the local, regional or national economy. It does only take into account the economic effects created, not values created such as social costs and benefits or other immaterial values. The model is based on data of visitor expenditure during their stay in the examined region, combined with data on the subsequent flow of this expenditure throughout the economy.

Three levels of economic impacts are most commonly used when doing Input-output modeling on tourism economic impacts. A short introduction to these follows here below;

The *direct economic impacts*⁹ refer to the actual money spent by incoming tourists during their stay. These are often distributed mainly to hotels or other places of accommodation, transport companies, restaurants and bars, local souvenir shops and other places where tourists are prone to spend their holiday money. It is also referred to as the initial injection of money (Crompton & McKay, 1994).

Apart from direct impacts, tourist expenditure also causes indirect and induced effects. *Indirect economic impacts* are expenditure that goes to payment of wages of local employees and to suppliers of goods and services in demand from beneficiaries of direct economic impacts. In this thesis the focus is on direct impacts but with a discussion of other impacts, including indirect. An example can be the Icehotel in Jukkasjärvi that needs to increase their stock of local foodstuff due to an increased number of visitors. This would cause a positive indirect effect for their supplier of local foodstuff (if local produce is used, if not it is considered as a leakage).

⁹ Also called *direct, indirect and induced spending* (Wall & Mathieson, 2006).

Induced economic impacts are tied to increase in spending among local employees due to higher wages caused by an influx of tourism expenditure. To use the example of the Icehotel again, their employees or their suppliers' employees might experience increased wages leading to an increase in their consumption traceable back to the increase in final demand caused by higher tourism spending. (Archer, 1973; Mules & Dwyer, 2005; Wall & Mathieson, 2006)

Multipliers have been frequently used in tourism impact research when doing input-output analysis. These are ratios of total economic impacts compared to direct economic impacts (Archer, 1973), e.g. if £10 million was spent in a region on tourism by visitors (direct economic impacts) and this would create a total of £15 million in total sales, counting sales in the second round of economic activity, third round, fourth round etc., the multiplier (output sales multiplier) would be 1.5¹⁰. There are also multipliers calculated on employment, income, and value-added that are frequently used (Archer, 1973, 1995; Mules & Dwyer, 2005). The determinant factor deciding the size of the multiplier is the amount of leakage out of the region, represented by imports and savings. If imports and saving are large, then not as much economic activity takes place in the economy and the multiplier shrinks (Archer & Fletcher, 1990). Multipliers are often used based on the direct economic impact (or injection of expenditure into the region) to understand the total impact or demand created by tourism. Having calculated multipliers for a specific region it is thereafter used as template for future evaluations.

According to Archer & Fletcher (1990), the application of tourism multipliers are derived from early works of several economists on multiplier theory, but relies most heavily on models developed by R.F. Kahn and Lord Keynes in the early 1930s. Critique has been aired from different scholars on how multipliers are applied and used. Wanhill (1988) criticize the use of average multipliers used in all scenarios, not taking the capacity constraints of the economy and the size of tourism expenditure into account. The argument is that if there is a large increase of tourism expenditure, an economy would exponentially increase its imports and the multiplier would be considerably lower than the average coefficient used initially.

There has also been an introduction of misleading multipliers by consultancy firms, such as the ratio multiplier. Creating a ratio between the total income of all rounds of expenditure in relationship to the initial direct impact, it does only give a hint of the backwards and forward linkage in the economy and should not be used to calculate e.g. increase in employment (Archer & Fletcher, 1990). The use of sales multipliers have also been criticized (Crompton & McKay, 1994) since these only measure the business turnover that is created. This would only

¹⁰ See e.g. Archer (1973), Archer and Fletcher (1996) or Wanhill (1988) for the mathematical basis for calculating tourism multipliers.

be of interest for some businesses, but it is tempting to use this multiplier, according to the authors, since it often gives large numbers to present to the public.

2.2.1.2 COMPUTABLE GENERAL EQUILIBRIUM

The basis for CGE is an Input-output model. However, where I-O often neglect capacity constraints and assume unlimited idle capacity (e.g. labor) in the economy to meet increased demand¹¹, CGE models the economy looking at all different sectors of the economy and how they are influenced by a phenomenon or specific incident (e.g. increase in tourism caused by a sport event). CGE takes into account the interrelations in an economy and between economies, be it regional or national. This includes labor drawn from one sector to meet demand in the tourism sector (i.e. crowding-out effects) or inflation due to tourism that would harm export of products in other sectors (Dwyer, Forsyth, Madden, & Spurr, 2000).

The output of the model is the change in GDP or GRP¹² due to the event that has taken place including changes in employment, imports and exports (Dwyer, Forsyth, & Spurr, 2004). According to the authors there is more reliability in a model that tries to use a more realistic view of the economy where capacity limitations are accounted for in each step. However, there are also weaknesses with the GDP measurement, as Baudrillard (1970) wrote; “Research, culture and women’s domestic labor are all excluded from these accounts..., though certain things which have no business there do figure in them [BNP accounts], *merely because they are measurable*” (p.45)¹³. The inclusion of all things measurable does not reflect the societal costs and benefits, but only a pile up of all measurable input and output.

CGE has been used and vowed for more frequently during the last decade. It has been used in event evaluation (Madden, 2006) to look at national tourism growth (Dwyer, Forsyth, et al., 2000), regional tourism growth (Zhou, Yanagida, Chakravorty, & Leung, 1997), and at computing the effect of unforeseen events on the tourism economy (Blake, Sinclair, & Sugiyarto, 2003). In Australia different CGE models have been used since the 70s in order to model and calculate policy changes and tourism’s impact on the economy (Dwyer, et al., 2004). In this case, and the ones above, it is used as a tool to understand different scenarios and shocks to the tourism sector and the economy as a whole.

However, a lot of detailed empirical data is needed from several sectors on different levels in order to fulfill the wealth of details necessary for a CGE¹⁴. With this follows costs of building up a CGE model. It has been criticized for being too costly, although Dwyer et al. (2004) claim it is not more costly than an I-O model, but probably more time consuming and not necessarily a

¹¹ See e.g. Wanhill (1988) for an exception.

¹² Gross Domestic Product (GDP) and Gross Regional Product (GRP).

¹³ Translated quotation from the English version of the book.

¹⁴ “commodity flows, labor market data and national accounts data” (Dwyer, Forsyth, et al., 2000, p. 336).

good option when doing impact studies in small regional settings. This is an argument against CGE as a suitable model for evaluation of incremental development, since it is not a major change or “shock to the tourism sector and the economy”.

Another critique against CGE is that there are a whole lot of underlying assumptions about the economy and the interrelations between sectors. If not done properly or based on sound empirical data, these assumptions could skew the results in one direction or another. This is, however, not only true for CGE. Both I-O (assumption of unlimited free capacity) and CBA (immaterial costs and benefits) relies heavily on assumptions. (Dwyer, et al., 2004)

2.2.1.3 COST BENEFIT ANALYSIS

Besides the input-output and CGE-model, the cost-benefit analysis (CBA) is a model used conducting economic impact studies. It includes financial as well as social costs and benefits in order to generate a result where benefits and costs to the society as a whole are rendered (Mitchell & Carson, 1989). The interest is not primarily the economic effects, but the effects, benefits and costs created in society caused by the phenomenon under scrutiny, i.e. economic efficiency (Andersson, et al., 2008). With this reasoning it is important to attach an opportunity cost evaluation, i.e. how resources would be used in the best alternative way and what the net effect would be. Using opportunity cost would give an estimate of the efficiency.

It is a complex model where information is needed on all fields covering financial, social, and welfare costs. This is one of the difficulties attached to this method (Getz, 2005). There is the need to define all costs and benefits and then find an appropriate way to measure them. According to Jackson et al. (2005) this approach is not applicable to small regional festivals and events as it can be hard for them to generate all the necessary information on societal costs and benefits to follow-through a trustworthy CBA.

There are a number of different methods available to estimate demand for private and public goods, primarily without a market price. These can be useful when immaterial costs and benefits in a CBA should be evaluated. The methods are often divided into stated and revealed preference methods. Most of these methods have their origins in environmental economics and the possibility to value public goods that are not on the market (Garrod & Willis, 2001; Mitchell & Carson, 1989), but has later also been adopted in the tourism impact research context.

One of these, the Contingent Valuation method (CVM), is based on stated preferences to estimate people’s perception of economic values (Mitchell & Carson, 1989). In tourism research local residents’ or visitors’ perception of the total economic value of sociocultural or environmental costs and benefits can be evaluated using this method

Explicitly, when using CVM, respondents are often asked for their Willingness-to-pay (WTP) for a good, service, or event that is not readily available on a market, i.e. the total economic value that people refer to a good. It is not what they have paid, but an estimate of what they are willing to pay. The advantage of this method is that all economic values are theoretically included, i.e. a holistic appraisal of a good's economic value, while one negative aspect is that the respondent does not have to realize their estimation, i.e. to pay the stated amount. Respondents can also be asked for their Willingness-to-accept (WTA) which asks them how much they are willing to accept as a minimum, being compensated for a hypothetical scenario (e.g. deterioration of a public good, injury etc.) (Garrod & Willis, 2001).

Noonan (2003) made a literature review of studies that have used CVM to value cultural experiences and institutions and found over 100 made after the year 2000. It has also been used in other contexts (e.g. tourist development, events, festivals) to put monetary values on immaterial costs and benefits (Andersson, 2000; Armbrrecht & Andersson, 2007; Armbrrecht & Lundberg, 2006; Reynisdottir, Song, & Agrusa, 2008).

The above studies look at stated preferences, i.e. the stated value of individuals on a specific good. There is also the possibility to look at individuals' revealed preferences. While a good might not be traded on a market it is possible to see what people spend on other market goods in order to consume a non-market good. In this way a value can be attributed by the estimation of the indirect costs. An example of this is the Travel Cost Method (TCM) that has been used in tourism research. This method uses visitors' cost to travel to e.g. an attraction to estimate the indirect value that visitors attribute to a specific attraction (Bateman, 2002; Liston-Heyes, 1999).

Other revealed and stated preference methods used in different research areas are hedonic markets (hedonic pricing techniques), avertive behavior and choice experiments (Garrod & Willis, 2001). These methods could all be used to understand and measure immaterial costs and benefits necessary to a CBA.

2.2.1.4 SUMMARY

The above description of models for measuring economic impacts of tourism has the purpose to illustrate the variety of choice (and the outcome). There is no standardized, agreed upon model that is in use by the research community. However, this said, using the subject for economic evaluation (attraction, festival, destination, nation, etc.) and the aim of the economic evaluation (measure financial flow, costs and benefits for the whole society, linkages etc.) as a starting point, it is motivated to choose between the above models recommended for the

specific subject or aim. Thus, when understanding the traits of each model currently used for measuring, describing, and understanding economic impacts it is possible to make an initiated choice based on the subject and the purpose of the evaluation. In the methodology chapter on economic impacts (3.2.1) a more thorough discussion on the choice is undertaken in order to motivate the method used in this case study.

2.2.2 SOCIAL AND CULTURAL IMPACTS

“...social impacts are defined as any impacts that potentially have an impact on quality of life for local residents.” (Fredline, et al., 2003).

This is the starting definition for social and cultural impacts used in this study, referring to locals’ perception of an improved, constant or declining level of life quality due to tourism development (as discussed below in chapter 2.2.2.2). A difference from the measurement of economic impacts of tourism is having the perspective of local residents. Their view upon visitors and tourist developers’ (private or public) actions are under scrutiny, while economic impacts often are measured based on visitor questionnaires on daily expenditure.

The distinction between social and cultural impacts are that the former are seen as development and changes in the short run and the latter are changes in the long run which affects locals’ beliefs and cultural practices. Beliefs and cultural practices can due to extreme events change in the short run, but in order to reset residents’ beliefs permanently a longer period of time, often several years of exposure, is necessary. (Brunt & Courtney, 1999; Sharpley, 2003)

Firstly, for social and cultural impacts to occur there is no need for an actual encounter between host and tourist. Just the look or behavior of tourists can impact locals’ behavior, attitudes or/and beliefs, in particular when it comes to mass tourism. However, actual encounters and communication have normally a larger positive or negative impact (Pearce, 2004).

Locals’ attitudes towards tourism development have an impact on developers’ possibility to maintain, expand and nurture high quality experiences to visitors. If locals experience negative social and cultural impacts of tourism, visitors might meet hostility instead of hospitality or indifference instead of enthusiasm while interacting with locals. The interaction between locals and visitors is a fundamental part of the (positive) tourist experience (Gursoy, Jurowski, & Uysal, 2002; Prentice, Witt, & Wydenbach, 1994). Thus, positive attitudes among locals could boost the tourist experience leading to tourism developers’ possibility to further enhance the product or expand. Depending on the level of interaction between visitors and locals and visitors visibility in the local community, there could also be a feeling of indifference among locals. This would possibly not reflect negatively on visitors’ experiences but at the same time it would not help boosting it or be a crucial part thereof. Studies show that a higher level of interaction leads to an understanding of the host culture (and vice versa) and a more positive tourist experience (Pizam, Uriely, & Reichel, 2000; Prentice, et al., 1994). However, these studies do not take residents’ attitudes towards tourism into account, only the time or level of social involvement with local residents.

2.2.2.1 SOCIAL EXCHANGE THEORY

Many researchers refers to *Social Exchange Theory* (SET) as the basis for the sociocultural impacts seen in destinations (e.g. Ap, 1992; Chen, 2001; Hernandez, Cohen, & Garcia, 1996; Sharpley, 1994). The core of the theory, coming from the field of sociology, states that a person will value the outcome of exchange or interaction in a social context comparing their own benefits and costs due to the exchange. Concerning social and cultural impacts in tourism, this would imply that residents with a net benefit of their exchange with tourists will have a more positive attitude towards continued tourism development (Andereck & Jurowski, 2005; Cook & Emerson, 1987). Residents with low or no benefit will have an indifferent or negative attitude towards tourism development. A number of intervening factors has been shown to influence the outcome of this exchange, and they are discussed more in detail in chapter 2.2.2.2.

It also works the other way around. Tourists would seek net benefits of their social exchange with local residents. This could be expressed through participation in local cultural ceremonies, i.e. positive experiences, or a beneficial purchase on the local street market (Sharpley, 1994). However, this study will ignore this side of the exchange and focus on perceptions of local residents.

Not all research base their notion and understanding of sociocultural impacts on SET (Lindberg & Johnson, 1997b) or give full support to the basics of SET in evaluating resident attitudes (Andereck, Valentine, Vogt, & Knopf, 2007; McGehee & Andereck, 2004). Lindberg & Johnson (1997) calculate locals' attitudes using *expectancy-value* (EV) and *value-attitude* (VA) models derived from social theory and psychology. Mazanec (2001) explains EV-theory, stating that consumers compare "expected level of performance with the perceived service performance in order to reach satisfaction or quality decision" (p. 322). In other words, residents evaluate what they expect tourism development or interaction should give them comparing it with the actual result of the same. Their attitude is based on this comparison. A VA-model, on the other hand, tries to explain locals' attitudes towards tourism based on their present values laying the basis for their final attitudes, while SET focus on the actual exchange between locals and tourism (individual tourists or the whole industry).

Since SET presupposes that personal benefit govern choice or attitudes, McGehee & Andereck (2004) tested if this was true in a rural tourism context. The results show that attitudes towards tourism development do not solely depend on locals' personal benefits of tourism, but also on other factors. They have not been able to isolate the external factors but propose that locals also want, independent of personal benefit, to see that *tourism is well planned* and that they have a strong belief in the *importance of having tourism development*. These factors would be independent of individuals' benefit of exchange with tourism and not based on self-enriching, but on the notion of a greater good for the local community. McGehee & Andereck (2004)

believe that the first factor (that tourism should be well planned) is derived from locals' mistrust for local governance of tourism development. Residents have experienced mismanagement and want tax payers' (i.e. their) money to be invested in a better way.

Andereck has also been part of another study where the results do not cohere with the fundamentals of SET. They show that the group of local residents with the highest net benefits from actual exchange with tourists is not the most positive group towards tourism development (Andereck, et al., 2007). There is no explanation to this contradiction in their paper, but it puts a question mark behind the unconditional use of SET as a basis for impact studies of this kind. However, SET does give an understanding for how locals might perceive tourists and tourism development. Moreover, although people with the highest present net benefits are not the most favorably disposed towards tourism today, as shown in the study discussed above, it might be that they estimate that they will gain even higher net benefits by further tourism development in the future.

The notion of SET will be the foundation for the sampling method of this study, where respondents with differing level of dependency (economic and social) on the tourism industry, i.e. differing level of (monetary) net benefits, have been interviewed (see chapter 3.3.2). Having said this, external factors, such as importance of tourism development and the perception of tourism planning (see above) will also be taken into account when analyzing the results and explaining possible discrepancies from the basic notions of SET. Ap (1992) claims that SET has the possibility to explain the origin of both positive and negative sociocultural impacts based on the exchange between hosts and visitors. This will also be implied in this thesis when analyzing the result of the sociocultural impacts of tourism in Jukkasjärvi.

2.2.2.2 LOCALS' PERCEPTION OF IMPACTS

The respondents' view on tourism development and its effect on their quality of life is subjective, comprising personal feelings and the perception of the external phenomenon, i.e. the local tourism development (Andereck & Jurowski, 2005). The subjective view of locals has been shown to be influenced by several *intervening factors* presented here below:

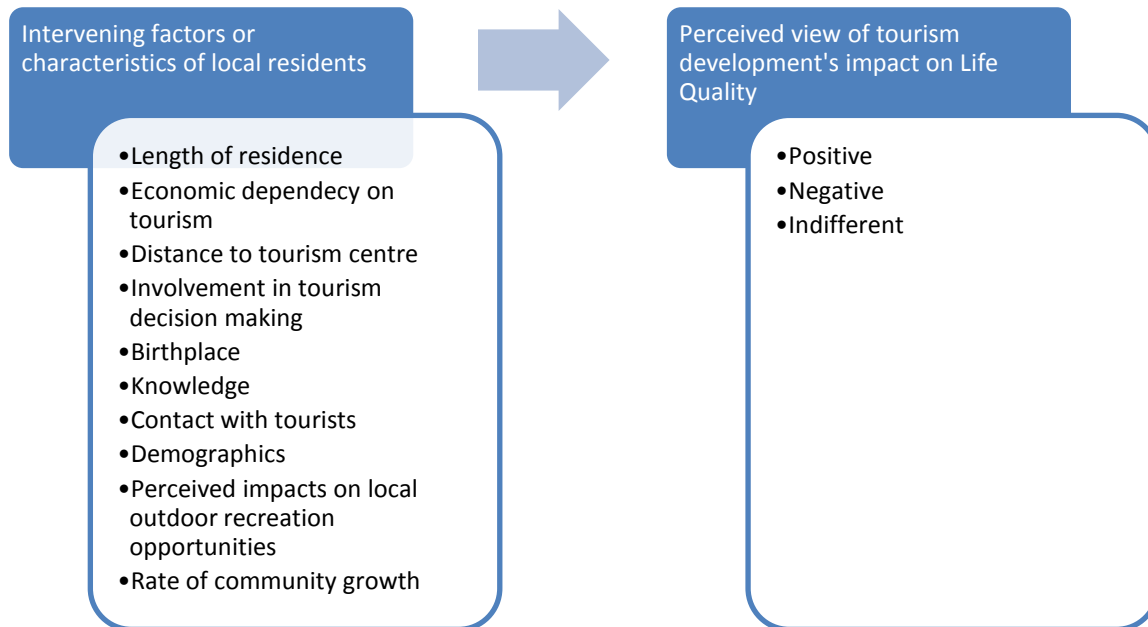


Figure 2: Intervening factors influencing residents' view on tourism development's effect on life quality. (Lankford & Howard, 1994)

The figure above illustrates the intervening factors influencing locals' attitudes towards tourism development in their community and how they affect locals' perceived view of how tourism development affect life quality. Many other studies have tried to isolate intervening factors such as those listed above, but also found other factors such as *types/numbers of tourists, size and development of the tourism industry* (Sharpley, 1994), *cultural and economic distance between hosts, language and communication, and visitors and capability to absorb tourist arrivals* (Wall & Mathieson, 2006).

The above factors can be applied to different segments of the population creating clusters of people with a common background and characteristics having similar views upon tourism development or being affected in a similar way by tourism growth. It is therefore important to be aware of the factors when selecting respondents to a survey or for interviews. This kind of segmentations has been named the *segmentation approach* in earlier tourism research studies (Brougham & Butler, 1981; Hernandez, et al., 1996). Discrepancies in attitudes have been found between groups in a community depending on factors above, such as employment in the industry (Pizam, 1978) or spatial distance to where tourism activities are located.

Another theory that can explain why different clusters of the local society have different views upon tourism development is *social representation*, developed by the sociologist Moscovici. Social representations is a vehicle for people to understand the world around them consisting of images, values, and meanings (Moscovici, 1988). Perceptions or representations of events or

objects (i.e. tourism development) can be derived from either direct experience, which gives first-hand information on which to base representations or from social interaction, where information about an event is transmitted through social networks such as friends and family or through the media creating an image of a specific event to people (H. W. Faulkner, Fredline, Jago, Cooper, & Cooper, 2003, ch. 5). Several tourism researchers have used this theory in order to segment different clusters of a population and define their perception of tourism development (Davis, Allen, & Cosenza, 1988; H. W. Faulkner, et al., 2003)

Pizam (1978) was one of the first to examine negative social impacts of tourism and found that locals' perceptions depended on their economic dependency on tourism, as discussed in the segmentation approach above. The study established that intensive tourism development in confined areas created negative social impacts on society. However, local residents experiencing economic gain from tourism will more easily overlook the negative consequences of tourism. In a study by Yoel (1992) on social impacts in the resort of Eilat, Israel, the periphery dimension is added. He claims that the above also is true in a peripheral destination, i.e. "the more affiliated one is with tourism, the more tolerant one becomes of its negative social impacts" (Yoel, 1992, p. 390).

If local residents experience negative impacts they will cope with it up to a certain degree, also depending on perceived benefits of other impacts. But there is a threshold where acceptance turns into protests and opposition towards tourism development. This threshold has been known as the *social-carrying-capacity* (SCS)¹⁵ (Yoel, 1992) and illustrates the capacity of a community to cope with social change. It is not a definable unit of measurement, but more a community's possibility to accept and embrace changes following steep visitor numbers. Depending on locals' level of participation in tourism development, the rate of growth and other characteristics of the community, the level of SCS differ. Infringement of the threshold can result in openly displayed negative attitudes and actions towards tourism (Gunn, 1988). The response from residents when the social-carrying-capacity is infringed varies depending on the perceived impacts' magnitude and importance, and also if they are of a positive or negative character. It will in one way or other affect visitors' experiences to a certain extent. Dogan (1989) examines five different responses to tourism, but emphasize that different groups in society responds in different ways:

Active *resistance* occurs when overwhelming negative impacts are perceived by the host community. *Retreatism* is a form of isolation, where locals denounce changes in society and avoid, at all cost, all type of contact with visitors. A similar response has been described by Ap and Crompton (1993) as a state of *withdrawal* meaning that individuals withdraw from all contact with tourist, either by moving from the region or avoiding all possible contact.

¹⁵ See more on SCS and Carrying Capacity in chapter 2.3.3.

Boundary maintenance means that locals put up a boundary between themselves and visitors. Local culture and social life is completely differentiated from the façade met by visitors. *Revitalization* is a result of visitors' interest in local culture, nature and society, which create an actual revitalization and local interest in their own heritage. Lastly, Dogan (1989) mentions the tactic of *adoption*, which means that the local society embraces the visitors' culture fully replacing their old with the new. The equivalent in Ap & Crompton's (1993) study is termed *embracement*. The difference in their study is that they have looked at the individual level, studying the individual local resident and his/her response to tourism, while Dogan (1989) studies the reaction of the entire society, i.e. on an aggregated level. This is a separation that has been recognized in this present study as well¹⁶.

2.2.2.3 METHODOLOGIES FOR UNDERSTANDING SOCIOCULTURAL IMPACTS

There is a relatively long history in tourism impact research to examine socio-cultural impacts of tourism. Deery and Jago (2010) made an extensive review of research on sociocultural impacts in the event context and which methods that had been used to develop scales to measure impacts on communities and residents' perceptions also including studies on other stakeholders such as attendees. Most of the studies used quantitative scales and factor and cluster analyses with different data collection methods. A few examples of qualitative methodologies are also reviewed. Some of these studies, and more specifically their methodology, will be reviewed here below in connection to the festival and event context, but also in a wider sense looking at tourism in general and its sociocultural impacts.

Scales for estimating and understanding social and cultural impacts on host communities have been developed since the 70s and are recurrently purified and tested in different settings and contexts. These tourism impact scales (c.f. Ap & Crompton, 1998; Chen, 2001; Delamere, et al., 2001; Fredline & Faulkner, 2001; Fredline, et al., 2003; Lankford & Howard, 1994; Pizam, 1978; Sharma & Dyer, 2009) often look at all different types of impacts by measuring the attitudes of residents asking them to rate the importance or the manifestation of several items on scales (e.g. 5- or 7-point likert scales). The items measured are most often established by drawing on empirical studies, performing exploratory case studies or theorizing.

The examples of impact scales above are mainly based in a quantitative research tradition using factor analyses and other statistical tools to establish underlying dimensions or correlation between impacts and independent variables, such as socio-demographics. With this follows the possibility of generalization of local populations' views on tourism development from a sociocultural perspective.

¹⁶ See chapter 3.3.3 for more details of this separation of units of measurement.

There are a few examples of exploratory qualitative studies where researchers have based their results on face-to-face interviews with a sample of residents from the local community. Brunt & Courtney (1999) completed semi-structured interviews with 12 locals, chosen depending on their economic affiliation to the tourism industry, discussing sociocultural impacts of tourism on a small English sea side resort. Four broad conclusions from their study was that the *structure of the community* had changed due to tourism, *a move from hotel accommodation to self catering accommodation resulted in less impacts*, *the cultural impacts was not of great importance*, and finally many of the impacts found were previously found in other studies. However, the authors' concluding argument is that their case study could help understand impacts of tourism in similar English coastal towns. One aspect that is crucial, and visible, in the above study is the low impact of cultural change as perceived by residents, which has often been the case when there has been a small cultural distance between hosts and visitors. Arguably the results would be different with larger cultural and financial distances (Wall & Mathieson, 2006), as is often the case when studying cultural impacts (and social for that matter) in developing countries.

Another example of a qualitative approach is found in a study by Reid (2008) on residents' perception of events set in rural settings. The study contains 54 in-depth interviews dispersed in three communities discussing events that had taken place at these destinations. The author's chose a qualitative approach in order to not limit the number of impacts that a resident may experience and because it also gives the opportunity to avoid the clear division between positive and negative impacts since it "fails to acknowledge the "shades of gray" that may exist" (Reid, 2008, p. 89). An important point made is the innate explorative quality of a qualitative study, making it suitable in studies where the aim is to understand and describe sociocultural impacts that have taken place.

There is also the Social Impact Assessment framework that has been used since the 70s to assess harmful impacts of development, the goals of development and the process of development in a society (Vanclay, 2004, p. 269). Some of the most vivid proponents of the model have been Vanclay and Becker with colleagues (Becker, 2001; Becker & Vanclay, 2003; Burdge & Vanclay, 1995; Vanclay, 2004; Vanclay & Bronstein, 1995) arguing for the use of SIA (and Environment Impact Assessment) over other frameworks. In Vanclay's (2004) article he dismiss the Triple-bottom line (TBL) approach as a fad and state that all tools necessary are already available in the SIA and EIA (see more in 2.3.4). It has mostly been used in the planning process to understand the impact of planned processes before their actual implementation. This way it is possible to plan for the possible impacts and avoid negative consequences (Burdge & Vanclay, 1995). Examples of scenarios that have been assessed are the implementation of new health plans, social effects in mining cities, oil exploration, and forest management (Burdge & Vanclay, 1995).

In tourism research the social impacts of tourism have been scrutinized for several decades as well from a sociological stand point (see Cohen, 1982; Cohen, 1984), but the SIA as such has not been applied very often in this context.

2.2.2.4 SPECIFIC SOCIOCULTURAL IMPACTS

The initial definition, described above, of sociocultural impacts regarded improvement or deterioration of perceived life quality, but which are the impacts that do effect a local resident's perception of life quality?

A thorough overview of both positive and negative sociocultural impacts is presented by Ap and Crompton (1998). It is based on empirical studies made up until 1992;

Positive social impacts: Improves the quality of life, increases availability of recreation facilities/opportunities, and improves quality of fire protection and police protection.

Positive cultural impacts: Improves understanding and image of different communities or cultures, promotes cultural exchange, facilitates meeting visitors, preserves cultural identity of host population, and increase demand for historical and cultural exhibits.

Negative social and cultural impacts: Increased prostitution, alcoholism and smuggling, heightened tension, increasingly hectic community and personal life, and creation of a phony folk culture.

However, this summary is in no way complete. Since 1992 there has been an increasing interest, focus and awareness of the importance of sociocultural impacts on host societies and their impact on tourism development. Another recent review (Deery & Jago, 2010) done in the event context shows a similar picture as above to what kind of social impacts that can occur. The division of items is quite similar to Ap's (1992);

Social and economic benefits (positive): Increased employment opportunities, Increased standard of living, Increased entertainment opportunities, Economic benefits, opportunity to meet new people, More interesting things to do

Long term impacts (positive): Enhanced community image, Community pride, Preservation of local culture/heritage, Increased skill base, New facilities and infrastructure

Anti-social behavior (negative): Rowdy and delinquent behavior, Increased crime levels, Excessive drinking, Litter, Damage to the environment

Injustice/Inconvenience: Noise, Traffic congestion and parking problems, Disruption of normal way of life, Overcrowding, Money spent on events and not on community needs, Increased cost of living

Although the table above covers impacts of events on communities it gives an extensive picture of differing impacts that would affect residents' quality of life when it comes to tourism in general.

All single impacts are not covered in these two reviews illustrated above, but it does give an idea or a picture of what type of categories of impacts that occur with tourism development at destinations.

2.2.2.5 SUMMARY

This section has discussed central concepts that are important when social and cultural impacts of tourism are considered through the eyes of residents. With Social Exchange Theory (SET), the focus is on benefits and costs as perceived by residents and how the net effect of the social exchange determines their attitude towards tourism development. Other important factors or ways to understand sociocultural impacts include a number of *intervening factors*, the *segmentation approach*, *social representation* and *social-carrying-capacity*. The notion of locals' *response* to sociocultural change is also of importance for this study, and will be discussed in the analysis chapter for sociocultural impacts (5.2).

Moreover, there have been different methodological approaches to measuring, describing, and understanding impacts of a sociocultural nature. The great divide is between the development of measurement scales, using a quantitative approach, and in-depth interviews, using a qualitative approach. It is in no way an all extensive review of how to measure and describe sociocultural impacts in a tourism context. However, a discussion of creation and maintenance of social and cultural capital will be included in chapter 2.3 together with other capital structures predominantly from an economic and sociological horizon.

Finally, a review of found impacts have been discussed where a distinction between positive and negative was made. I will return to, and refer to, these during the analyses of the sociocultural impact study in chapter 5.2.

2.2.3 ENVIRONMENTAL IMPACTS

“The growth of tourism leads, inevitably, to modifications of the environment” (Wall & Mathieson, 2006, p. 154)

While travelling, tourists affect the natural environment and the climate. This is something that has been paid attention to since the 60s when the notion of tourism’s negative consequences for societies was first discussed. Most emphasis has been put on the negative impacts of tourism on the natural environment, but also positive environmental impacts can occur due to an increase of visitors. One large problem with environmental impacts, according to Wall & Mathieson (2006), has been the difficulty to measure impacts due to the diversity of impacts, the lack of a baseline (i.e. when did the change start), lack of knowledge of cause-effect relationship (if it is due to the tourists or a normal process), and the diversity of different methods used in research. The latter weakness causes a problem of comparability across studies (p. 156-157). But there have been several attempts to find ways of quantifying impacts in common frameworks that will be described and discussed in this chapter.

In tourism research the main focus has been on quantifying the environmental impacts by measuring e.g. emissions of green house gas (CO₂ and similar gases) or energy and land use. The results have then been compared with average emission or use in everyday life or acceptable levels of pollution using different methods, such as Ecological Footprint analysis (Becken, 2002; Gössling & Hall, 2008; Hunter, 2002). According to Gössling et al. (2005) results claim that 60-95 % of emissions can be connected to transportation to and at the tourist destination, which is illustrated in the table below based on several studies. So, the focus on air travel, bus and car transportation and other means of transportation in connection with environmental impacts due to tourism has been widely debated. A UNWTO led report from 2008 on climate change and the role of tourism states that contribution to CO₂ –emissions is generated from transport (75%), accommodation (21%) and activities (4%) emphasizing the focus on transportation, but also taking into account the contribution of accommodation (World Tourism Organization. & United Nations Environment Programme., 2008)

Study	Destination	Impact attributed to transport (% of total impact)
World Wildlife Fund-UK (2002)	Majorca and Cyprus	50%
Gössling et al. (2002)	Seychelles	91%
Peeters & Schouten (2005)	Amsterdam	70%
Patterson et al. (2007)	Tuscany, Italy	86%
Gössling & Hall (2008)	Sweden	77% ¹⁷

Table 1: Impact attributed to transport in EF-studies (Patterson, Niccolucci, & Bastianoni, 2007)

¹⁷ Only CO₂-omissions calculated, not EF.

However, CO₂-emissions are not the sole negative environment impact resorting from human activities, in this case tourism. There is also e.g. land use, water use, waste, and toxics (WWF, 2008), and there are some different methods which can be used to approach the subject depending on aim and perspective.

Moreover, there are also positive environmental impacts that needs to be considered, although these are most often not taken into account (Green, Hunter, & Moore, 1989). The reason for this, according to Green et al. (1989), is that focus has been on evaluating impacts on rural destinations where negative impacts are more visible and not in urban destinations where tourism can have a regenerating force on the urban environment. In rural environments positive outcomes of tourism can be linked to conservation and an increasing ecological awareness. Reserves and parks are set up and conserved so that tourists and local residents can enjoy wildlife and nature, and the awareness of environmental conservation or protection is often brought in by tourism (Wall & Mathieson, 2006). What was neglected by locals is highly valued by tourists as an attraction. The movement of eco-tourism carries these traits of conservation and awareness of ecological impacts to destinations, improving the situation.

2.2.3.1 ENVIRONMENT IMPACT ASSESSMENT (EIA)

The *Environment Impact Assessment* (EIA) tool is used to calculate impacts of new policies, programs or projects on the environment before their implementation, based on quantification of e.g. possible air and water pollution, and soil erosion (Green, et al., 1989). The result helps policy makers such as local or national governments to make decisions on how to proceed or if it is possible to proceed. But the definition of the concept is not interpreted in the same way at all places where it is implemented. Since the 70s many governments have implemented the use of EIA's in law and differences stretch from definitions including the measurement of only biogeophysical impacts to others where socio-economic and cultural impacts also are included. (Vanclay, 2004)

EIA have been criticized by tourism researchers. Wall and Mathieson (2006) summarized this criticism. Firstly, the EIA is most often performed before a development starts and this creates difficulties when evaluations are made to measure development in progress, such as the case in this study. Moreover, an EIA does normally not consider the whole consumption cycle of tourists including transportation to the destination but focus only on the development, the individual project, that takes place (Wall & Mathieson, 2006). Furthermore, it does also require large amount of data and is therefore very costly, which also can be explained by the size of projects that are normally evaluated using EIA. Using this methodology in smaller, more fragmented tourism projects, has therefore been unusual (Green, et al., 1989).

2.2.3.2 ECOLOGICAL FOOTPRINT

There is a method for measuring environmental impacts that have been tested and developed more specifically for tourism. *Ecological footprint analysis* (EF) has been used by researchers in tourism mainly during the last decade (Gössling, et al., 2002; Gössling, et al., 2005; Hunter, 2002; Hunter & Shaw, 2005; Patterson, et al., 2007). Wackernagel, Rees, and their colleagues (Wackernagel et al., 1999; Wackernagel & Rees, 1996; Wackernagel et al., 2002) are often seen as originators of this methodology. They define the concept as;

“...the area of biologically productive land and water required to produce the resources consumed and to assimilate the wastes generated by humanity, under the predominant management and production practices in any given year” (Wackernagel, et al., 2002, p. 1).

The philosophy behind the EF-concept is that our planet has a limited capacity to cater for a steady increase in consumption of natural resources and the aim to quantify this in an illustrative and educative fashion. Alas, as a “metaphor for ecological impact, regardless of where the impact occurs” (McManus & Haughton, 2006, p. 115). Links can be seen to research on carrying capacities where the notion of limits to the ecological system is also highlighted, although usually in a smaller confined area (such as nature reserves) and with a focus of finding thresholds or a maximum number of visitors to an area without disturbing the ecosystem¹⁸. Other links can be drawn to predecessors to EF which have had the aim of illustrating the impact of human consumption on available natural resources; “sustenance space of cities” (on how cities depend on other parts of the world for import, 1910s), “ghost acres” (land equivalent in acres on how much food is needed to feed a nation, 1960s), “shadow ecologies” (continuation of “ghost acres” to include other fields of consumption, 1990s), and “environmental space” (closely connected to Carrying Capacity and the notion to calculate limits of consumption, 1990s) are some of these methodologies that have been developed with the same goals as the EF-methodology (McDonald & Patterson, 2004; McManus & Haughton, 2006). The illustrative, and easy to grasp, style of EF is important since indicators, such as EF, are meant to not only talk to scientists and policy makers, but also to the community where impacts take place without losing their link to theoretical concepts.

“Few people get passionate about spreadsheets. For indicators to lead to change there needs to be emotional content: people need to care in their hearts as well as in their minds” (Lawrence, 1997, p. 183)

The result presented by Wackernagel et al. (2002) show how human demand meets nature’s supply. According to the authors we have exceeded nature’s supply since the early 80s and

¹⁸ See chapter 2.3.3 for more on carrying capacity.

were in the beginning of this millennium producing approximately 20% above earth’s biological capacity. This concept has been further adapted and development to provide valid results when analyzing the impact of tourism on destinations. The *Touristic ecological footprint* (TEF) is intended to measure possible scenarios of development within the tourism industry or the sector as a whole, e.g. a construction of a new hotel or increased tourism due to specific factors. The basis should be either data from individual tourists’ consumption or secondary data from tourist suppliers and official statistics (Hunter, 2002).

(T)EF does not take social or economic impacts into account in the evaluation process, only environmental (WWF, 2008). Although the aim, as in TBL, is to have a positive bottom line, it does not stand on its own if the goal is to have a holistic approach to tourism impacts.

The relation of Ecological footprint to biocapacity is what can be said to illustrate the earth’s capacity to supply enough to meet people’s demand. It can be measured on a total world scale, which is the planet’s capability to cater for demand on natural resources, but it is also possible to look at specific groups of countries, individual countries or even at a regional level. Table 2 below illustrates the footprint and biocapacity on a national and global level. In Sweden the footprint per capita is very high if compared to the world mean, but on the other hand it is a sparsely populated country, with a lot of regenerating resources (forests, pastures, lakes etc.), and have a large capability to cope with an elevated ecological footprint, i.e. the biocapacity is high at 10 gha/capita¹⁹. Contrary, the UK has a large net deficit with an equally high ecological footprint per capita as Sweden, but with low biocapacity. However, a nation’s borders cannot put limits to how EF is interpreted and analyzed. It is the biocapacity, i.e. ecological carrying capacity, of the whole planet that is the top issue, seeing that it illustrates the planet’s capacity to cope with demand. As seen in the table below, the deficit on a world level is alarmingly large.

Country	Biocapacity (gha)	Footprint (gha)	Reserve/Deficit
Sweden	10	5.1	4.9
United Kingdom	1.6	5.3	-3.7
World	2.1	2.7	-0.6

Table 2: Ecological footprint and biocapacity (WWF, 2008)

As noted, this method has been widely used both in tourism and in other sectors, but it does have its critics. McManus and Haughton (2006) lists several concerns with the method including the underrepresentation of water usage in the calculations, the problem with comparing regions’ or cities’ EF due to the areas and lands that are included in their biocapacity (e.g. the city without agricultural lands or the city including agricultural lands), and the exclusion of benefits, i.e. technological advancement and communication, in the model. Moreover, there is no standard method for measuring EF. Instead, different researchers have the original

¹⁹ global hectares (gha)

methodology (by Warnackel et al.) as a starting point and adjust key conditions to fit their case study. The adjustment of e.g. productivity measures and equivalence factors makes the comparison in-between studies even harder (McDonald & Patterson, 2004). Another limitation to this method is the amount of data needed and a lot of former studies have been using secondary data from national and international institutions (Wackernagel, et al., 1999).

McManus and Houghton (2006) conclude that EF is not, although it is used as such in political arenas, a measurement of sustainability since it excludes social and economic impact factors. This strengthens the argument of using a holistic framework including complementing methodologies in order to understand social (and cultural) and economic impacts as well. It can however be used to initiate discussions about sustainability, “signal the relative ecological cost of different policy options” (McDonald & Patterson, 2004, p. 54) and the need for interventions.

2.2.3.3 SUMMARY

As discussed above, the focus in tourism research when looking at environmental impacts has been to discuss the emission of green house gases and the use of earth’s natural capital. A brief discussion of Environmental Impact Assessment (EIA) led to a deeper description of the Ecological Footprint (EF) and the Touristic Ecological Footprint (TEF) which have been widely used in tourism research to isolate different aspects of the tourism product that have a negative impact on a destination’s environment. EF or TEF has a pedagogic advantage which is useful when illustrating limits to consumption, and in particular tourist consumption. TEF will, together with qualitative data from in-depth interviews, form the basis for this study analyzing environmental impacts. But more about that is found in chapter 3.4.

The capacity of a destination to cater for tourism demand, based on its environmental (or physical) carrying capacity, is also fundamental for the understanding of (negative) environmental impacts and this will be discussed further in chapter 2.3.3.

2.3 FRAMEWORKS FOR EVALUATING SUSTAINABLE (TOURISM) DEVELOPMENT

Having the understanding of the different major impact dimensions of tourism, based on the sustainable tourism agenda and the various ways in which to assess these impacts, the next step is to look into different concepts or frameworks which deal with the evaluation of these impacts simultaneously, or have the possibility to do so, from a holistic perspective.

Above, a number of measurement tools for each individual impact dimension along with underlying theoretical work have been reviewed. To put these together and to create the possibility of comparability and ultimately to understand how increased accessibility impact a destination and which stakeholders that are affected, it is vital to have an overarching framework that links economic, social, cultural and environmental impacts together. Thus, the following chapters will discuss the concepts of Carrying capacity, Impact Assessment (IA), different types of capitals and Triple bottom line (TBL) as possible frameworks to evaluate an incremental development in tourism from a sustainable tourism perspective. These concepts do not have their origins, or only to a certain extent, in tourism research, but have in some way or another been applied in the tourism context which will be illustrated below.

2.3.1 IMPACT ASSESSMENT (IA)

Becker (2001, p. 312) defines *Impact Assessment* (IA) as “*the process of identifying the future consequences of a current or proposed action*”. From a government and community (local, regional, or national) perspective there has since long been a demand for ways of assessing development projects before their implementation. EIA (see 2.2.3.1) and SIA (see 2.2.2.3) have been two of these tools, that have been used since the early 70s (Vanclay, 2004) to do ex ante evaluations.

Originally, Environment Impact Assessment (EIA), where SIA often makes up one part of the assessment procedure, was launched as a tool to aid governments to plan for impacts of development plans such as health schemes, building of dams, forestry development or oil exploitation (Vanclay, 2004). EIA and SIA was the product of legislation due to concerns of environmental damage and social change caused by above mentioned development plans and policy changes (Wall & Mathieson, 2006).

SIA alongside with EIA, Economic Impact Assessment (e.g. Cost-Benefit analysis) and later technology and fiscal assessment have created a body of tools in planning and policy formation for communities and governments (Becker, 2001). According to Vanclay (2004) IA, or more specifically SIA and EIA, and their development as frameworks for assessing impacts, should not concentrate on finding specific indicators but more as an ongoing “process of management of change” (p. 281) or a “philosophy about development and democracy” (p.278) where the goal is to maximize benefits of the process and minimize costs.

IA and more notably SIA and EIA have not been adapted for the tourism sector to any great extent although governments and consultancy agencies have used it to perform ex ante studies (see e.g. www.hardystevenson.com). It is important to use the knowledge of (S)IA when looking at social impacts in tourism, with its long history and regulatory background (Vanclay, 2004), but there are frameworks that have been applied more frequently in tourism research which are presented here below.

2.3.2 CAPITALS

The idea of capital(s) stems from the economics literature and the theories of *physical capital*, *human capital* and later also *natural capital*. The basic train of thought is that a stock of capital (physical buildings, experience and skills, natural resources depending on the capital) can be used to produce other goods. The capital stock can increase with investments but it is also depreciated over time (Throsby, 1999).

Researchers in other fields, notably sociology and political science, have developed new capitals with input from their theoretical backgrounds. This development has taken place due to the difficulty to describe specific transactions on the market with the original idea of capital from the economics literature (Macbeth, Carson, & Northcote, 2004).

Important examples are *social capital*, developed by scholars such as Coleman, Bourdieu, and Putnam (Eriksson, 2003; Portes, 1998) and *cultural capital* by both Throsby (1999) and also Bourdieu (see Portes, 1998). The latter form of capital has different definition depending if you ask an economist, like Throsby, or a sociologist, like Bourdieu.

Social capital can, in its simplest form, be described as relationships between people and networks of people building on reciprocity and engagement between members of the networks, this according to Bourdieu, which an individual partake in. An individual can then use their social capital, in form of relationships, to realize other capital gains (Eriksson, 2003) (economic, human, cultural etc.).

Why is this interesting and important in a tourism context? Impacts of tourism development influence the capital stocks of residents, the physical destination, tourism developers or institutions. The physical capital is influenced in form of newly built attractions or renovated airports, the social capital can be linked to the feeling of togetherness that can increase with tourism development and cultural capital can be reinforced by e.g. an upswing in interest for local traditions and handicraft (Macbeth, et al., 2004).

There is also a link to sustainability. Throsby (1999) state that if cultural capital is neglected and there are no investments in preserving existing capital stocks, then a deterioration of the cultural life (both tangible and intangible) is imminent. This goes against the idea of sustainability where the use of resources (i.e. capitals) should be done so that negative

development is minimized, leaving, at least, the same level of resources for coming generations. This can be said to be true for social, natural, and physical capitals of destinations or individuals at the destination as well.

In tourism research there have been attempts to use a different number of capital constructs as a starting point to evaluate and understand touristic phenomena. However, the use of capital constructs in frameworks to evaluate tourism impacts, such as the *Sustainable Livelihoods Approach* described below, has been rather limited and is in need of more exploration (Shen, Hughey, & Simmons, 2008).

Mykletun (2009) studied an extreme sports event in Norway. He concludes that the organizers had created a successful festival keeping a balance between the six different capitals introduced by Cater & Cater (2007) even introducing administrative capital as another capital construct to the model. Cater & Cater (2007) in turn use this so-called “six-factor model” in order to understand how marine ecotourism impacts on local stakeholders. The framework is based on the *Sustainable Livelihoods Approach* (SLA) (Cater & Cater, 2007) which evaluates how tourism impact on people’s assets and what they live on (i.e. individual capitals) and is in turn a model that has been used by Ashley (2000), but then as a “five-factor model”. See illustration below for the development of the use of different capitals in tourism evaluation research:

Mykletun (2009)	Cater & Cater (2007)	Ashley (2000)
Financial Capital	Financial Capital	Financial Capital
Physical Capital	Physical Capital	Physical Capital
Human Capital	Human Capital	Human Capital
Natural Capital	Natural Capital	Natural Capital
Social Capital	Social Capital	Social Capital
Cultural Capital	Cultural Capital	
Administrative Capital		

Table 3: Development of Evaluation frameworks using Capitals

The SLA or capital models discussed above have mainly been used during evaluation of tourism development in so-called “developing countries” and in pro-poor tourism contexts (Ashley, 2000; Cater & Cater, 2007). This is not the case in Mykletun’s (2009) case study and it is an interesting way to examine the impact on the different capitals, seeing that it includes several more aspects than the TBL-approach (see below) or Sustainable Tourism Development as defined by GSTC (see chapter 2.1). However, this is also a rather loosely based framework based on different capitals, whose definitions are still debated depending on the field of research and the context of the phenomenon. This thesis will start from the general sustainable tourism development agenda of examining economic, social, cultural and environmental impacts. The motivation for this will be discussed in the two following sections, but the understanding of different capitals that are affected on an individual or aggregated level is important and will be discussed in the concluding discussion of this thesis (chapter 6).

2.3.3 CARRYING CAPACITY

The notion of limits to how many visitors an area can cope with before degradation, i.e. negative impacts due to tourism, have been observed for a long time. The “golden hordes” was an expression coined by Turner and Ash (1975) in reference to the invasion of tourists from the generating centers to tourism destinations in the Caribbean and the Mediterranean. It was quite simply a critique against the exploitation caused by mass tourism.

The concept of *Carrying Capacity* (CC), also known as *Tourism Carrying Capacity Assessment* (TCCA), has been used to identify and implement limits to the number of visitors to specific destinations or attractions since the 60s (Coccosis & Mexa, 2004), but due to the difficulties of quantifying capacities, it has foremost been recommended to be used as a planning tool (Getz, 1992; McCool & Lime, 2001; O'Reilly, 1986).

It is difficult to set exact limits when tourism is more and more dynamic and defragmented and less and less typical mass tourists. Instead tourists are flexible, experienced, and quality conscious, meaning that the limit, threshold or “magic number” fluctuates according to a destination’s development, growth, seasonality, and acceptance levels (Coccosis & Mexa, 2004).

There are limits to how much capacity that can be catered for by our natural resources on earth, globally, nationally, and locally. The CC sets limits for how much growth an economy can handle depending on the unit of measurement and how to control growth in tourism creating economic, sociocultural and environmental benefits and not costs. However, in later research, there is no definite set number to the size of the carrying capacity, but it is dependent on, among other things, technology development and the way production and consumption are performed. (Arrow et al., 1995; Coccosis & Mexa, 2004)

Although there is an apparent restriction to the possibility to quantify the exact number of a destination’s carrying capacity due to the above and other factors, this is what many stakeholders are looking for. What is the maximum number of visitors that a place can cope with socially and environmentally, and also with regards to the visitor’s experience (McCool & Lime, 2001)? This “magic number” (McCool & Lime, 2001, p. 373) is according to some researchers (cf. McCool & Lime, 2001) the wrong way to define the carrying capacity. They believe that it should rather be with the host community’s and visitors’ objectives in mind and not concentrate on a numerical definition of carrying capacity.

Several researchers have classified different types of carrying capacities (CC) in order to differentiate thresholds depending on a destination’s capacity. The below classification builds on Getz (1983), O’Reilly (1986), Yoel (1992) and McCool & Lime (2001):

Physical CC determines the level of physical impacts that are acceptable at a destination. In Getz's classification it includes all tangible resources, while O'Reilly talks about the environmental capacity, namely how many people that can be at a destination without affecting the quality.

Perceptual CC or Perception of visitors CC looks at the situation from the tourists' point of view, related to how they perceive the quality of the destination.

Social CC or Sociocultural CC focuses on the social and cultural changes due to tourism increase. This concept is discussed further in chapter 2.2.2.2

Economic CC is defined as the destination's possibility to cater for demand without crowding out other local economic activities.

Political/administrative CC is concerned with how the local political and administrative bodies can cope with tourism and to what extent it is needed to put limits on tourism inflow.

Research on carrying capacities grew large in the 60s and 70s when national parks in the US were acknowledged to have problems with overcrowding and to maintain a certain level of quality, as defined by US law for national parks. Already from the beginning, a definite number of visitors for a certain park was the goal of the research project. The main point of this view on carrying capacity is to avoid negative social, economic, cultural and environmental effects (Inskip, 1991). The counter argument from McCool and Lime (2001) is that all tourism has negative impacts already from small scale operations and that it is more about a trade-off between e.g. positive economic impacts and negative cultural or environmental impacts.

In later years a shift can be noted, away from numerical or innate carrying capacities, towards a focus on management strategies to define the criteria that would make a destination strive towards sustainability. Instead of searching for a specific maximum number of visitors that a destination can cope with, the goal is to retain the defined level of quality and avoid degradation by the implementation of management strategies and public policy. The problem with a strategy like this is to agree, at the destination and among visitors, at what level the quality should be and to what extent it is viable to compromise with impacts that are bound to appear when a region invests in tourism. (McCool & Lime, 2001)

The history of the concept is strongly linked to a sustainability approach since research, early on, has had a focus on limiting visitation of nature reserves to not risk the biosphere of these places for future generations. It has also been highlighted that it is not only a question of ecological concerns but also sociocultural and economic carrying capacities (cf. O'Reilly, 1986). Therefore, these three capacities (Social, Economic, and Ecologic) should be incorporated in the discussion of tourism impacts in the case study of Kiruna. The perception of acceptable

capacities can be described from the point of view of the local residents and physical capacity constraints, such as number of hotel rooms, in line with McCool & Lime's (2001) reasoning, and not be focused on finding a "magic number". This reasoning is further developed in the methodology chapter (3.1).

2.3.4 TRIPLE BOTTOM LINE (TBL)

In tourism research the *Triple Bottom Line-approach* (TBL) encompassing economic, social, and environmental impacts has been highlighted as a suitable tool to cater for the demand of a more holistic, sustainable view on tourism impacts (Sherwood, 2007). This reporting tool has gradually gained proponents among tourist researchers (Getz, 2009).

There has been a movement within the sustainability debate that has been more concerned with the actual assessment of companies' and events' impacts on the world. This is where the concept of the "triple bottom line" (TBL) has played a role during the last 15 years. The consultant John Elkington, founder of the company SustainAbility, has been named as the originator of this concept (Elkington, 1997; Vanclay, 2004) that has been adopted by several national and global corporations to assess impacts (Deegan, Cooper, & Shelly, 2006). According to Vanclay (2004), TBL started out as a philosophy or guideline for how companies should think about sustainability and their footprint on the surrounding world, but has evolved into an accounting tool considering not just the financial bottom line (i.e. financial result) but also environmental and social impacts of the company. Confusion has been widespread on what social and environmental impacts that should be measured, and in what way, instead of concentrating on the important core agenda of sustainability (Vanclay, 2004).

This debate is parallel and overlapping to the definition issues of sustainability and sustainable tourism development discussed in the introduction of chapter 2.1. The same impact dimensions, in different shapes or disguises, appears in the TBL philosophy as in traditional sustainability discussions, being economic, social²⁰ (or sociocultural) and environmental performance or impacts.

When it comes to tourism research and TBL it has been discussed in different shapes and within different fields, which are exemplified more in detail further down (event tourism, eco tourism etc.). Buckley (2003) reinforces the notion of Vanclay (2004) about TBL being more of a reporting tool than a basic train of thought for discussing sustainability issues. In Buckley's (2003) article on ecotourism he discusses TBL as a device to reach a more sustainable agenda, but not as the equivalence of a sustainable development in tourism. Furthermore, he emphasizes that there is, or has been, a risk that TBL is misused by politicians and corporations to switch the focus of the "real" debate of environmental problems and sociocultural

²⁰ TBL does only talk explicitly about social impacts.

maltreatment. The conclusions of Buckley (2003) is that tourist, and more specifically, ecotourism companies seem to be the only companies fulfilling the TBL goal of having a positive bottom-line in all three senses (economically, environmentally and socially). Although some practical examples are mentioned, there are no standardized methods of how to calculate the sociocultural and environmental bottom line (Buckley, 2003).

There have also been calls from organizations and researchers to increase the scope of the TBL, making it a quadruple bottom line (or more). The lack of explicitly discussing cultural impacts has been criticized as it has become a main ingredient in the sustainability approach (Martin & Schouten, forthcoming) and is also part of GSTC's definition of sustainable tourism development (see 2.1). However, cultural impacts have been discussed in tourism research in connection with TBL as a part of the evaluation of social impacts (Getz, 2009), although the original definition by Elkington (1997) did not explicitly talk about cultural impacts.

One suggestion, from UNWTO's assistant Secretary-General, is to add *climate* as a forth bottom line, seeing that it permeates all other dimensions and the urgent manner in which the climate issue has to be dealt with on a global scale²¹. Another suggestion is to look at *health* impact in liaison with new projects and businesses integrated with TBL. Main points by the proponents for this is to examine how population health and inequalities in health is affected (Mahoney & Potter, 2004). The problem of defining the concept, the ongoing debate in research, corporations, and among policy makers, does highlight the fact that TBL is a rather young, loosely defined concept that can be adapted for one's own purpose and goals and one of Vanclay's (2004) conclusions is that *Multiple bottom lines* is a more suitable name of a concept that spans over several overlapping impacts and that the most important is to interpret economic, social, and environmental impacts in their broadest sense including other effects such as cultural, health, climate, political, technological etc.

Despite the above criticism against TBL the application and development of the concept has been taken in and adapted for tourism research. Some practical examples or theoretical considerations of the applications that have been done using TBL in a tourism context comes primarily from researchers active in Australia (Dwyer et al., 2007) and in the event and festival setting (Getz, 2009; Hede, 2008; Sherwood, 2007). Few attempts (or none (?), when looking at the Swedish context) to use TBL have been done in Europe.

A challenge, according to Getz (2009), with a move towards more sustainable tourism evaluation and thinking in terms of planning and organizing events is to realize a paradigm shift, among DMOs, event organizers etc, from a focus on economic evaluations to sustainable evaluations. An institutionalization of TBL, which Getz proposes, is crucial in order to shift focus

²¹ Presentation at Tourism & Travel in the Green Economy, Symposium, Göteborg, 2009-09-14.

from pure economic arguments when bidding for, planning and organizing events to a more holistic view where also negative (and positive) social, cultural, and environmental impacts are considered. TBL can therefore be seen as a practical tool in order to realize this shift, not only for event evaluation but also for tourism development in general. Moreover, the adoption of TBL seems to be on the agenda among tourism stakeholders as well. In a study made in Australia both private and public tourism stakeholder vowed for the application of TBL in order to have a more long-term perspective in planning and management (Dwyer, Edwards, Mistilis, Roman, & Scott, 2009). Furthermore, in line with Getz (2009), researchers ask for more development of impacts measurements from a sustainable perspective using the TBL-approach (Dwyer, et al., 2007)

Hede (2008) implements the TBL-approach in the planning stages of events. By mapping stakeholders’ interests and objectives with a specific event, based on TBL (i.e. economic, social, and environmental interests), the management team can gear the planning and execution of the event to fulfill stakeholder objectives according to their interests. This would, according to Hede (2008), lead to a more successful outcome and create better relationships with event stakeholders. Also Dwyer et al. (2007) discuss the involvement of stakeholders and their demand for yield in tourism. The authors advocate a “sustainable yield” in order to broaden the concept to a TBL-approach where not only economic yield is considered.

However, the focus of TBL-studies within tourism has been on the evaluation phase, which is also emphasized by Hede (2008). Maybe the most comprehensive attempt to map measurable indicators for a TBL-evaluation of special events is done by Sherwood (2007) in his doctoral thesis. Through an extensive literature review, survey with event experts (Delphi survey), and two event studies he sums up a list of 12 indicators (see Table 4 below). These are recommended to be used for generic TBL-evaluations of events in order to be able to compare impacts among events.

Economic indicators	Social indicators	Environmental indicators
Direct expenditure from the event	Impact on quality of life of community	Energy and gas use
	Impact on community pride	Solid Waste sent to landfill
	Impact on sense of community	Emmissions from transport to and from event
	Impact on personal quality of life	Water use
		Percent of solid waste recycled

Table 4: Recommended TBL Indicators and Measurements (Sherwood, 2007, p. 230)

The economic indicator is measured in a monetary unit, social by surveying locals’ attitudes using 7-point likert scale, and environmental in CO2-emmission, liters (water) and percentage

of recycling. The environmental indicators are, according to Sherwood, suitable to use in a footprint analysis (see 2.2.3.2) to get a good understanding of the environmental impact following an event.

Another attempt to synthesize impacts into a TBL evaluation based on indicators was proposed by Fredline, Raybould, Jago and Deery (2005). Their indicators originated from previous research and in comparing the results of an event with a standard performance or other events' performance they propose a scale of impact for each category of indicators (economic, social, and environmental) from 1 to 10. The total "footprint" of the event is then illustrated in a diagram, as in Figure 3 below, depending on the performance of each of the three impacts.

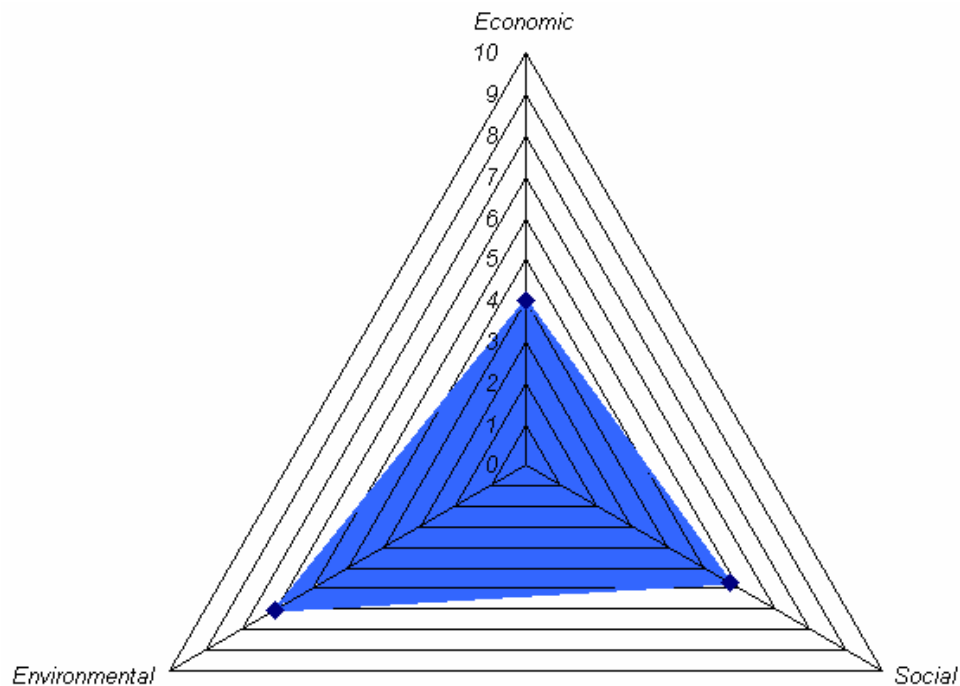


Figure 3: "The Synthesis Diagram" (Fredline, et al., 2005)

Although not as extensive or detailed as Sherwood's study (2007) it is a way to get an understanding of an event's impacts compared to other events, from a TBL-perspective. There are also similarities between their indicators and Sherwood's (2007) proposition in Table 4. In addition to Sherwood's economic indicator, Fredline et al. (2005) speaks about a relation between costs and benefits and not only visitor expenditure. In environmental terms they use the same indicators as Sherwood (2007), while their angle on social impact indicators focus on indicators that are more easily measurable such as the crime rate, percentage of local attending events, quantity of media exposure, and the number of local volunteers (Fredline, et al., 2005).

2.3.5 SUMMARY

All frameworks discussed here above have their strengths and weaknesses, but they have also strong links between them and cannot be seen as four completely separate frameworks.

The dimensions of TBL, traditionally economic, social, and environmental, can also be discussed in terms of different capitals, i.e. financial, social, and natural capital. If, as Getz (2009) writes, cultural impacts are included in TBL this would correspond to cultural capital. Although TBL does not include all seven capital forms discussed by Mykletun (2009) it does have an advantage of having been applied in tourism research contexts several times doing evaluations of event and festival impacts. Moreover, the TBL-framework can be discussed in a CC-context. This is especially poignant when discussing social, cultural, and environmental impacts. Local residents would, in line with the CC-concept, perceive negative impacts of tourism development if the CC-threshold is approached, reached, or infringed. Therefore, the results of a TBL-evaluation could be discussed in relation to the destination's CCs.

Impact Assessment (IA) differentiates itself from TBL by not focusing on measurable indicators. Instead, the focus is on processes and how costs and benefits can be managed and planned for in a future project. The application of TBL in tourism research has, in contrast to IA, seen the appearance of indicators (Fredline, et al., 2005; Sherwood, 2007) as a way of measuring and understanding impacts from a more holistic perspective which has been demanded all since the implementation of Agenda 21 (Lawrence, 1997).

TBL, CC, and Capital-frameworks have been more specifically used within tourism research, and accounted for the particularities of this sector. Along with the above arguments, i.e. development of indicators, direct tie to sustainable tourism development, close connectedness amongst frameworks, and demand from practitioners and institutions (for TBL), these frameworks, with TBL up front, are considered in this thesis. How to, with TBL as the starting point, measure, describe and understand impacts of tourism development, will be outlined in the next chapter.

3 RESEARCH DESIGN

This chapter deals with the overall research design and methodology of this thesis. Chapter 3.1 will introduce the framework derived from the above literature review that will be used to answer the first research question: **How can a framework be developed in order to measure, describe and understand impacts of tourism development from a sustainable development perspective?**

For the case study and the different impact dimensions, a detailed description of the chosen method will follow in chapter 3.2 (economic impact study), 3.3 (social and cultural impact study) and 3.4 (environmental impact study). The detailed description of the methods used is based on the literature reviews for each impact dimension discussed in chapter 2 and the research methodology described below.

Chapter 3.5 will discuss the validity of the study and how the chosen case study can be a relevant example used to develop the TBL-approach further and contribute to the discussion of sustainable tourism development. This is directly linked to the second research question: **How does a step in incremental tourism development impact on a destination?**

All impacts of tourism are not measured or described in this thesis. The focus is on economic, sociocultural and environmental impacts, being the major impacts discussed within the sustainable tourism development context. Political, administrative, health and other impacts are explicitly left out of the framework although some of these impacts are implicitly included as they are discussed within the social and cultural contexts. Moreover, the claim is not that all economic, sociocultural and environmental impacts are included and scrutinized in the thesis. Why? It is close to impossible to cover all angles of change in a society due to an increase in tourism and the impacts covered depend on methodological choices made by the author of this thesis. However, the impacts and methods that are used and covered derive from earlier research (Dwyer, et al., 2009; Fredline, et al., 2005; Getz, 2009; Hede, 2008; Sherwood, 2007) and institutional guidelines ("Global Sustainable Tourism Criteria", 2010; www.unwto.org).

3.1 RESEARCH MODEL

TBL, as discussed above, is judged to be a good starting point for the evaluation of tourism impacts and for creating a starting point for this thesis' methodology. Moreover, TBL has not formerly been used to any large extent in a Swedish tourism research context which gives an empirical contribution that could add to the discussion on sustainable tourism development and tourism impacts. Most examples of TBL-application are from an Australian context.

However, more importantly is that TBL has mostly been applied in an event or festival context. The case study in this thesis concerns tourism development in a peripheral destination and is

not directly related to the temporary characteristics of an event or a festival. It would therefore contribute to the tourism research done on the application of TBL, e.g. how it is possible to evaluate ongoing incremental tourism development. But there are also similarities between the event and festival contexts and the case of Kiruna/Jukkasjärvi. This is because the increased accessibility, as a step in incremental tourism development, can be seen as an “event”, i.e. an “event” that is launched in order to increase demand. Despite the differences (e.g. the temporary nature of events and festivals as opposed to the opening of a direct flight) they are possible to compare in the sense that they are both easily isolated phenomena that can be measured and described based on the number of tourists that they attract on top of the “regular” levels of tourism demand.

It is also important to widen the discussion of TBL and emphasize links to research on carrying capacity, capital constructs, and sustainable tourism development. However, the focus of this thesis, concerning TBL, will be its implications on tourism impact research, more in particular through actual practical impact evaluation than as a philosophical concept. The model that will be used as a starting point for the analysis of tourism impacts is based on the idea of sustainable tourism development, carrying capacity, and indicators used in previous research to perform TBL-evaluations (e.g. Fredline, et al., 2005; Sherwood, 2007). This working model of the above concepts is developed and discussed here below.

The synthesis of the frameworks and their link to sustainable tourism development is presented in Figure 4 below. It is to be seen as a way of understanding the process of evaluating tourism impacts from a sustainable tourism development perspective based on previous literature or as a *process of determining the degree of sustainability*. The starting point is the evaluation of tourism development using TBL (1). In order to understand the results and impacts on the destination, the next step is to discuss them in the context of economic, social, cultural and environmental carrying capacity²² (2) and how it affects stakeholders’ capitals (2) (investment or depreciation?). Crossing the (fictitious, real or/and dynamic) thresholds of CC, negative impacts will increase rapidly or exceed positive tourism impacts. Finally the analysis of the impacts is discussed in a sustainable tourism development perspective (3) in order to understand to which degree the step in development can be said to be sustainable or unsustainable. Is increased accessibility to Kiruna equal to sustainable development? How can the result of an incremental step in tourism development fit with the goals of achieving or striving for sustainable development? The figure shows that input from the result concerning CC’s and Capitals is important in order to discuss the impacts from a sustainable tourism development perspective since they add to the understanding of the results. The interconnectedness of these four concepts is important to stress. The basis of TBL-evaluation

²² Not an exact “magic number”, but an implicit flexible CC depending on physical prerequisites, residents’ perceptions, and policies.

comes from the sustainability discussion on a (institutional) level and can also be linked to capitals and CCs.

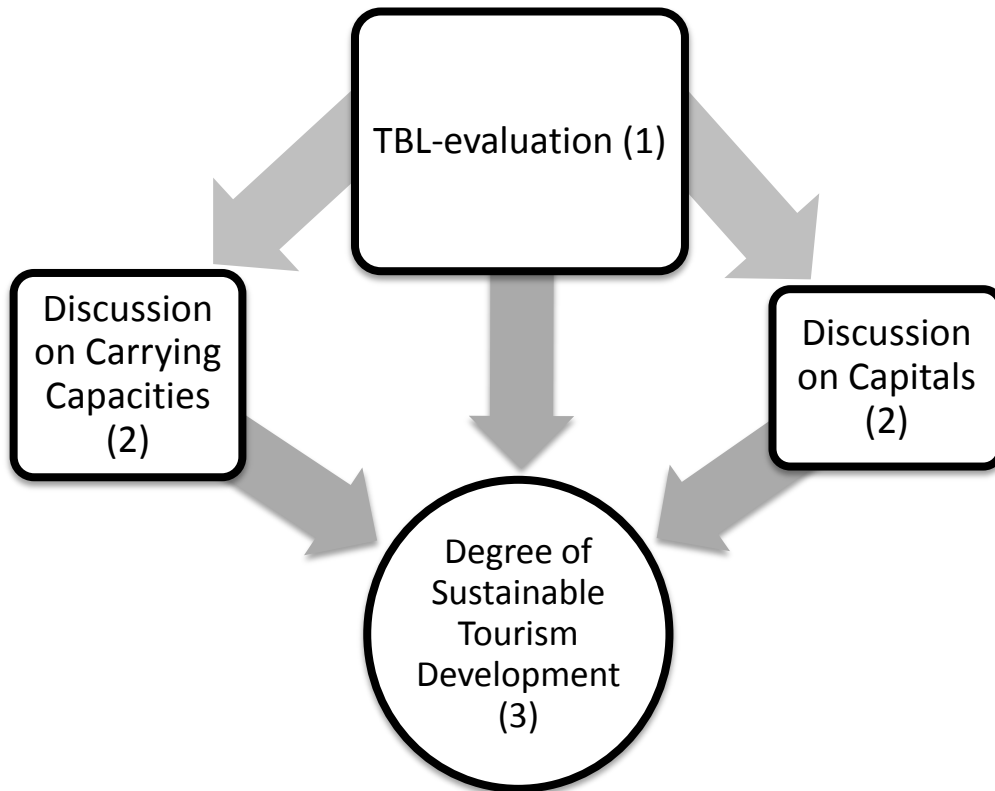


Figure 4: Process of determining degree of Sustainability

Based on the review of literature of TBL in tourism research the indicators used to evaluate the increased accessibility (box 1 above in Figure 4) will be based on the indicators put forward by Sherwood (2007) and summarized in Table 4. These economic, social, and environmental indicators build on previous research, and are the most extensive exploration to date in tourism research on the use of TBL-evaluation. However, a few more indicators will be added, developing the framework, and also adapting it to the case under scrutiny in this thesis. This will be summarized in the end of this methods chapter (3.6) after a detailed description of each study on economic, sociocultural, and environmental impacts. In the last chapter of the thesis (chapter 6), the above synthesis will be reviewed in light of the results from the case study.

3.2 ECONOMIC IMPACT STUDY

The aim of the economic impact study is to describe and measure the gross economic impact and the net direct economic impact of the recently started direct flight from London to Kiruna. Therefore, the data collection, through a passenger web-survey (see 3.2.2), focus on visitors' expenditure as recommended also by Sherwood (2007) concerning economic indicators for the TBL-evaluation.

Seeing that the I-O model has these traits, measuring the financial flow, it will be the basis for this study of economic impacts. Social, cultural and environmental costs and benefits will be discussed and described in the following two chapters and not included in this part, since the aim is not to quantify the value of above mentioned impacts, but to understand and describe the specific immaterial impacts that have arisen. Therefore, no immaterial values (as social, cultural and environmental costs and benefits) will be accounted for in this part of the study.

3.2.1 LIMITATIONS AND CLARIFICATIONS TO MODEL APPLICATION

Multipliers will not be used in this study. This is because it easily overestimates (and possibly underestimates) the impacts by inflating expenditure based on inaccurate or "best-guess" regional multipliers. In order to calculate accurate multipliers several rounds of expenditure at the destination over a longer period of time would have to be measured. In this way the flow of the initial expenditure is followed from start to finish. The amount of time needed for such a study depends, foremost, on the size and structure of the economy. Archer & Fletcher (1990) exemplifies this with studies in the USA, where it took 12 months from initial spending to the "last" round of expenditure, while it took 15 months in a study of the Bahamas. Multipliers could be used to calculate an estimate of the total economic activity caused by the initial expenditure or to understand the amount of leakage from the local economy. The latter would be of interest also for a study like this, but has not been undertaken since the focus is on the initial economic impact due to the increased accessibility, a description of the distribution of this spending and how big the positive financial bottom line is. A discussion, however, will take up the issue and possible consequences of leakages at the destination.

The assumption is also that the rise in demand does not require extra fixed costs (or investments) on the supply side, but is catered for by the preexisting supply of tourism infrastructure. However, an increase in demand, due to more incoming passengers, would increase variable costs linked to an increased demand in restaurants, souvenir shops, and other tourism related services. These variable costs for tourism suppliers linked to the investment in a direct flight, as the case is in Kiruna, are in this study measured and described as indirect economic impacts (e.g. increased wage costs, taxes, and hiring of activity entrepreneurs for the Icehotel).

3.2.2 PASSENGER SURVEY

A survey was created in order to measure visitor expenditure of all passengers on the London-Kiruna flights during the winter season of 2008/2009.

This survey was sent to all passengers that had submitted their e-mail address to DTW when booking their package trip or flight²³. The web-survey was designed, validated and tested by the researcher, although the actual contact with the tourists and the sending out of the e-mail, directing them to the web-survey, was administered by DTW due to privacy reasons. The responses have thereafter been entirely administered by the author of this thesis. Apart from using questions validated in earlier studies, a test run was performed, by distributing the survey to DTW, colleagues and friends, in order to ensure that it was comprehensive and did not contain errors or typos.

The survey contained questions concerning visitors' expenditure, demographics of tourists, reasons for choosing Swedish Lapland as destination, and the importance of the direct flight²⁴.

Questions 1-17 (except 6) concerns visitor expenditure and are based on former surveys within the field of regional and event economic impact studies and fundamentals within the field. Information on the different alternatives and possible items for expenditure was obtained from DTW, the Icehotel and common research practice (cf. Frechtling, 2006).

The last seven questions (20-26) concerns respondents' demographics; age, income, travel company, education, marital status, and gender. This data was collected to describe the population.

Three questions (6, 18 and 19) are asking about travel motives and the importance of the direct flight from London. The responses to the open ended question (no. 6) were then coded to form categories on travel motives. It was included in order to estimate, and to be able to describe, how the opening of the direct flight can be attributed to the increase in passenger numbers, i.e. if it was a motive for taking a trip to Kiruna and Jukkasjärvi and can be classified as a pull-factor, pulling visitors to this specific destination (see Kozak, 2002, p. 227) .

Respondents were able to give multiple answers on question 6, while question 18 and 19 were closed questions where the importance of the direct flight were rated on a five-point Likert-scale. The aim of these questions is to understand the importance and weight that can be attributed to the opening of the direct flight. Another important point is the representativeness

²³ 1 e-mail address per booking. Behind each booking there are often several passengers. One limitation with this sample is that it is not absolutely random or complete since all passengers "behind" the e-mail address will not be a part of the sample selection. It is the representative for the group, the holder of the e-mail account, that answers for the whole group.

²⁴ Please see appendices for the entire questionnaire.

of the sample that is confirmed by the results of question 19 asking respondents if they would choose this destination if there were no direct flight²⁵. Since the result corresponds with the actual increase of passengers following the opening of the direct flight (+22%), it indicates that the sample is representative for the whole population. Moreover, together with passenger numbers from DTW it gives an indication of the importance of the increased accessibility and if it is due to this or to other external factors (e.g. marketing efforts, media coverage, trends, word of mouth etc.).

However, it is important to add that behind the motivation to travel and the choice of destination lays a very complex theoretical discourse (Mansfeld, 1992). These theories are not thoroughly investigated in this thesis, and it is not the primary aim to discuss these questions in depth either. But, the questions above, concerning passengers' motivations for travelling to this destination, do have a role in confirming the importance, or lack thereof, of the direct flight.

Frechtling (2006), in a overview of the most common existing methods for measuring visitors expenditure, concluded that visitor surveys were the only method that met the standards set regarding relevance, coverage, and accuracy. As with the method used in this article, a visitor survey should give an accurate average spending per surveyed visitor that could then be multiplied with the actual number of visitors to gain a truthful sum of total expenditure impact (i.e. initial injection of money). In the first step, expenditure tied to the visit of Kiruna and Jukkasjärvi is counted for. The survey is then constructed so that expenditure taking place in the examined region can be singled out with the help of secondary data from DTW and the Icehotel. Another important stepping stone, when dealing with visitor expenditure, is to single out the accurate respondents. It should only include expenditure by incoming visitors who live outside of the region that is being scrutinized (Crompton, 2006). In this study, this has been an easy task to fulfill since all respondents are visitors coming in on the direct flight from London having bought their package trip via DTW.

The total number of passengers with the direct flight to Kiruna was 1456, and out of these DTW had 470 e-mail addresses to which the cover letter asking people to fill in the survey was sent. The cover letter informed passengers about the purpose and aim of the study with a clickable link to the homepage of the survey and a call to complete the online survey. It was sent out a couple of days to 2 months²⁶ after returning home from their stay in Kiruna (see e.g. Daniels, Norman, & Henry, 2004). This procedure was chosen over, the recommended, exit-survey model (Frechtling, 2006), due to practical and budget constraints.

²⁵ See 4.1.1 for detailed results of this question.

²⁶ Surveys were sent out by DTW and they did not have the resources to make more than two separate dispatches. One in February and one in April.

64 persons answered the web-survey online, representing 154 passengers (including 9 children under 16 years of age)²⁷, which gives a response rate of app. 14%. In comparison with web-surveys in earlier studies the response rate was rather low (Manfreda, Bosnjak, Berzelak, Haas, & Vehovar, 2008)²⁸, but this is because of several interfering factors. The researcher did not have the possibility to offer any type of incentive to respondents answering the survey (economic and practical reasons) which would incite people to participate, which is recommended by several researchers when doing web surveys (e.g. Couper, 2008; Grandcolas, Rettie, & Marusenko, 2003; Manfreda, et al., 2008). Neither was it possible to perform a face-to-face survey at the airport or in the Icehotel due to the same reasons as stated above. A continuous process of meeting up passengers at the airport or at the Icehotel during the season would probably have generated a larger response rate. It would also have minimized the recall bias (Breen, Bull, & Walo, 2001), since passengers would then have had the possibility to state their expenditure in connection to their stay.

The representativeness of the sample can be questioned, although all passengers (or the person that booked the trip) have had the chance to answer the questionnaire since it was sent out to the whole population, i.e. everyone that had booked a trip on the direct charter flight to Kiruna during 2008/09. The only comparison possible to strengthen the representativeness of the respondents is what gender division the population has, compared to the sample. In the population there were 52.1% female and 47.9% male passengers (DTW) and among the respondents there were 63.5% female and 36.5% male. The skewed gender representation can be seen as a problem, but it is important to keep in mind that the questionnaire went out to the person that had booked the trip while the gender distribution of the population is counted for all passengers. Moreover, research on household decision making, concerning holidays, show that females are more prone to do the actual booking than men (Mottiar & Quinn, 2004). This can explain the gender distribution among the respondents in this study since the person booking the trip has been the person receiving the questionnaire.

The cover letter was sent out to all passengers that had not yet travelled to Swedish Lapland as well. This way, visitors received a heads-up and would be aware of the fact that they would be asked about expenditure on return to England. A prenotification, as this is called, can also help boost the response rate of a Web survey according to Couper (2008), but it is debatable if an e-mail prenotification, which was sent out for this study, has this effect. A more personalized prenotification, such as a postcard or face-to-face, have proven more reliable when it comes to boosting response rates (Couper, 2008).

²⁷ 1 reminder was sent out.

²⁸ 30 web survey studies had rendered an average response rate of 36.1% using different levels of incentives and designs.

Finally, it is always preferable to be in total control of the whole process, constructing the survey, testing it, sending it out, and analyzing it. All the above reason could, according to Couper (2008), be factors affecting the response rate in a negative or positive fashion. Since all requirements listed above was not met (sending out the survey), no incitements were distributed, and no face-to-face contact with respondents were taken, the respondent rate is comparatively low. This does not mean that the data gathered is biased since all passengers booking the trip to Kiruna have had an equal opportunity to participate. But people not prone to answer web surveys, due to e.g. technical challenges, interest in topic, and privacy concerns (Grandcolas, et al., 2003), could be underrepresented.

The results of the survey, which will be thoroughly discussed here below, were exported and managed through statistical software (SPSS) in order to calculate key measurements and see general trends. The data collected using scale variables has also been tested through the software for extreme outliers in order to secure that the data set has not been distorted²⁹. (Pallant, 2005).

3.2.3 ADDITIONAL DATA COLLECTION

In addition to the passenger survey, secondary data from DTW has been collected concerning passenger numbers and internal cost allocation. Moreover, the Icehotel's annual reports covering the last two available years (2008, 2009) have been consulted in order to understand their wage and tax costs which play a role when discussing indirect economic impacts. Lastly, telephone interviews with subcontractors to the Icehotel, within the activity and excursion segment, have been conducted in order to get information of how the initial spending, to the Icehotel, is distributed among these subcontractors.

²⁹ Expenditure for respondent 53 has been reduced to the second highest value (so-called Winsorizing). It was performed for the expenditure of "Activites" and "Restaurant and bar outside the city of Kiruna". These were the only extreme outliers.

3.3 SOCIAL AND CULTURAL IMPACT STUDY

Contrary to many former studies looking at social and/or cultural impacts of tourism with a quantitative research method (e.g. Fredline, et al., 2003; Lankford & Howard, 1994; Pizam, 1978; Sharma & Dyer, 2009; Yoel, 1992), this study has a qualitative approach based on in-depth interviews. There are a few earlier studies that have had a similar approach, using interviews as a mean for data collection (e.g. Brunt & Courtney, 1999; Hernandez, et al., 1996), but they are largely outnumbered by the quantitative studies.

The norm when investigating social and cultural impacts is to let local residents evaluate and assess the perceived impact of tourism. Evidently, this is a very subjective type of measurement since it captures the perceptions of individuals and does not try to quantify costs or benefits of sociocultural impacts. However, as Fredline, Jago, and Deery (2003) points out, the perception of residents is a vital component to *understand* the costs and benefits that are created.

A qualitative research methodology was chosen for the study of Brunt and Courtney (1999) in order to gain deeper knowledge on locals' attitudes towards sociocultural change, and not "limited information, admittedly though, about a larger number of people" (Brunt & Courtney, 1999, p. 498). This exploratory approach has also been the objective for this study, in addition to a richer picture of the destination's characteristics (context) that in-depth interviews give it more specifically gives an understanding of the tourism development history leading up to the launch of the direct flight, i.e. which impacts that have occurred in the past and how these are affected by the direct flight. In conclusion, it gives a better understanding of the phenomenon under scrutiny (Holme & Solvang, 1991).

A study, of this character, would ideally include longitudinal data where attitudes towards tourism development and its impacts are measured before the establishment of tourism and after the industry is in place. This has been advocated already by Brougham & Butler (1981) in their study of social impacts in a Scottish village, and emphasized by e.g. Hernandez, Cohen and Garcia (Hernandez, et al., 1996). Brougham and Butler concede however that it is difficult to come by empirical examples of this kind. This was also the case in this study on Kiruna and Jukkasjärvi. Instead of searching for a case where it was possible to collect longitudinal data on a destination before and after increased tourism development, the choice of Kiruna in this study has been done because of its recent growth (over the last 15 years) as an international tourism destination and because of the opening of a direct flight in 2007/8 creating an increased accessibility, increasing the number of visitors. It gives the opportunity to ask respondents about the change that have, or have not, occurred since the opening of the direct flight in the context of the 15 or so years of tourism development. The increased accessibility is easily isolated due to the direct flight and is also the unit of measurement in the two other legs of this thesis (economic impacts and environmental impacts).

Another problem with studying a destination before the actual “invasion” of tourism is that locals that have not experienced tourism before could have problems identifying or understanding the benefits and costs of a tourist project. They could estimate or use best guesses on how their lives would develop or change, but not know for sure. This can be related to the core of Social Exchange theory where the notion is that individuals estimate benefits and costs of their interaction with visitors and the industry. Not having lived this experience makes it difficult to be sure of your attitude towards tourism development (Hernandez, et al., 1996)

3.3.1 ANALYTICAL FRAMEWORK FOR SOCIOCULTURAL IMPACTS

With the literature review of sociocultural impacts in chapter 2.2.2 and the specific listing of some of the individual impacts that do occur, this section will be used to establish an analytical framework for the interpretation of sociocultural impacts in the Kiruna/Jukkasjärvi-case.

Already in chapter 2.3.4 on TBL the indicators of Sherwood (2007) were introduced, and for social impacts the following four indicators were named as suitable for impact studies using TBL:

- **Impact on quality of life of community**
 - **Impact on community pride**
 - **Impact on sense of community**
 - **Impact on personal quality of life**
- (Sherwood, 2007, p. 230)

They have been used in some form or another in several social impact studies on festivals and destinations (cf. Derrett, 2003; Fredline, et al., 2003; Fredline, et al., 2005). These will be used as a basis for the research design and more specifically for the questions and the following analysis of the results. By interpreting the response data from the interviews and putting those into these categories above, it will be possible to (1) test if this is an adequate set of indicators and (2) ameliorate the possibility for future comparison by using an already established set of indicators in a TBL-framework. However, the same measurement scale, as proposed by Sherwood (2007), will not be applied in this study. Instead of seven-point impact scales, this study has a qualitative approach using in-depth interviews. This can of course work as a contradiction when fulfilling the aim of comparability stated above (2). But it is necessary to use a qualitative approach in order to capture the eventual change due to the direct flight, i.e. understand the historic development as it is interpreted by the local residents.

In addition to the above advantages these four indicators do not distinguish between positive and negative impacts. This goes in line with the critique against many methods, used for describing and measuring sociocultural impacts, that there are also “shades of grey”, i.e. not all impacts can be classified as purely positive or negative (Reid, 2008).

Moreover, as stated by Getz (2009) and due to critique voiced by e.g. Martin and Schouten (forthcoming), cultural impacts are included in the analysis frame. The definition used in the literature review is that cultural impacts are changes in beliefs, attitudes and traditions in a long-term perspective. Therefore, local residents' perceptions of change in the long-term will be discussed as well while discussing the historic context of tourism development in Kiruna and Jukkasjärvi.

A total of 8 in-depth interviews were conducted, all on location in Jukkasjärvi and Kiruna in November 2009. A ninth interview was planned, but the last respondent, a representative from the Sami population, denied taking part due to ideological reasons. The questions were sent to the respondent and a discussion on why he could not participate was initiated. The reason was that his belief was that the focus was too much on tourism development and that I, as a researcher, did not have enough knowledge of the Sami's historical background and the current situation in the region as an outsider. Having proposed to discuss the historical background and tourism in this context he still refused to take part. In order to understand the viewpoint of the Sami, secondary data was used³⁰. Although not ideal, it gives weight to opinions from other respondent concerning the relation between tourists, tourism developers, and the reindeer herding Sami population. Also, respondent 2 (see below), is part of the Sami community. Although he is working as a tourism entrepreneur, he does also participate in reindeer herding activities and have knowledge about the community.

All interviews were recorded and transcribed in order to be able to use word-for-word citations and not lose any vital information. In order to facilitate the analysis of the rather large amount of data from the interviews, it was coded into groups and sub-groups using different letter combination as recommended by e.g. Miles and Huberman (1994). First, respondents' answers were coded in terms of specific sociocultural impacts (2.2.2.4) and thereafter grouped into the four primary groups: *quality of life of community*, *community pride*, *sense of community*, and *personal quality of life* (above), based on the indicators recommended by Sherwood (2007). The coding was done in a spreadsheet in Excel. All respondents were interviewed in Swedish, so all quotations have been translated into English by the author.

3.3.2 RESPONDENTS & SAMPLE SELECTION

Here below is a short description of the respondents that were interviewed in this study. Their full names and titles are not disclosed out of respect for their privacy.

The basis for the sample selection has been the notion of residents having differing views upon tourist development depending on their affiliation with the tourism industry (Brunt & Courtney, 1999), i.e. the segmentation approach discussed earlier (Brougham & Butler, 1981; Hernandez,

³⁰ Anniversary book about Jukkasjärvi (Kuoksu, 2009).

et al., 1996). Three categories of respondents have been identified and used to categorize the chosen respondents. Their level of dependency is tied to whether they work in the industry or not (Group A & C), or if they are involved to some extent (Group B) in the industry (e.g. handling tourism matters as part of their job, former employee in the industry, family member involved in tourism matters, stakes in the industry etc.). Sharma and Dyer (2009) were equally interested in this segmentation approach, since earlier studies have shown that people with a close economic and social tie to tourism have more positive attitudes towards tourism development. This was also the case in Sharma and Dyer's (2009) study where people depending economically on tourism showed more positive attitudes towards tourism as a job creator, attracting more investments, creating additional tax revenues and also different advantages of cultural exchange. This group of respondents was also less prone to state that tourism impacts on society in any negative fashion. This is another argument for the below classification used as sampling method.

It is, as described in the literature review, also based on Social Exchange Theory (SET). The understanding of the theory in a tourism context is that local residents form their attitudes and perceptions of tourism development (be it positive, indifferent or negative) in line with their perceptions of individual costs and benefits due to their exchange with tourism/tourists (Cook & Emerson, 1987). Below is a table showing the respondents chosen for this study:

Group A = directly dependent on tourism for a living

- Employee at the Icehotel (1)
- Subcontractor to the Icehotel (2)
- Subcontractor to the Icehotel (3)

Group B = indirectly dependent on tourism for a living

- Owner of business, and part-owner in tourism enterprise (4)
- Senior citizen, still connections to the tourism industry (5)
- Municipal employee partly involved in tourism issues (6)

Group C = Not dependent on tourism for a living

- Retired miner (7)
- Miner and local entrepreneur (8)
- Reindeer keeper (9)³¹

Table 5: Overview of respondents

³¹ Denied to take part after having seen the questions, see above.

Group A respondents were chosen after an initial contact with the Icehotel and their marketing manager, Dan Björk. A risk with this procedure is the manager's position as a key player in the local tourism industry and his possible proneness to give names of respondents that have a more positive attitude towards tourism development in general and the Icehotel in particular. However, the advantage of access when using a well-established contact to get in contact with respondents outweighs the negative aspects above. Having had the possibility of bias in mind during interviews, the results can be analyzed and interpreted accordingly.

From a list of three subcontractors, the first two on the list were contacted and interviewed. The employee at the Icehotel was interviewed after recommendation from the marketing manager. In order to get in contact with respondents having fewer liaisons with the industry the local folklore society was contacted. Subjects 4 and 7 were contacted this way. The remaining respondents (5, 6, 8, and 9) were contacted upon recommendation from other respondents. This latter way of sampling can be referred to as snowball sampling (Bruhn Jensen, 2002). It is important to be aware of the respondents' ties to other respondents when analyzing their answers especially when using a snowball sampling technique. In order to avoid standardized answers from a close circle of people it was important to use a snowball technique where the snowball has been set in motion by different respondents independent of each other.

3.3.3 INTERVIEW QUESTIONS

The entire questionnaire translated from Swedish is enclosed in the appendix and this section will discuss the basis for the questions chosen in this study. All questions have had the purpose to open up a discussion regarding changes and impacts of the increased volume of tourists in the Kiruna/Jukkasjärvi-area, and respondents have been asked to exemplify and specify any experiences of impacts on their lives due to tourism (i.e. probing questions).

The first important distinction, regarding the questions, is between questions regarding respondent's personal perception of change in their life or life quality, due to tourism (called *individual level*), while the remaining seven questions (7-13) discuss respondents view on changes at the community level (called *community level*). This difference of unit of measurement, individual level and community level, is important while discussing perceived impacts and has been separated in the same way in earlier studies on residents' perception of tourism impacts (e.g. Ap & Crompton, 1993; Dogan, 1989). It is also connected to the four dimensions listed by Sherwood (2007) and used as an analytical framework for this chapter; perceived *Impact on quality of life of community* and *Impact on personal quality of life*.

Several questions have been influenced by the study made by Brunt and Courtney (1999) and their questionnaire, but adapted or extended to the context of this study (questions 3-12). The

last question (13) was included as to understand residents' notion of the environmental impact due to tourism³².

The initial question (1) is based on respondents' perceived life quality which is meant to touch upon the cornerstone of sociocultural impacts i.e. the idea that events that alter residents' life quality in a positive or negative sense is identical to the meaning of what a social or cultural impact is (Fredline, et al., 2003). A version of this question was also used by Ap and Crompton (1998) in order for them to gain more information on what type of impacts that occur in a specific destination. Another purpose with this question (including question no. 2) was to see what impact the direct flight had in this context. The second question (2) investigates attitudes towards future development and is loosely based on Sharma and Dyer's (2009) conclusions on the importance of knowing and including residents' attitudes towards future growth when developing tourist policy (p. 368). This is important since the aim of the study of sociocultural impacts is to understand the context, i.e. former tourism development and what it has brought, and from this describe and analyze the impact of the incremental development due to the opening of the direct flight.

³² Responses to this particular question will be analyzed further in chapter 4.3.1 discussing environmental impacts.

3.4 ENVIRONMENTAL IMPACT STUDY

Sherwood lists five environmental indicators recommended for measuring environmental impacts: Energy and gas use, solid waste sent to landfill, emissions from transport to and from event, water use, and percent of solid waste recycled. He states that “the advantage is the potential for further analysis into a footprint analysis” (Sherwood, 2007, p. 230). The intention, measuring the footprint, is adhered to in this thesis, although some amendments have been done due to the nature of the case, literature on (T)EF, and other literature concerning environmental impacts. In excess of the EF-analysis this study also includes interview questions to local residents and their perception of tourism’s impact on the local environment.

The aim of this quantification and description of environmental impacts is not to fully account for all environmental (be it climate or nature) impacts and give a complete picture of emissions, perceptions, the carrying capacity etc, but rather, with the help of a well-used method (TEF) measure the impact of the increased accessibility and analyze the local residents’ perceptions of tourism’s impact on nature. Using a validated method gives the analysis credibility, and from a management or political perspective it can be a helpful tool to put the spotlight on specific negative and positive environmental impacts. EF has the advantage of being a pedagogic tool for this purpose (McManus & Haughton, 2006) and residents’ perceptions are vital in terms of tourism development (see chapter 2.2.2.2).

The main aim, as described in the introduction of this chapter, is to focus on the increased accessibility but it will also contain a macro-analysis looking at transport’s impact on the environment. This is a vital point since the improvement in accessibility, through the opening of the direct flight, also has global environmental consequences.

3.4.1 TOURISM ECOLOGICAL FOOTPRINT (TEF)

As already mentioned, the goal of EF is to illustrate mankind’s demand of natural resources, measured in global hectares (gha) which is a accumulated and assembled unit describing the use of;

- Energy
- Foodstuff
- Raw material
- Water
- Transport
- Waste
- Productive land used for buildings, roads etc.
(Hunter & Shaw, 2007)

This consumption, or indirect demand (e.g. transport) of natural resources is calculated and the result is the annual (or daily, weekly, monthly) footprint per capita which is compared to the capacity of the earth to cope with this demand, i.e. the biocapacity or carrying capacity;

Biocapacity-Ecological footprint = **Ecological reserve or deficit**

Since the above resources are also consumed by tourists on destinations the method has been adapted and used in tourism research tracing consumption of tourists. The events of a tourist's itinerary is categorized into transport, accommodation, activities, and food (cf Gössling, et al., 2002) which are calculating based on the criteria above listed by Hunter & Shaw (2007). This is the Tourist Ecological Footprint (TEF) and is the quantification of environmental impacts used in this study.

Two calculations are made in this thesis:

1. Net TEF on the global level due to the increased accessibility
2. Net TEF on the local level due to the increased accessibility

The difference is made because, as highlighted in many earlier studies, the main problem with increased (international) tourism, from an environmental perspective, is the subsequent increase of air transport which is a large contributor to EF (Gössling, et al., 2002; Gössling & Peeters, 2007; Hunter & Shaw, 2005, 2007; Peeters & Schouten, 2005). Kiruna itself will not perhaps be directly³³ affected by the emissions caused by the direct flight from London, but certainly indirectly since emissions from aviation has an established impact on the global climate.

The method used to calculate the global net impact is based on Hunter & Shaw (2005, 2007) who have established the following methodology;

1. **Calculate EF for air transport;**
 - a. Total round-trip passenger distance (km)
 - b. Multiply a. with energy usage factor in order to get the per passenger energy usage (mega joule, MJ). See discussion below.
 - c. Divide energy usage (MJ/passenger) with the number of MJ that 1 hectare (ha) of forest can bind in a year, in CO₂ equivalent (73 000 MJ/ha)
 - d. Multiply by a factor for the "additional radiative forcing of aircraft emissions other than carbon dioxide emitted at altitude" (p.296).
 - e. Finally, multiply by the "equivalence factor", this is because forest land (as used in c.) is more productive than other types of land, and the general purpose of this

³³ Except for the environmental impact at start and landing at the local airport

factor is to convert used hectares of specific types of land into global hectares (gha) which is the comparative unit of EF. (WWF, 2006; www.footprintstandards.org)

2. Calculate the EF for the tourist at the destination area

3. Calculate the EF for the tourist in their source area

The final net TEF is EF for transport and EF at the destination area minus EF at the source area ($1+2-3=TEF$) in gha. This is the footprint of the passengers to Kiruna on a global level. Some explanations from the literature are needed to the above methodology and how data was retrieved for this particular study;

(a) The round-trip passenger distance has been retrieved from SAS homepage (“Simplified Emission”, 2010), where it is also possible to calculate CO₂ emission for flights, although these are not used here.

(b) A factor depending on cabin load factor, type of plane, short- or long-haul, and number of starts and landings are used to calculate the energy usage (fossil energy) of each passenger. In former studies the factor has been between 1.75 and 2.75 depending on the above variables (Hunter & Shaw, 2005). As done by Hunter & Shaw (2005) a conservative factor of these has been used in this study, i.e. 2.0 MJ per passenger kilometer.

(c) The amount of fossil energy in MJ is recalculated into the amount of forest land in hectares that can bind the emissions on a yearly basis. The precise amount comes from calculation done by WWF (2000) and used in both Hunter & Shaw (2005, 2007) and Gössling et al. (2002).

(d) There has been a lot of debate of how much the aviation business pollute and one burning-point is emissions on high altitude caused by airplanes. On high altitude emissions are said to have higher effect on e.g. the ozone layer and cloudiness than emissions on the ground (Høyer, 2000). In this study a factor of 2.7 (cf. Gössling, et al., 2002; Hunter & Shaw, 2007) is used to count for the additional impact that emissions have, according to e.g. IPCC reports (1999), on global warming.

(e) The equivalence factor used in this study is taken from Global Footprint Network’s report (Ewing et al., 2008) on national EF-footprints and is 1.33 for forest lands.

In order to “calculate the EF for the tourist at the destination area” there are two ways of data collection. It is either to collect primary data, tracing the tourist from home to the destination and the back home, looking at their *transport* (at the destination and to/from the airport), *accommodation*, *activities* and *food and fibre consumption* (Gössling, et al., 2002). The other way is to use secondary data. Hunter & Shaw (2005) propose to use national per capita footprints of the host country reported by institutions or organizations such as WWF or Global

Footprint Network. This assumes that the tourists have approximately the same level of consumption behavior as the residents. The authors admit that this is a debatable method and that the data used can easily be criticized, but argue that since they are investigating ecotourism, which does contain an element of caution and aim to preserve destinations' natural environment, it is acceptable to use this average in the EF-calculation (Hunter & Shaw, 2005). This argumentation is depending on where tourists come from, which destination they are visiting, and what type of tourism that is undertaken. If there are large differences in life style between host and visitor or if it is a type of tourism that causes high environmental impacts, it is not a suitable method.

For this thesis, it is argued that it is possible to use the method used by Hunter & Shaw (2005) in order to get an understanding for the impact of the direct flight. Another argument for using this method is that the Icehotel has an explicit environmental profile³⁴ and that some of their activity organizers are labeled as eco friendly tourist operators by the Ecotourism Society of Sweden (www.naturesbestsweden.com). In addition, qualitative data in form of in-depth interviews will help understanding and analyzing the environmental impacts of the destination as described here below.

3.4.2 INTERVIEW QUESTIONS

In addition to the above quantification, one question was addressed to the respondents in the sociocultural study (see 3.3.3) concerning residents' perceptions of the impact of tourism on the local environment (as in nature). Question 13 asked if they believe that "nature/the environment has been affected in any way by tourist development/the tourists". In connection to this question, a general discussion was held with respondents on what these impacts might have been and if there has been something that has been visible over the last two years, coinciding with the launch of the direct flight.

This qualitative approach is chosen in order to understand the development that has taken place and the environmental context, i.e. to understand if there are also positive aspects of tourism development in relation to environmental issues which are not included as a part of EF methodology (McManus & Haughton, 2006) and what the negative impacts are related to from a resident's perspective.

³⁴ See Co2-negative initiative at their homepage, www.icehotel.com.

3.5 VALIDITY AND THE POSSIBILITY TO GENERALIZE

The choice of using a case study approach has both positive and negative consequences for the results of the thesis. On a positive note is that the chosen case, of Kiruna, has experienced an isolated event that, at least at a first look, increased accessibility and demand in tourism. The direct flight can be seen as an isolated example of increased accessibility and a step in the destination's incremental tourism development. This makes the case interesting to study and understand in order to evaluate the elaborated model based on TBL and to say something on how increased accessibility affects stakeholders in such a setting. Considering that the context of this particular phenomenon (increased accessibility) plays a major part in what impacts (particularly sociocultural and environmental impacts) that will follow, it is natural to use a case study approach. This is pointed out by Yin (2003) who states that you would use a case study approach "because they [contextual conditions] might be highly pertinent to your phenomenon of study" (p.13).

It is important to point out the fundamental implication that the choice of case study has on the results of the thesis and in particular on the empirical contribution. Kiruna is a rather mature destination with almost two decades of tourism development concentrated around the Icehotel. An incremental step in tourism development generates different empirical data in such a destination compared to an unexploited destination with no previous experience of tourism development. The impacts are probably less noticeable in Kiruna and Jukkasjärvi than in a destination with no previous tourism development. The pace and size of development does also play a role in this context, e.g. incremental vs. radical tourism development. It is important to have this in mind when discussing the results of the TBL-evaluation. It is not, as discussed further down, possible to apply the conclusions to another destination. It is applicable in Kiruna and Jukkasjärvi and to some extent in very similar contexts.

A mixed-method approach have been used doing a qualitative case study on sociocultural and, to some extent, environmental impacts. The economic impacts are measured using a quantitative survey and environmental impacts are, to some extent, measured using quantities of emissions. According to Yin (2003), surveys are not part of the "six sources evidence" applicable in case study research, but it is the (only) common method used in tourism research when collecting expenditure data which is used to calculate economic impacts (e.g. Crompton, Lee, & Shuster, 2001; Sherwood, 2007). The latter part of this section will discuss the problems entailed when measuring, understanding and describing sociocultural impacts, but there are also interesting validity issues when quantitative surveys are used.

The inflexible construction of a (web or mail) survey is a problem, leading to errors of interpretation from the respondent's perspective. The survey is created from the researcher's perspective and is not necessarily interpreted in the anticipated manner (Dillman, Smyth, &

Christian, 2009). The inflexibility is not a major concern for the economic impact study since the aim is to collect data on passengers' expenditure, but it is important to keep this in mind during the survey construction phase in order to reach a high level of validity.

Another dilemma that I have encountered during the formulation of the research problem and during seminars is the possibility to actually measure the increase in tourists caused by the opening of a new direct flight to Kiruna. Is it possible to capture this change (5-10 % increase in incoming tourists)? Economically and environmentally it is without difficulty to isolate the increase by surveying incoming passengers on the direct flights or looking at environmental impact per tourist, but socially and culturally it can be rather tricky. Does residents see a change due to this, relatively small, increase in tourists? A possible solution to this dilemma is to see which changes that have occurred in general due to tourism over the last years and how these impacts could be magnified or diminish due to increased accessibility in the long-term. An important aim with this thesis is to develop tools for how increased accessibility and other incremental development steps impacts on a (peripheral) destination. If certain poignant sociocultural impacts are evident, then it is possible that an increase in tourist inflow will magnify or diminish the effects of the existing impact. It is a classical problem of validity concerning the problem of measuring exactly what the researcher has set out to measure.

The solution in this thesis has been to use a qualitative approach, namely in-depth interviews with residents, to understand and describe the impacts that have taken place during the development of tourism in Kiruna and Jukkasjärvi, thereby having the possibility to understand the context and if certain impacts have been magnified or diminished due to increased accessibility. Moreover, it gives the possibility to concentrate on the events after the opening of the direct flight and to understand if this has given way for new sociocultural impacts. However, this choice of methodology has implications on the answer to research question 2 concerning the empirical results. A qualitative approach cannot determine statistically that the impacts found represent all local residents to a large or small extent. It limits the possibility to say, with certainty, how important or widespread a certain impact is in society. However, the sample of local residents represents perceptions of tourism development from people with different levels of attachment to the industry. It does also explore what kind of impacts that have occurred in-depth, before and after the direct flight, which would not have been possible with a quantitative approach.

Finally, when discussing pros and cons of qualitative research and case study research it is almost always measured against quantitative research and its rigorous demands. One advantage of quantitative studies or the use of several comparable case studies is the claim that the result can be generalized and used to say something about the world in general, while single case studies, and particularly qualitative case studies in social sciences, cannot claim to

have this ability since they are context specific. Instead they are explorative in nature, which could be put against the confirmative nature of quantitative studies.

Flyvbjerg (2001) opposes this doctrine and state that it is possible to generalize from qualitative studies if you carefully chose the case that you are using. The solution is to use a critical case which would give a lot of information, and even more than random sampling would give. Another strategy is to use *extreme cases* which stand out of the crowd and can be used to prove a point. In all, Flyvbjerg's point is that this careful procedure could tell much more about a phenomenon, and help create theories, than representative quantitative sampling (Flyvbjerg, 2001). This study does not aspire to be a critical case study or an extreme case study, and it does not aspire to be used in order to generalize on sociocultural impacts in peripheral destinations. The main objective, as mentioned earlier, is to *understand* and *describe* the impacts as they are perceived by local residents, i.e. answer the "why-question". While it is not, perhaps, possible to use the result and apply it to other (peripheral) destinations, the method and the results thereof can be used to better understand what happens at a peripheral destination when tourism growth take place and to take sociocultural impacts into account before investing in tourism growth and development, i.e. how to deal with the impacts of incremental tourism development and visitors as perceived by local residents and maximize positive impacts while minimizing negative impacts. If the ability to generalize would be the target or the next step, it would be recommended to perform a larger study on several destinations quantitatively. The finding of this explorative sociocultural study would then work as input to a possible survey. However, further research might also show, as Flyvbjerg discusses, that this case, of Kiruna/Jukkasjärvi, is indeed a critical or extreme case that can help explain related phenomena in other contexts, but it is not the objective of this particular case study.

3.6 SUMMARY

This passage has the intention to add some indicators to Table 4 based on Sherwood (2007) and the description of the methodological choices here above. The reasoning is explained here below and summarized in Table 6.

The economic indicator is based on visitor expenditure and this will be gathered using a passenger survey. Thereafter the direct economic impacts will be displayed and the net effect of the direct flight calculated. A discussion on the size of indirect and induced impacts will also be led, but no multipliers will be applied. In addition, a discussion on opportunity costs has been included to gain a wider perspective on the possible alternatives and their possible impacts. Thus, *opportunity cost* is added as an indicator in the table below.

The social indicators are impact on quality of life of community, impact on community pride, impact on sense of community, and impact on personal quality of life. These indicators will be used as the basis for analyses of the interviews. With support from Getz's (2009) definition of TBL where cultural impacts are added to the social dimension and the critique from e.g. Martin & Schouten (forthcoming) concerning the lack of a cultural perspective, cultural impacts will be included in this TBL-evaluation. Instead of social indicators, it will be called sociocultural indicators or sociocultural impacts.

The environmental indicators are all listed with the intention of performing an Ecological Footprint-analysis (Sherwood, 2007). This is also the intention in this case study. In addition to this, the context of the case will be explored from an environmental perspective through in-depth interviews concerning environmental impacts in an historical context and after the opening of the direct flight. The reasons for this is to understand not only the quantifiable negative environmental impacts, but also local residents' perceptions and if there are possible positive environmental impacts. Thus, *residents' perception of positive and negative impacts* is added as an indicator in the table below.

Below are the indicators listed by Sherwood (2007), but adapted to follow the above listed criteria from the separate chapters on methods. Indicators in bold are added as a consequence of the literature review and the argumentation above.

Economic indicators	Sociocultural indicators	Environmental indicators
<i>Direct expenditure from the event</i>	<i>Impact on quality of life of community</i>	<i>Energy and gas use</i>
Opportunity costs	<i>Impact on community pride</i>	<i>Solid Waste sent to landfill</i>
	<i>Impact on sense of community</i>	<i>Emmissions from transport to and from event</i>
	<i>Impact on personal quality of life</i>	<i>Water use</i>
		<i>Percent of solid waste recycled</i>
		Residents' perceptions of positive and negative environmental impacts

Table 6: Reviewed TBL indicators and measurements, based on Sherwood (2007)

In chapter 6, the above table will be reviewed again in light of the results of the case study. The intention is that it will contribute to the use of TBL in evaluating tourism development steps from a sustainable tourism development perspective.

4 RESULTS

In the three following chapters (4.1, 4.2, 4.3), the results of the economic, sociocultural, and environmental impacts will be described.

4.1 ECONOMIC IMPACTS

In this chapter the aim is to describe the direct, indirect and induced economic impacts and with this comes also the geographical distribution of the passengers' expenditure. Moreover, in order to measure the impact of the direct flight, both the actual increase of passengers, compared to before the opening of the direct flight, and the passengers' motivation to choose this specific destination will be described.

As discussed in the methods chapter, the focus is on direct economic impacts with some details of indirect economic impacts and a discussion on induced impacts. All amounts are quoted in pound sterling (£) since this was the currency quoted by the respondents.

4.1.1 THE INCREASED ACCESSIBILITY IN PASSENGER NUMBERS

But first some secondary data about the passenger numbers before and after the direct flight:

Season	Passengers	Change (%)	Direct flight	Flights (#)
2005/2006	1166	n/a	No	-
2006/2007	1358	+16,5	No	-
2007/2008	1656	+22	Yes	14
2008/2009	1456 ³⁵	-12	Yes	13

Table 7: Visitors to Kiruna travelling with DTW on the direct flight from London (DTW)

It is interesting to note, in the table above, the general trend of a steady increase of tourists before and even more so with the launch of the direct flight. But the second year of the direct flight, at the same moment as the credit crunch kicked in, was a disappointment with less passengers. The entire slump in passengers can be explained by DTW's decision to decrease the number of flights by one, based on market research reports (DTW). The impacts of this study have been measured during the 2008/2009 season, meaning that the increase of passengers is small. But in order to understand the effect of the direct flight, the rise of passengers between 2006/07 and 2007/08 will be used as a reference for the effect of the direct flight in passenger numbers. In this way, the external effect of the financial crises is less prominent and does not overshadow the results. Using this 22% increase in demand can also be motivated by the results of the survey question asking respondents about the perceived importance of the direct flight and what role it played in their decision to choose Kiruna and Jukkasjärvi as destination.

³⁵ 36 of which were children under 11.

Question 18 and 19 concerns the importance of the direct flight as perceived by the passengers. 77.8% finds the direct flight important or very important for their choice of destination.

Some economic impacts would disappear would it not be for the direct flight, as the result of question 19 indicates. According to this question around 29% of the passengers would *probably not* (27%) or *not* (1.6%) choose the destination if no direct flight was in place. This figure corresponds to the increase of passengers registered when the direct flight was introduced in 2007 (22%), and the 22% will therefore be the percentage used to calculate the size of the increased passenger number due to increased accessibility in this study. There might be other underlying factors influencing this increase that is not accounted for in this study (e.g. marketing efforts, media coverage, trends, word of mouth etc.).

4.1.2 DEMOGRAPHICS AND CHARACTERISTICS

95.3% of all respondents in the survey bought a package trip organized by DTW including a stay at the Icehotel in Jukkasjärvi and a number of (on average three³⁶) winter activities and excursions organized via the Icehotel. There were also passengers with packages combining a stay at the Icehotel and in Björkliden or Abisko for the downhill or cross-country skiing³⁷. Moreover, it has also been possible to buy only a plane ticket without hotel or organized activities, although none of the respondents in the survey had opted for this alternative.

Below is some assorted general information on the visitor based on questions on demographics in the survey;

Category	Alternatives	Mean/%
Age	---	40
Size of travelling party	---	2 (median)
Household income	Above £75 000/year	49.1%
	£50-75 000	24.6%
Education	University	63.5%
	Secondary/Grammar	25.4%
	Vocational/Technical	11.1%
Marital status	Married/partner/registered partnership without children	49.2%
	Married/partner/registered partnership with children	33.3%

Table 8: Assorted demographics of passengers on the direct flight

³⁶ Statistics from DTW.

³⁷ See www.discover-the-world.co.uk for a complete list of package deals and booking alternatives.

The data shows that most visitors are middle-aged and do travel in couples, often without their children. Their household income, 73.7% above £50 000, is largely above the national average³⁸ and most visitors have an academic degree.

The survey question concerning travel motives (6) was open-ended in order to enable respondents to list the main factors influencing their choice of destination, in this case Kiruna and Jukkasjärvi (jmf. Kozak, 2002). By categorizing the answers from this survey question under several headlines an illustrative and simple explanatory model has been created, that is Figure 5. In the study by Kozak (2002) the answers are interpreted as pull factors drawing the tourists to the destination. These types of pull factors can be manipulated and influence by e.g. DMOs in order to attract tourists to a specific destination. The result shows, with emphasis, that the Icehotel is the big attraction which pulls visitors to the destination, but the experiences and the destination itself with its nature, landscape and climate is as important. The direct flight itself is only listed by app. 5% of the visitors.

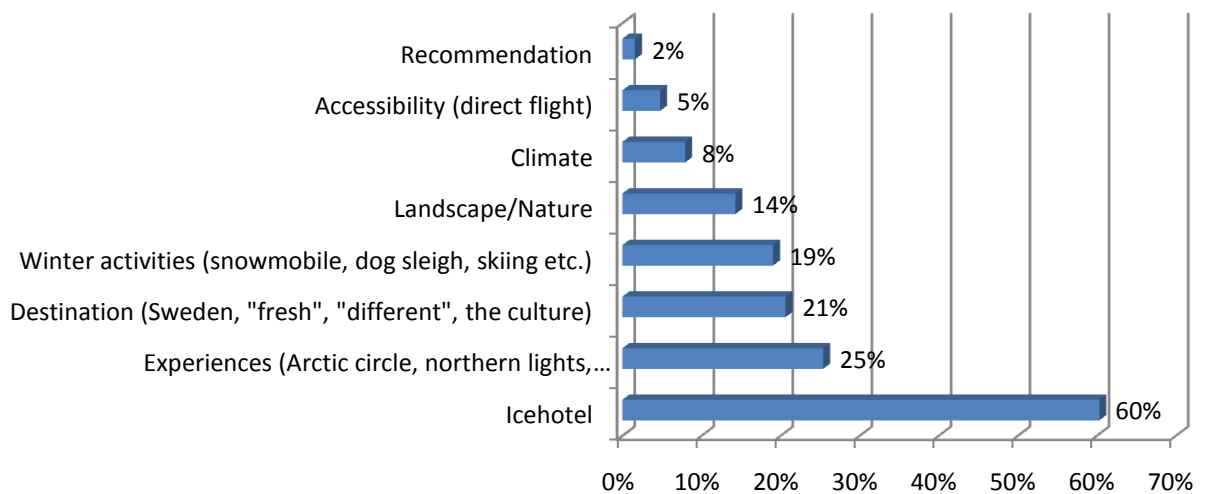


Figure 5: Motives to passengers' choice of Kiruna as destination

4.1.3 DIRECT ECONOMIC IMPACT

The gross total expenditure of visitors was app. £2.81 million based on the average spending of £ 1981/passenger. This is the economic impact of all passengers during 2008/2009, but this includes all visitor expenditure and not all of this money reaches the destination, which will be illustrated later on in this chapter.

Below is visitors' expenditure separated geographically (Kiruna or outside of Kiruna) and on diverse items of tourism activities.

³⁸ The average household income 2007/08 was slightly above £30 000 ("Household Income", 2010).

Expenditure	Avg. (£)	%
Package (flight, accommodation, meals, pre-booked activities)	1295	65.4
Shopping	108	5.4
<i>Kiruna</i>	50	2.5
<i>outside of Kiruna (Jukkasjärvi)</i>	58	2.9
Restaurant and Bar	279	14.1
<i>Kiruna</i>	107	5.4
<i>outside of Kiruna (Jukkasjärvi)</i>	172	8.7
Activities and excursions (booked during trip)	270	13.6
Transport	5	0.3
Other (e.g. foodstuff, petrol)	24	1.2
TOTAL EXPENDITURE	1981	100%

Table 9: Distribution of total average expenditure per visitor

A great part of expenditure is spent in the vicinity of, or at the Icehotel. From a geographical perspective it is possible to observe that £162 (50+107+5) of total expenditure is spent elsewhere regionally. Either it is in the town of Kiruna, to transportation companies or other costs. The suppliers to the Icehotel are indirectly affected by the Icehotel's income. The indirect economic impacts will be discussed in chapter 4.1.4 more thoroughly.

The largest part of accommodation expenditure goes to the Icehotel since 85.7% of the respondents bought a so-called "Icehotel package" from DTW and 95.3% states that they have visited or stayed at the Icehotel. However, this does not mean that 95.3% of all expenditure on accommodation goes to the Icehotel since app. 5 % of the visitors also stayed one or several nights in Kiruna, Abisko, Björkliden or other places. But, it is safe to say that the majority of expenditure is accrued by the Icehotel. Moreover, it is important to note that restaurant and bar expenditure is, to the most part, spent in the Icehotel or in the Icehotel's restaurants in Jukkasjärvi. The exact distribution between money spent in Icehotel owned dining facilities and externally owned facilities is not possible to make with the results of this study.

The gross expenditure, of £2.81 million (£1981x1420³⁹), should be handled with care since a large part does not have any impacts at the destination. Instead 61.8% (£1.79 million) of the expenditure on the package trip stays with DTW, SAS and their suppliers (see Table 10 below). This is expenditure that to a large extent, do not enter the local economy at all. Some exceptions are ground service suppliers to SAS in Kiruna, DTW and SAS staff spending in the region, and other minor administrative costs linked to the destination.

Only accommodation and airport transfer expenditure, £357 of the average package price, can be said to directly impact the destination economically (38.2% of package price).

³⁹ Adult passengers (1456 adults-36 children).

Stakeholder	Sum (£)	%
Accommodation (Icehotel + possible accommodation in Kiruna)	346	37
Flight (SAS)	268	28.6
DTW (administration, operations, VAT, profit, overheads)	266	28.4
Taxes (UK)	45	4.8
Airport transfer (Kiruna)	11	1.2
Total expenditure	936	100

Table 10: Distribution of costs for package trip (DTW)

The data above, in Table 10, is based on a standard priced package trip including a three days stay at the destination for a room with double occupancy. In addition to this example above, several excursions and activities are booked before travelling to the destination (pre-booked activities) and at the destination in connection to the Icehotel. The distinction between pre-booked activities and activities booked directly at the destination is not possible to make in this survey, but by combining the average price paid for the package trip, subtracting the standard price above (£936) and adding the amount spent on activities at the destination, it is possible to estimate the sum spent on activities. The result would then be £629⁴⁰ solely on activities and excursions. However, included in this sum are also additional costs to the standard package price, such as room upgrades, single occupancy, cost for additional adults, supplementary nights and point in time of the trip. As a consequence the actual amount is somewhat lower.

In order to calculate the approximate gross direct economic impact the 38.2% of the amount spent on the package trip (using the standard package price), mentioned above, is added to expenditure on shopping, restaurants and bars, transport and other costs from Table 9 above. The sum, £773 ($38.2\% \times 936 + 108 + 279 + 5 + 24$), is then added to the approximate expenditure on activities and excursions, calculated above, giving a final sum of expenditure per adult of £1402 ($773 + 629$). In order to get the aggregated impacts, £1402 is multiplied with the number of adult passengers (1420), totaling a gross direct economic impact of £1.99 million.

⁴⁰ £270 (activities and excursions, see Table 9) + (£1295 - £936) (package trip price, see Table 9 – standard package price).

This sum is the gross direct economic impact, i.e. visitors' expenditure at the destination in the first round. The next step is to describe and measure what happens in the following rounds, i.e. indirect and induced economic impacts. Finally the impact of the increased accessibility, i.e. what economic impacts that can be derived from the increase of passengers due to the direct flight, will be described and measured.

4.1.4 INDIRECT AND INDUCED ECONOMIC IMPACTS

Out of the £629 spent on activities and excursions, using the estimate from chapter 4.1.3, a substantial portion goes to organizers of excursions and activities. The Icehotel has a department that organizes and coordinates activities where most package travelers book their activities. This is done either upon purchase via DTW or at the destination directly with the Icehotel. Numerous activities and excursions are executed by subcontractors, i.e. individual entrepreneurs located in Jukkasjärvi and Kiruna, and a large part of expenditure goes to these companies. The Icehotel, however, charges a commission for their mediation services. This commission is according to correspondence with subcontractors between 20-40%. If the average commission can be estimated to 30% then the indirect economic impact of activities and excursions for local activity companies is £440/adult or a total of £624 800.

For other indirect economic impacts such as foodstuff and beverage deliveries to restaurants there are no figures available in this study. This also includes any leakages that occur in the financial flow from primary beneficiaries to secondary beneficiaries⁴¹.

However, it is possible to say something about one other indirect economic impact linked to the Icehotel. This is the part distributed to the personnel. From the annual report (Bolagsverket) it is possible to see that the Icehotel had a cost of app. 56 million SEK for staff (hotel, restaurant, activities etc.) during the season of 2008/09. Out of this amount app. 42.5 million SEK was paid to staff in salaries (incl. income tax⁴²) and 14.1 million SEK in payroll taxes. Concentrating on the impacts on employees of the Icehotel in proportion to the passengers on the London flight, it is possible to estimate the amount of indirect economic impacts that occur. Salaries stand for app. 30.1% of the Icehotel's total turnover or net sales (42.5/141 million SEK) and therefore this indirect economic impact is app. 30.1% of all expenditure that pass through the Icehotel (hotel, activities and excursions and restaurants and bar).

The induced impacts, i.e. employee spending due to increased salaries, has not been measured in the study, but will be discussed in the analysis of economic impacts (5.1) together with the rest of the results hereinbefore.

⁴¹ The Icehotel was asked to supply information on their purchases in order to understand indirect impacts and leakages, but the information was not easily available for them and consequently they have not supplied this data.

⁴² 34.43 income tax for the municipality of Kiruna.

4.2 SOCIOCULTURAL IMPACTS

The previous chapter focused on the money spent by visitors in Kiruna and the region while this chapter will look at the interaction between tourists and locals, or the lack thereof, and the sociocultural impacts that is the outcome of this interaction.

In order to facilitate understanding and to get an overview of the material, respondents' responses are categorized into sections here below depending on the common subject. This subject categorization is a result of the coding process, described in chapter 3.3 and based on the four indicators suggested by Sherwood (2007).

4.2.1 BEFORE THE DIRECT FLIGHT

The description of the respondents' statements is also sorted in two categories based on when the impacts occurred in time. Firstly, the context or background story is described through the impacts that have occurred, according to respondents, up until the launch of the direct flight. This is a span of approximately 15 years, starting with the development of the Icehotel concept. Thereafter the increased accessibility, its impacts and future concerns will be addressed. This will create a better understanding for the impacts following the direct flight based on previous development.

4.2.1.1 IMPACT ON QUALITY OF LIFE OF COMMUNITY

"The village has flourished because structures, such as the store, post office, school and library, are still here" (respondent 1)

It is not only the local super market, post office, school and library that are still up and running in Jukkasjärvi. The airport of Kiruna is also running with the help of tourism;

"The airport is secured for future needs. There were talks about closure 15 years ago. Today we know that almost every second plane, landing in Kiruna, is filled with guests to the Icehotel and other tourist attractions" (respondent 1)

Not all are satisfied with the extent of flights and operations at the airport, or train traffic for that matter (respondent 3), but he stresses that compared to other places in Norrbotten⁴³ or the inlands of Swedish Lapland it is a dream.

Not only are the public functions and stores, mentioned above, still available in Jukkasjärvi but the school and the super market have expanded, enlarging their premises to meet demand. The building of the local super market (and its further expansion) has, according to respondent 6, created "visible surplus values" for people in the village.

⁴³ The most northern county of Sweden.

However, all this cannot be attributed to the rise of tourism during the last 15 years. It can also be linked to the expansion and activities of the large mine in Kiruna (LKAB) and Esrange (space research) outside of Jukkasjärvi;

“There are a lot of high-tech activities up here...That makes people from the south [of Sweden], with this knowledge, move up here” (respondent 3)

Jukkasjärvi is on a commuting distance from Kiruna and the upswing of Kiruna drags Jukkasjärvi along according to respondent 2, and vice versa.

Tourism infrastructure that has been built and developed with the visitor in mind over the last decade or so has not only created assets or values for the industry and the tourists, but also for local residents. The Icehotel is a popular place to visit for locals in Jukkasjärvi and Kiruna during the tourist season, new snowmobile routes are also accessible for local residents, and the cycle/pedestrian way along the village main road is used by visitors as well as local residents. (respondents 6, 8)

Another coin of social development of the village life is the creation of job opportunities, and this is also attributed to the Icehotel. However;

“At the moment it is incredibly seasonal. Efforts have been made and the industry is very aware of it...people come here and work and then leave the municipality [at end of season] instead of maybe staying the whole year” (respondent 4)

The people discussed above are the seasonal workers of the Icehotel and at other tourism companies, which are mainly youths doing a couple of seasons as guides, receptionists, in the kitchen etc.

One solution, mentioned by respondent 8, is to work in the mine during the summer filling in for vacationers and then go in to the tourist industry during winter. This is however mainly done by local youth, and not as much by people coming from other parts of the country.

“We’ve seen that it is possible to do the impossible. It just takes longer time” (respondent 4)

The statement above says a lot about the spirit that has fuelled the region and especially Jukkasjärvi in the wake of the Icehotel. Entrepreneurship has been vital in the creation of the Icehotel, and respondents witness that it has given other actors in the community to put their ideas into action.

“...the spirit of entrepreneurship came to the village. There is an enormously big spirit of entrepreneurship in Jukkasjärvi....You talk about tourism, you talk about newly launched

businesses and...we did some calculations and I believe we [local businesses] had a turnover of about 500Mkr [in Jukkasjärvi]...If you look back 15 years in time I believe that this figure was not more than 30-40Mkr” (respondent 4, an entrepreneur)

A coalition has been formed between local entrepreneurs to discuss local issues and possibilities for cooperation. This coalition does also lobby for local projects, such as the building of cycle lanes alongside the main road in Jukkasjärvi (respondent 4)

Much of the entrepreneurial drive is attributed to the Icehotel, and respondent 1 means that their ambition and attitude has led the way so that local residents also have adopted this attitude of seeing possibilities instead of problems.

Another respondent (6) says that the Icehotel has helped development and marketing of the region, which in turn would make it easier for local entrepreneurs to get a head-start and follow the lead of the Icehotel when establishing businesses in the tourism industry.

But there are also negative tensions due to the increase of tourism in the region that in some way affects the residents. The majority of respondents do, in one way or another, talk about disagreements that have been aired at some point or another by the Sami society about the expansion of tourism on lands, or close to lands, where they traditionally have herded reindeers. In the anniversary book, celebrating the 400 years since the founding of the church in Jukkasjärvi, Marit Anne Allas, representing the Sami community, writes the following about the expansion of tourism:

“During the last couple of years the tourism industry has expanded onto winter pasture lands which have meant less tranquility for reindeers on pasture. The driving of snowmobiles has had a negative impact, and particularly dog sleighs since reindeers are afraid of dogs.” (Kuoksu, 2009)

The impression is that the most recurrent conflict due to tourism development is the above mentioned land use conflict between traditional reindeer herders and tourist developers. Respondent 2, active as a tourism entrepreneur states the following:

“The reindeer industry is tied to the land, while the tourism industry isn’t. What is the difference? How is it possible to decide the right to claim the land?” (Respondent 2)

The respondent criticizes the historical right to use land tied to the reindeer herding community. Indirectly the question of why tourist developers should not have the same right to use the land is posed.

4.2.1.2 IMPACT ON COMMUNITY PRIDE

“If you say you’re from Jukkasjärvi, then everybody knows where it is”

The big success of the Icehotel internationally and the growing number of tourists that have been coming to the small village of Jukkasjärvi over the last 15 years has made an impact on the village life and its residents;

“Their village is on the world map. Jukkasjärvi is a village that the whole world knows about and this is something that you are proud of. You are proud that the Icehotel is situated here” (Respondent 1)

“We are talking about a Finnmark⁴⁴ village in the middle of nowhere, where today...you meet some of the most interesting and important people in the world” (Respondent 2)

These notions show a large amount of pride for the village and its development over the years. The above quotations are from respondents whom are economically dependent on the industry, but respondents from the other two groups speak with the same sense of pride;

“People from Kiruna travel a lot and it creates a lot of attention to say that you are from Kiruna or Jukkasjärvi. People become very curious and people from Kiruna are very proud and want to tell [all about it]” (Respondent 6)

“...even Prince Albert of Monaco has been there. I have dined with him. I can tell you that not many can say that. A very decent fellow. He’s been there numerous times. Every year.” (Respondent 8)

Although not as frequently illustrated in interviews with people not depending on tourism, there is a clear sense of pride for the region, Jukkasjärvi, and the Icehotel.

4.2.1.3 IMPACT ON SENSE OF COMMUNITY

It is possible to speak about an identification process that has taken place, where local residents can identify with the development of the Icehotel and their core values based on the natural elements (snow, ice, northern lights).

But there has also been a loss of identity, according to respondent 5. It can be illustrated as a move from a traditional Lapland village to something else, where residents do no longer feel affiliated with their traditions and former village identity;

⁴⁴ A traditional name on Swedish Lapland (or the whole of Northern Scandinavia) principally by people in the south of Sweden.

“The village has lost its identity. The sentiment for the village, of being a homogeneous crowd of people living in the same village has changed into something different.” (respondent 5)

“It means that the others [other villages] have a local folklore society which is much more active. Here, in Jukkasjärvi, it is not really the same. You lose your identity.” (respondent 5)

The respondent resembles Jukkasjärvi with a suburb of Stockholm, where the local identity is changed to a more urban-like “Stockholm identity”. In this case it would mean that Jukkasjärvi has become a suburb of Kiruna instead of an independent village. This is partly a result of the large amount of local residents that take the car each morning to work in the mines of Kiruna 20 km away. As a consequence, the slide of village identity cannot solely be connected to the recent tourism development, although it plays an important role.

Respondent 2 speaks a lot about the “old cultural values” in the region, and that these are better taken care of as a result of the tourism boom. As an example, this tourism dependent respondent talks about the reconstruction of a deserted village and deserted log cabins now used in tourism activities. Instead of letting these places fall into decay, they are refurbished into their original appearance.

Another place or institution in the village that has gained new life is the village church. Firstly, it gets more visitors than normal during winter time. But it is foremost another novelty that has strengthened the involvement of the church in the tourism industry;

“Every year they build an ice church down here. They do weddings, several every day. So, the church does also have a big operation and there are lots of visitors to the church.” (respondent 7)

4.2.1.4 IMPACT ON PERSONAL QUALITY OF LIFE

The level of disturbance including increased traffic on the main road during peak season, the usage of snow cannons in the construction of the Icehotel, snowmobile and dog sleigh traffic on the river and in the forest or the movement of people in winter time have not been a major cause for irritation or annoyance according to the respondents:

“You do not notice that much of it, as an ordinary mortal man. The most significant would be when you are on your way to work some afternoon and you see a lot of tourist coaches along the road. It can be a thing that you reflect upon, the traffic situation, but that’s about it” (respondent 8)

However, as mentioned in chapter 4.2.1.1, traditional reindeer herders do experience that snowmobile and dog-sleigh traffic cause troubles for their daily activities and for their reindeer herds. So, it does have an impact on personal quality of life for some groups in the local community.

There are people that have found new activities in the wake of the Icehotel's success, like respondent 1 and 2. They have both been able to develop their own businesses and work partly as subcontractors to the Icehotel. This fact is also accentuated by respondent 2, 7 and 8, mentioning locals that get job assignments during winter season shoveling snow with their tractors, doing construction jobs or driving taxis.

The respondent from the Icehotel (1) points out the specific demographic categories of people that have obtained jobs;

"This is a mining society. Now, there is something completely new with the tourism investments. Many young people have gotten a job, many women have gotten a job"
(respondent 1)

But it has not been an outright boom of new jobs created. It is mostly seasonal workers and small part time occupations. Some get to be employed full-time or start their own tourism business, but the majority has other jobs on the side or leave the region at the end of the winter season. As a contrast to the comments from respondent 1 above, discussing the favorable situation for young people in terms of job opportunities, respondent 3 highlights the difficulty of attract local youngsters to the tourism industry since they earn more working in the LKAB mine.

Finally, on the question if locals have switched from traditional jobs to jobs in the tourism industry, respondent 5 states the following;

"I don't think that many are affected. There are a few with tractors and similar things. Most people don't have anything. People that are hired at the Icehotel. They do often come from the south...They have an interest in this type of tourism." (respondent 5)

4.2.1.5 NO IMPACT

Things have changed in Jukkasjärvi and also in Kiruna, as illustrated above, but there are also comments from most respondents about the invisibility or rather the absence of intrusion by tourism and tourists into residents' lives.

Most locals without any direct or indirect link to the industry do not personally interact with tourists on a frequent basis, as illustrated in the quotes below.

"I would estimate that 90% of all locals have not even talked with a visitor." (respondent 1)

"You have to understand that what the regular villager experience from the tourism industry or the regular visitor is close to nothing" (respondent 1)

A reason for the non-existent contact between residents and visitors is aired by respondent 5;

"There are a lot of tourists coming here, but I still believe that people living in Jukkasjärvi do not have much contact with them, since visitors are only here temporary. It is not meaningful to create contacts in that way, except financially." (respondent 5)

Respondents in category C do not voice the non-contact or no impact track as openly, but one reason for not being in contact with tourists, coming for a couple of days to visit the Icehotel and the surrounding region, can be the language barriers between local residents and visitors. Respondent 7 says that he goes on walks to the Icehotel on a regular basis to see what is going on and to meet people he know, but thinks it is a pity that he does not know any language good enough to communicate with the tourists.

The above chapter (4.2.1) has described the tourism development and its impacts up until the direct flight, in the winter of 2007. This context will help understand the results in the next section discussing impacts after the direct flight was launched and future tourism development, i.e. the impact of the increases accessibility.

4.2.2 AFTER THE DIRECT FLIGHT

4.2.2.1 DEVELOPMENT SINCE THE DIRECT FLIGHT

"The charter is something positive and creates ripple effects" (respondent 3)

Respondents are aware of the direct flight which is now on its third season, taking visiting tourists directly from London to Kiruna, but the financial crisis overshadows any possible quantum leap that investors and tourist entrepreneurs might have hoped for. This crisis has not left attractions and subcontractors untouched.

All respondents, when asked about the development over the last two years when the direct flight has been in operations, mention the financial credit crunch and its effect on society as a whole and on the tourism industry in particular;

"This past year it has been obvious that we have had a recession. But it is also a thing in mass media, this financial crisis. I mean, every paper writes that we are...on the brink of the grave" (respondent 4)

The financial credit crunch has affected tourism during the last two years;

“It has been a downward trend since last year. But that has to do with...with the worldwide financial crisis. [pause] You have actually noticed it. You have.” (respondent 8)

“I think it has been a little harsh, indeed. But they have at least survived” (respondent 7)

This was the first that came in mind, asking about the development over the last two years, and the impacts of the direct flight had to be directly addressed in order for respondents to have an opinion on the matter. There are differing judgments about the impact of the direct flight and its importance for local development;

“Since we started, the majority of our market share has been from foreign markets. I wouldn’t say that this thing with the direct flight has influenced the region”. (respondent 1)

The employee of the Icehotel does not attribute much importance to the direct flight, although she admits that the planning of activities has been facilitated since they know in advance how many visitors that comes in on the flights and often which activities they have booked in advance. Respondents that are not dependent on tourism for a living are rather indifferent to the direct flight. They have heard about it but not noticed any change or effects of it.

Contrary, respondent 3 believe that the direct flight might work as a catalyst and create ripple effects;

“It creates attention, which is positive for the destination. Things are done and put at stake. There is a go-ahead spirit” (respondent 3)

Respondent 6 voice a sense of pride and enthusiasm when the direct flight is discussed;

“Kiruna is not big, and we have this direct charter flights. One can safely say that this is pretty mighty...since it increases, of course, the status of the tourism industry.” (respondent 6)

The mixed answers show that people dependent on tourism in some way are more prone to see advantages with the launch of the direct flight than respondents that are not dependent, financially, on the industry. Several respondents state they have not noticed any change or impact at all due to the direct flight.

4.2.2.2 FUTURE TOURISM DEVELOPMENT

“We don’t want 170 charter flights here!” (respondent 3)

Except for voiced concerns about minor disturbances due to snow cannons, dogs, and traffic congestion and the simmering conflicts over land use between tourist developers and the Sami community, the general notion, according to the respondents, is that tourism is warmly embraced in Jukkasjärvi. It has not (yet) caused a lot of nuisance;

“Tourism has not yet become a problem since the flow of tourism is still rather small”
(respondent 3)

But when the discussion is directed to future growth and investments there are some worries, cautious confidence and outright resistance. Most respondents, including those depending on tourism as livelihood, believe that a future rapid growth without restrictions would cause more negative than positive impacts;

“If it would be set free....the risk of wearing down [the area] and pollution, I believe, would be much bigger” (respondent 1)

“Here you are in vicinity to mountains and wilderness....if you develop it too much then you make it difficult for yourself. The exotism and nature experience. It wouldn’t be as interesting if everyone comes up here, or if everyone should be here. If we’re talking mass tourism” (respondent 3)

“I think that the expansion that has been going on until today. That is what is manageable” (respondent 5)

“It is, really, awfully crowded here. I don’t know how much he [Yngve Bergkvist⁴⁵] can grow down here, I really don’t know. I believe he is really reaching the limit” (respondent 7)

This tells about a perceived saturation of the present development in Jukkasjärvi by the Icehotel and its subcontractors and other tourism companies active in the village. It is important that the quality of the destination is upheld (respondents with ties to the industry) and that it is not overcrowded with tourists. The respondents make several references to the development in Finnish Lapland⁴⁶, where the winter season is very hectic with numerous direct flights bringing in visitors from all over Europe to experience winter activities and meet Santa Claus, which is their number one attraction with amusement parks dedicated to Christmas, winter and Santa

⁴⁵ Founder of the Icehotel

⁴⁶ With destinations such as Rovaniemi, Levi, Ivalo among others

Claus. This hectic tourist period is, mostly, limited to December, but spills out over the rest of the winter season;

“It is really fascinating when you go to Levi⁴⁷ and look at everything, but there is a downside there as well. Maybe it is more valuable having tourists pay a bit more, per tourist, instead of having a large quantity or amount. I do not think we will end up there. I am not worried about that” (respondent 6)

The goal, of the destination, has not been to attain the same levels or copy Finnish Lapland in terms of quantities or products, according to respondent 3, but he also believes that there would be a possibility for the destination to grow geographically, to have attractions, hotels and tourists in other places in the region, e.g. at ski resorts or in Kiruna. Moreover, not all respondents are cautious about future growth in tourism;

“It would increase the number of job opportunities. We can increase our operations. I have no doubts about it [future tourism growth]” (respondent 4)

However, this is the sole uncritical voice and the sentiment is that there is some sort of (invisible) limit to how much the local community can grow in terms of tourism and at the moment it is not possible due to the existing tourism infrastructure.

⁴⁷ Destination in Finnish Lapland.

4.3 ENVIRONMENTAL IMPACTS

The aim of this chapter is to *measure* and describe the environmental impacts of the incremental tourism development. Measuring or quantifying environmental impacts is a wide and intricate undertaking, but the focus in this study is on quantifying impacts *using the ecological footprint analysis*. Moreover, the attitudes of local residents towards tourism's impact on the local environment will be described⁴⁸.

4.3.1 INTERVIEWS

The respondents were asked a questions regarding the impact on the local environment due to the historical development of tourism in Kiruna and Jukkasjärvi and concerning any effect they might have experienced due to the starting up of the direct flight:

Do you believe that nature/the environment has been affected in any way by tourist development/the tourists?

The above question was the starting point for the discussion on environmental impacts and the result below will give an insight of tourists' impact on the local environment historically and give an understanding for the environmental context from the local residents' perspectives.

4.3.1.1 BEFORE THE DIRECT FLIGHT

The impacts according to the respondents are not major, but some negative consequences have been registered.

"The reindeer herding has been affected. Their territories are smaller. There are less pasture lands." (Respondent 5)

Respondent 3 agrees with this, but talks about animals in general that experience smaller pasture lands, due to more traffic (snow mobiles, dog sleighing etc.) on old journey routes that has been deeded to tourism entrepreneurs over the years. More motor traffic, i.e. more snow mobiles, in the woods due to tourism is a common denominator for several of the respondents (3,6,8). There is a consciousness that this might be negative in the long run, but at the moment all respondents see the development as positive and that the motor traffic does not cause tangible negative impacts at the current level.

"We use nature up here, but we do not misuse it." (respondent 8)

This quote is in the context of the increased motor traffic discussed above and does summarize the attitudes of the respondents concerning this issue.

Another view is that tourism development has rendered positive environmental impacts:

⁴⁸ Questions posed to the same respondents as in chapter 3.3.2.

“There is long-lastingness and long-sightedness [in the relation with nature]....It affects the nature positively. We take more responsibility for the cultural values that have existed.” (respondent 2)

The quote above illustrates how local residents see the link between nature, culture and tourism experiences, i.e. that it is important to sustain natural and cultural environments since they draw tourists to the region. Respondent 3 reinforces this point of view, talking about nature as their livelihood. Nature is refined in order to meet tourists’ expectations, but it is not polluted or destroyed, because that would spoil the experience and the reason for tourists to go to Kiruna and Jukkasjärvi would be lost (respondent 3). Both these respondents, discussing the rediscovery of nature and its value for the tourism industry are themselves directly involved in the tourist industry as tourism entrepreneurs.

4.3.1.2 AFTER THE DIRECT FLIGHT

There are no evident consequences or specific impacts that respondents link to the direct flight in terms of the environment, when asked the question. But there are many concerned voices regarding mass tourism. They do not wish a development similar to the one in Finnish Lapland since it would also affect the environment negatively, as described by respondent 3 in the former section⁴⁹.

According to respondent 1, working at the Icehotel, the risk of littering and wearing down would be greater with mass tourism and that if tourism would be “let loose” this risk would be imminent.

More voices on mass tourism:

“If you go too far with development you would make it difficult for yourself, taking away the exotism and the nature experience.” (respondent 3)

Not all respondents, mainly those that are not involved in tourism, do have anything to say concerning environmental impacts other than that *“tourism doesn’t leave any trace”* (respondent 7) or that they have not noticed any change.

4.3.2 TOURISM ECOLOGICAL FOOTPRINT

The basis of Tourism Ecological Footprint (TEF) is to measure resources consumed in transport, accommodation, activities, and food for the tourist as explained in chapter 3.4.1. Firstly, the result will be presented below of the resources used for transport (the flight) to Kiruna from London. This will be done in comparing the resource use, before and after the direct flight.

⁴⁹ See also related issues in chapter 4.2.2.2.

4.3.2.1 TRANSPORT

The table below follows the steps necessary according to Hunter & Shaw (2005), as explained in chapter 3.4.1. Information on passenger kilometers has been taken from the homepage of SAS, the airline chartered by DTW for their direct flights to Kiruna.

Flight	Distance (km)	Passenger kilometers /passenger	Energy usage factor	Equiv. land area (ha)	Add. Emmissions	Equiv-alence factor	TOTAL
London - Kiruna	2136	4272	2 MJ	73 000 MJ/ha	2.7	1.33	0.42 gha
London- Kiruna (via STHLM)	2376	4752	2 MJ	73 000 MJ/ha	2.7	1.33	0.47 gha

Table 11: Ecological Footprint, the Direct Flight

The result from the table above shows that the TEF is 0.42 gha/passengers on the direct flight which is 0.05 gha less than when there was no direct flight. This somewhat lower footprint due to the opening of the direct flight can be seen as an environmental improvement, but the increase of passenger numbers, due to the direct flight, does also come into play. So, the total gha for the British passengers coming to Kiruna before the direct flight was 638.26 gha (1358 x 0.47), while after the 22% increase of passengers (see 4.1.1) the total gha increased to 695.52 gha ((1358 x 1.22) x 0.42). Although the flight is shorter and thus create less impact on the environment the EF increased with 57.26 gha due to the increase of passengers.

The alternative of having a direct flight is illustrated above, but can we assume that these passengers would stay at home and have zero impact if they would not go to Kiruna/Jukkasjärvi on vacation? Probably not. The alternative, or the opportunity cost, should also be problematized as it is with the economic impacts. However, it is really difficult to know the alternative. It is probable that the British tourists would go elsewhere to a similar destination but not necessarily on a direct flight nor to a destination at the same distance. They could also choose to go much further away (e.g. Thailand, Egypt, Florida or other winter destinations) which would mean that Kiruna/Lapland is a better alternative from an environmental impacts' perspective. Seeing that no questions were asked about what the alternative would be in the questionnaire it is difficult to say anything about the opportunity cost other than that a destination, like Kiruna/Jukkasjärvi, would be a good alternative compared to big winter destinations such as Thailand and Florida. It is rather close to home (from a British perspective) and there is a direct flight to cater for the presumptive tourists. But the local environmental (positive and negative) impacts at the destination itself would not occur if we assume that the extra passengers would not come if it were not for the direct flight. This is also true for environmental impacts described above (4.3.1.2) and below (4.3.2.2) in connection to the direct

flight. There is no data in this study on land transport from and to the airport or at the destination.

4.3.2.2 ACCOMMODATION, ACTIVITIES AND FOOD

As described in the method chapter the footprint of tourists at the destination, in terms of accommodation, activities and food, has been drawn from secondary data. It is the calculations of WWF (2008) that has been used and the EF of Sweden and the UK can be found in the table below. The world average is included in order to help relate the result to a larger context.

Country	Total Ecological Footprint (gha)	Total Biocapacity (gha)
Sweden	5.1	10
UK	5.3	1.6
World	2.7	2.1

Table 12: Total Ecological Footprint (WWF, 2008)

The logic of Hunter & Shaw (2005) is that a tourist consume on the same level as the average resident on the tourist destination when it comes to ecotourism activities. The simplistic proposition gives an EF which is .2 lower for UK tourists when at the destination (5.1-5.3). The EF per day at the destination is app. 0.014 (5.1/365 days). Seeing that the average length of stay at the destination is 4.24⁵⁰ the onsite footprint of the British tourists is 0.059 gha (0.014x4.24). The equivalent EF at their home turf for the same number of days amount to 0.062 gha ((5.3/365) x4.24)). Thus, there is a “reduction” of 0.003 gha per person on a global level if the assumption is that these tourists consume at the same level as the average Swedish consumer (see Holden, 2006).

	Ecological Footprint (Global Level)	Ecological Footprint (Local Level)
Excluding Transport	-0.003 gha	0.059 gha
Including Transport	0.417 gha	--- ⁵¹

Table 13: Ecological Footprint results, local and global level (gha per tourist per year)

In the table above there is a distinction between the local and the global level. The destination (the local level) does only experience the increased impact of the British tourists visiting the area consuming the resources at the destination, while the comparison on a global level is with how much resources they consume at home compared to on vacation.

Thus, the result is an EF of 0.417 gha per passenger on a global level and 0.059 gha per passenger on a local level. The effect of the direct flight will be looked at in more detail in the analysis chapter (5.3).

⁵⁰ According to the passenger survey.

⁵¹ No air transport included, although Kiruna/Jukkasjärvi is impacted by the emissions from landings and take-offs at the airport.

5 ANALYSIS

All results above will in this chapter be analyzed starting with three separate sections for each impact category (5.1, 5.2, 5.3). Thereafter, in the following chapter (6) the level of analysis will be through the lens of TBL and sustainable development where all examined impacts will be put together using the framework proposed in chapter 3.

5.1 ANALYSIS OF ECONOMIC IMPACTS

Firstly the gross economic impacts and their distribution will be discussed followed by a discussion about the net effect of the increased accessibility.

5.1.1 GROSS DIRECT ECONOMIC IMPACTS

The average total expenditure of the tourists amounts to £1 981, which must be considered a high level of spending. But it would be in line with the respondents' high yearly household income (see 4.1.2), the costly attractions included in the package trip and the high price-level of Sweden in comparison with the EU average⁵².

The simple illustration below and the table that follows helps understand the geographical distribution of direct economic impacts.



⁵² Sweden is ranked as the 5th most expensive country concerning consumer goods and services with an index of 114 ("Consumer Price Levels in 2008", 2009).

Region	Beneficiary	Gross economic impact	£ (appr.)	Total (£)
Great Britain	Discover the World	28.4% of package price ⁵³	377 500	821 400
	Taxes	4.8% of package price	63 800	
Sweden (outside of Kiruna)	SAS	28.6% of package price	380 100	1,99 million
	Taxes and VAT	---	n.n	
Kiruna/Jukkasjärvi	Icehotel	37% of package price, app. 30% of exp. on activities and excursions + restaurant, bar and shopping	1 086 300	2,81 million
	Activity and excursion companies	App. 70% of expenditure on activities	624 800	
	Town of Kiruna	8% of total expenditure ⁵⁴	222 900	
	Transport companies	1.2% of package price + 0.3% of total expenditure	22 700	
	Other expenditure	1,2% of total expenditure	34 100	

Table 14: Geographical distribution of direct economic impacts

A large part of the tourists' expenditure stays in Great Britain and with SAS. It would be possible to redirect these incomes if local establishments would take control over booking and transport procedures instead of letting foreign (DTW) or national (SAS) companies handle this. But it is important to remember that e.g. DTW has a long tradition of selling trips to the Nordic countries and that they have profound knowledge of the British market. In addition, some of the expenditure that goes to DTW and SAS is also spent in the local economy due to staff and other expenses (indirect and induced impacts). But most importantly, it was DTW who took the economic risk of the investment starting the direct flight. So, these initial leakages are something that must be put against the gross economic impact and the net effect discussed below.

⁵³ Standard package price (£936/visitor).

⁵⁴ £1981/visitor

Some activities are solely organized by the Icehotel and the above numbers should therefore be used with caution. Since only a few suppliers have been asked for information, and the fact that activities and excursions differ in style and characteristics, the percentage of commission should also be handled as approximate. However, it gives an understanding of the indirect impacts experienced by the suppliers of excursions and activities. Moreover, the respondents, albeit few, that spent nights at hotels elsewhere are not traceable in this result. But since 95,3% have spent at least a part of their vacation at the Icehotel it should not be very large discrepancies.

5.1.2 ECONOMIC IMPACT OF THE INCREASED ACCESSIBILITY (NET EFFECT)

Using the measured direct economic impact (£1.99 million) and the estimated increase due to the direct flight (22%), the net effect or the net direct impacts of the direct flight can be estimated to £437 800. The economic net effect can be put in relation to the money spent by the destination in order to understand if it has been economically successful or not. Seeing that DTW has taken the risk for this investment, i.e. setting up the direct flight, it can be seen as a net increase of demand for the destination. Thus, the result is a positive economic (financial) bottom line. However, some of the (mostly) local organizations and companies (Swedavia, Visit Sweden, Swedish Lapland, Kiruna/Lapland, Björkliden, Riksgränsen, the Icehotel) have contributed with marketing funds for the direct charter flight and of the destination in Britain. This amount does not, however, by far exceed the net effect of the incremental development. The amount is also spent on marketing of the whole region and not only the direct flight⁵⁵.

The indirect impact of the net effect for activity companies can be estimated to £137 450, which is a large part of the total. This means that these tourist entrepreneurs have, with minimal risk implied, a lot to gain, economically, on improvements in tourism infrastructure, such as this one. For other actors (such as Kiruna town, transport companies, and other attractions) the economic impact is not as visible if the net effect of the direct flight is considered.

Some economic impacts would disappear would it not be for the direct flight. An indication is the results of the survey where slightly less than 29% would “probably not” or “not” choose the destination if no direct flight was in place. This result and the 22% increase in the first year of operations point towards this conclusion.

The importance of the direct flight is clearly evident in the responses from the survey and in the above estimate, but since a mere 5% of the tourists listed the direct flight as a main factor for choosing the destination (see 4.1.2) it is not a major pull factor drawing visitors to the region. However, as Prideaux (2000) points out in an article about the importance of transportation

⁵⁵ The exact amount is not disclosed due to discretion of the contributing parties.

linked with destination development, it is vital with adequate, and cheap, transportation. This is in line with the survey responses. It is less costly for travel agencies and tourists with a direct flight and the travel time is often shortened. This makes the destination easier to sell for a more attractive price and with the direct flight as a marketing tool. In general the travel distance correlates with the price of the ticket and if the cost of travel can be reduced, the destination becomes more attractive. In order to grow internationally and/or in a phase of expansion it is important, according to earlier studies, to develop an international airport and/or create direct flight to your destination (Halpern, 2008; Prideaux, 2000). It is a matter of convenience in combination with a lower price for the tourist.

5.1.2.1 OPPORTUNITY COSTS

The opportunity cost is also an important component of any economic impact evaluation including welfare values⁵⁶, i.e. to estimate the best alternative use of the resources generating economic activities on a destination. In this study it would concern the effort to set up the direct flight which is the subject of this study. What would the opportunity costs or best alternative be? The assumption would be that DTW and the destination would not set up a direct flight and the passengers would fly via Stockholm, in smaller numbers leaving unutilized capacity at the destination. The opportunity costs would then, hypothetically, be zero if no other campaigns or marketing activities would take place. But what about the occupancy rates at the hotel? Are the English visitors crowding out visitors from other markets that would fill up the hotel anyway?

The passengers on the charter, in particular during the financial crises, filled up empty capacity at the hotel which would otherwise be unused. Moreover, these passengers normally stay in the property over Sunday and Monday which are days that are usually hard to sell with low occupancy rates, i.e. *“the purpose of the charter is to fill up days and periods which are normally hard to sell on the domestic market”* (R. Sand, personal communication, December 13, 2010).

The vacant supply in Kiruna and Jukkasjärvi would possibly have been filled with tourists from other generating centers if another charter was launched from another international market, but if there were no direct flight, which would be the alternative assumed in this thesis, then the opportunity costs are zero. The vacant capacity cannot be assumed to be filled up with domestic visitors since the aim of the direct flight is to fill up the hotel when domestic demand is low.

To summarize the opportunity cost reasoning, it does not affect the net direct economic impact of the direct flight which is therefore estimated to be £437 800 as discussed above in section 5.1.2.

⁵⁶ Although the economic evaluation in this study is concentrated on the financial flows.

5.1.3 CONCLUSIONS AND SUMMARY

In this study the direct economic impacts of British tourists using the direct flight from London to Kiruna has been described and measured using a passenger survey going out to all passengers during the winter season of 2008/09. It has also contained a discussion on indirect economic impacts due to this incremental development in tourism.

A quite evident conclusion of this case is that the Icehotel benefits most economically from the direct flight and its passengers, being the main motive for DTW's visitors to choose the destination and catering for over 95% of the passengers on the direct flight. The indirect economic impacts can be seen as a result thereof, since the hotel uses several local suppliers. The activity and excursion companies are one type of local suppliers referred to above which benefit indirectly from the opening of the direct flight.

In terms of job opportunities it is mostly created at the Icehotel during the season and app. 30.1% of all direct expenditure flowing through the Icehotel goes to employees (and state tax).

Although consumption is concentrated to the Icehotel and Jukkasjärvi, at least 8% is consumed in bars, shops and restaurants in the city of Kiruna, leaving over 90% of expenditure that is spent in Jukkasjärvi and in its vicinity.

The economic impact of this increased accessibility, £437 800, has been obtained using the current level of accommodation capacity and without any investments in tourism infrastructure at the destination. This could be interpreted as if the economic carrying capacity has not reached its limits for what the destination can cope with, but if further investments into e.g. direct flights are to be planned it might be necessary to enlarge the current accommodation and activity infrastructure, e.g. the capacity of the Icehotel in Jukkasjärvi. This eventuality will be discussed from a sociocultural and environmental perspective in chapter 5.2 and 5.3. Moreover, the opportunity cost is estimated to be at zero since the aim of the direct flight and the charter passengers is to fill up the hotel during periods of low domestic demand.

Moreover, looking at the importance of the direct flight, it can be said to be of importance for their choice of destination. It is not a primary pull factor, but rather a component in the destination's development process together with other improvements in infrastructure, attractions, experiences and marketing. Even though one third of the respondents have stated that they would "probably not" or "not" choose this destination without a direct flight, it is other factors (Icehotel, experiences, landscape etc.) that has pulled tourists to the region.

There is no doubt that increased accessibility is important for peripheral destinations and that the focus of the industry and researchers on this issue in regional tourism development is well founded, but it has to be studied in its context, i.e. the tourism system providing attractions, marketing, tourism infrastructure (accessibility, parking, signs etc.), services (accommodation,

restaurants, bars etc.), entrepreneurs and hospitality (Gunn, 1988; Wilson, Fesenmaier, Fesenmaier, & Van Es, 2001), and not as a stand-alone factor boosting tourism growth. The results should not be seen as polar opposites, the fundamental difference is the view of transport infrastructure development being demand or supply driven.

The analysis of the data shows that the importance of the direct flight is substantial and that a number of visitors would hesitate to go to the region would there not be a direct flight. DTW has also used the direct flight as a marketing tool in their marketing communication⁵⁷. This needs to be further researched in order to disentangle travel motives and choice of destination in order to understand more about the economic impacts that can be attributed to direct flights or other improvements in infrastructure and accessibility.

More detailed mapping of the financial flows, from initial spending of visitors down to induced impacts in the local economy would be needed in order to understand all economic activity due to an incremental development. Already in this study it is possible to see that a large part of expenditure is tied to the destination through activities and excursions. It is however of great interest to see to what extent the Icehotel and other business (in and outside of Kiruna) use local suppliers for e.g. produce for local restaurants. The backward linkage in the economy has great importance when final change of demand is calculated (Archer & Fletcher, 1990). If there are great leakages the impact will not be as great as initial demand. But looking at the image of the destination, a major strategy is to offer visitors local food and local culture, it is plausible that there is a strong backward linkage to other sectors of the local economy, from and to the tourism sector where direct impacts are taking place.

In the work by Sherwood (2007), it is proposed to only look at visitor expenditure in comparison with funding needed from organizers of the event, and not look at the whole financial flow or immaterial costs and benefits. It might be a rather narrow perspective, but at the same time it gives a hands-on result of the ratio between costs of organizing the event and the direct expenditures. From a destination's perspective, or as in this case looking at an incremental development of tourism, it is also a possible model to use, but a more detailed analysis could create a better picture of the final increase in demand. However, this is something that has to depend on the case under scrutiny and the accessibility of data. A first step should be to have a discussion of the alternative costs to investing in increased accessibility or similar steps in incremental tourism development.

The positive economic impacts of the incremental change of tourism must also be put in the context of sustainable tourism development and the TBL approach used in this thesis. This will

⁵⁷ See www.discover-the-world.co.uk for examples on trips to Kiruna.

be done in chapter 6 after the examination of sociocultural and environmental impacts in the two following chapters.

5.2 ANALYSIS OF SOCIOCULTURAL IMPACTS

This section links theory and result in an attempt to understand the context of the case and the increased accessibility created by the direct flight. It is done, as explained in chapter 3.3.1, with the help of the four indicators presented by Sherwood (2007): *Impact on quality of life of community*, *Impact on community pride*, *Impact on sense of community*, *Impact on personal quality of life*.

5.2.1 IMPACT ON QUALITY OF LIFE OF COMMUNITY

As found in other studies (Andereck, et al., 2005; Briedenhann & Wickens, 2004) a substantial amount of local development and community services in Jukkasjärvi (post office, super market, school etc.) are attributed to tourism growth, but the increased accessibility does not have an impact directly on this sustention of local services.

Another positive impact has been the booming entrepreneurship, which has also been highlighted in rural tourism development in earlier studies (Wilson, et al., 2001), and the economic and social effects that this has brought, increasing the community's quality of life. This drive seems to be boosted even more by the introduction of the direct flight. The "everything works if you just try"-feeling can be seen as a positive impact that helps the community in the long run. According to Halpern (2008) an airport with increasing numbers of direct flights can be a driver for local tourism development, and this might also be the case in Jukkasjärvi although the scale of the operations are much smaller in Kiruna then in Halpern's Finnish case.

A number of jobs have been created, or sustained in regards to different municipality services that are still in Jukkasjärvi. Creation of employment is often held up as the number one reason for investment in tourism development from both public and private actors and is mentioned by several researchers as an impact of tourism increase (Deery & Jago, 2010). But as Wall and Mathieson (2006) states, it is important to understand what kind of jobs that are created and to what extent, since this is an often used argument when lobbying for public funds for tourism development investments. Employment in the tourism sector is often characterized as being low-wage job, with no or little education and it is very seasonal (Wall & Mathieson, 2006). This is also something that, to some extent, can be seen in the present case study. Most jobs are at the Icehotel and with their sub contractors and are of a seasonal nature. After the season they leave the region and might, or might not, come back for the next season. For this migrant work force, the salary is not the most important, but rather meeting new people and "having a good time" (Lundberg, Gudmundson, & Andersson, 2009). The result is that the summer season leaves excess capacity in terms of housing and also less work for people involved in the tourism industry which affects the quality of life of the community. It is a classical scenario of a

peripheral destination with seasonality issues (Hall & Boyd, 2005; Wall & Mathieson, 2006; Wanhill & Buhalis, 1999).

A problem in the region is also that locals rather work in the mine which is better paid, and a year-around employment. The mine is a predominantly male workplace. The tourism sector on the other hand has created a number of jobs attracting women, which also is in line with how the tourism sector has historically been structured (low-wage jobs to women, managerial posts to men) (Sinclair, 1997). The employment rate has not been significantly affected by the increased accessibility. More focus has been on the financial crisis and its effect on employment within the economy as a whole.

Lastly, there is an impact that influences the community's level of well-being and this is the simmering conflict, or heightened tensions in society (Ap & Crompton, 1998), over land-use between tourism actors and the indigenous population and their reindeer herding activities. Although, no representative for the reindeer herders has been prone to give an interview for this study, it is evident, both from written sources and other respondents that it is a problem. However, up until now it is not, according to the respondents, something that has not been possible to solve. But, an increase in visitor numbers, such as the present or future development, can be a trigger for further or deeper conflicts and it is important to have this in mind when developing tourism in this region, i.e. the carrying capacity (CC) is approaching its threshold of what can be accepted before more negative outcomes will surface and in turn deteriorate the quality of life of the community and the quality of the visitor experience. Madrigal (1995) touch upon these issues in his study on "residents' perceptions and the role of the government" where the role of government in tourism development is analyzed through the eyes of the residents. The development of land for tourism is often argued to be beneficial for the whole society, although there are signs that, historically, it is mostly the land developers or an elite that do actually benefit from it (Madrigal, 1995). Here, it is often the role of local governments or national governments to arbitrate between community stakeholders, since, as in the case with Kiruna and Jukkasjärvi, it is often state or municipality owned land. In the case of the Sami population and the reindeer herding, their rights to use the land is governed in national law. They have the right to use any land for reindeer herding that they can prove to have been used for this purpose historically⁵⁸ ("Rennäringslagen", 2009). The local government officials are, due to this situation, in a delicate position to weigh tourism development against other commercial or recreational interests.

5.2.2 IMPACT ON COMMUNITY PRIDE

Pride among local residents for what has happened, in terms of tourism, is evident and can be attributed to the Icehotel to a large extent. The opening of the direct flight has also generated

⁵⁸ The judicial term is for the historical land-use is "immemorial custom" or "urminnes hävd" in Swedish.

the same feelings among locals. So, there is a positive impact generated by this incremental development.

The sense of community pride has been put forward as a very important factor for tourism success, especially when it comes to legitimacy of tourism development in the community. The importance and presence of pride have been well documented in the event context (Deery & Jago, 2010; Dwyer, Mellor, Mistilis, & Mules, 2000; Wood, 2005), but also in a wider tourism development context (Besculides, Lee, & McCormick, 2002; B. Faulkner & Tideswell, 1997).

Therefore, the evident development of community pride in Kiruna and Jukkasjärvi, which has increased with the direct flight, should be preciously handled by tourist developers, the local government and other actors in the industry. It can be the key to future growth and balance out negative perceptions of tourism.

5.2.3 IMPACT ON SENSE OF COMMUNITY

There are some interesting results concerning what has been classified as “loss of resident identity and local culture” (Andereck, et al., 2005). In the study there are opposite experiences, both of a loss (or change) of local identity, and from an enhanced understanding and revitalization of local cultural values:

“The village has lost its identity. The sentiment for the village, of being a homogeneous crowd of people living in the same village has changed into something different.”
(respondent 5)

We take more responsibility for the cultural values that have existed.” (respondent 2)

This is in no way contradicting, but instead a probable result of different experiences from local residents with different view and dependency on tourism. Normally, a heightened sense of community would be reflected in a common vision or in common ideals among locals (Derrett, 2003). Although, this study is too limited to state if all locals have developed, or are on their way to develop, a common sense of community it is possible to see that there are some signs of a growing sense of community among the respondents. It is also expressed in a common (except for one respondent) judgment that the growth of the industry should not be left without control and that growth in Jukkasjärvi is reaching its limits of physical carrying capacity.

The above does also reflect the “shades of gray”, referred to above, of tourism impacts (Reid, 2008). A “loss” of identity can reflect a positive transition from a negative identity to something new or revitalization of traditions (Andereck, et al., 2005) and does not have to be seen as something negative for everyone in the community. In this case it has been a transition from a traditional “village mentality” to an identity where the local physical place in the eyes of the tourists (nature, climate, and exotic wilderness) is more imminent, but also on the transition

from a village with its own values and ideals to become part of Kiruna as a suburb, since many spend most part of their day in Kiruna working.

However, there has not been a visible impact due to the recent increase described in this study. The only effect is the reference to the limits of the carrying capacity of the place and future growth. This reference is made when discussing the direct flight and possible future expansion.

5.2.4 IMPACT ON PERSONAL QUALITY OF LIFE

In contrast to the quality of life of community, impact on individual's personal quality of life has mainly been focused on some negative impacts in this study. But it has to be stated that it is a difficult distinction to make between what is impacting personal quality of life and the community's quality of life. It can be seen as a simultaneous effect where personal improvements, such as the possibility to get a job, also can be seen as something benefiting the whole community in the long run.

To continue with the employment creation impact, discussed above in chapter 5.2.1, it is declared that some individuals have had the possibility, thanks to the tourism development in Jukkasjärvi, to work extra with the construction of tourism facilities and other miscellaneous chores. Except for giving individuals a possibility to earn some extra income it does also involve them in the local tourism development and make them identify with the industry through participation. Again, there has not been any noticeable increase of this kind of job creation caused by the incremental development in Jukkasjärvi and Kiruna.

On a more negative note, there are signs of individual's being affected by the snow cannons, the snowmobiles, the traffic, and the dog sleighs. It is not any extreme disruptions of peoples' lives that are reported, but in a carrying capacity context it is clear that this issue has to be handled with care if expansion without any confrontation will take place. This is particularly poignant in the context discussed above concerning the relation between the tourism industry and the Sami population and their herding activities. Research, as seen in the review by Deery & Jago (2010), discuss the issue of increasing traffic and which effect it has on communities and personal quality of life of individuals. One example is when large events, such as the World Cup in Football, is held (Kim, Gursoy, & Lee, 2006), but also in a more rural context similar to this case (Lankford, 1994). In the latter study, increasing traffic, together with overcrowding, local inflation, seasonal unemployment, litter and vandalism, was a reason to why local residents formed a negative attitude towards tourism, opting for a reduction in the level of tourism activities. Therefore, the levels of traffic and noise, although not at highly inconvenient levels, should be monitored by policy makers and tourist developers. Since the present tourism infrastructures (hotel, activities etc.) have catered for the incremental development, there has not been an addition to the above negative personal quality of life impacts.

To sum up, the personal quality of life has not been deeply affected during the years nor with the increased accessibility, but it has been more on a community level. However, this can be explained, in part, by the discussion below on the absence of any real impact.

5.2.5 NO IMPACT?

Although, it seems like most of the residents of Jukkasjärvi, according to respondents, do not have any contact whatsoever with tourists, before or after the increased accessibility, it does not mean that there is no impacts of tourism. Media and friends and family do influence residents' perceptions and the social representation of the phenomenon (H. W. Faulkner, et al., 2003), and the experiences of e.g. one single resident can quickly spread through a small village community, like Jukkasjärvi, and create an image of what tourists or tourism development represents (positive or negative images). In the case of Jukkasjärvi it seems like the image that is reproduced is overly positive towards the present situation and the direct flight, illustrated by the pride and positive community benefits.

Consequently, the lack of interaction and the "invisibility" of tourists and their activities might produce less visible and imminent sociocultural impacts, but it is by no means a lack of impacts.

5.2.6 USE OF SOCIAL EXCHANGE THEORY

However, the above reasoning (5.2.5) goes against the principal ideas of Social Exchange Theory (SET) to a certain extent, where the basis for the outcome (positive or negative) is the exchange formation between host and visitor (Ap, 1992; Cook & Emerson, 1987). Moreover, respondents without much contact and dependency on the tourism industry are as positive, and sometimes even more, as tourist dependent respondents. This could be explained as external factors to the theory, much like McGehee and Andereck (2004) did in their study where the external factors were assumed to be associated with if tourism is well planned or the importance of having tourism development according to the respondents. These are factors that were not discussed in the present study. However, they can be a part of the explanation together with the fact that Jukkasjärvi is a small tight-knit society and that information and opinions of tourists and tourist development in particular is spread through social networks creating individuals' social representations of the tourism development phenomenon (H. W. Faulkner, et al., 2003).

5.2.7 CONCLUSIONS SOCIOCULTURAL IMPACTS

The social and cultural impacts that have occurred in Jukkasjärvi/Kiruna due to the increase of tourism (in a historic context), and that have changed residents lives in some way, are an *increased spirit of entrepreneurship, a sense of pride for the village and the nature surrounding it, a certain loss of a traditional village identity, positive local development, tension in the community over land use, and a resurgence of local culture*. The increased accessibility has caused an *increasing sense of pride for the local community* and yet another *boost to the entrepreneurial knowledge* that tourism has brought to the village. It has also raised the

attention on *future growth* and the general belief is that Jukkasjärvi as a destination is reaching its peak or a threshold when it comes to carrying capacity and that further expansion should be spread throughout the region and not be concentrated to Jukkasjärvi. These major impacts are found to some extent at a general level in earlier studies, as illustrated in the analysis above, but they are also specific to this case study with its characteristics.

An overall conclusion is that changes, and especially the increased accessibility, that have occurred in Jukkasjärvi have left a lot of residents not involved in the industry rather untouched. It is true that they have a feeling of pride and that they, for the most part, only have positive things to say about the development, but their daily routines or life quality have not changed to a large extent due to this. It is, as discussed in the economic impact evaluation, a rather limited increase (app. 22% increase of English tourists) and the most evident impact is the symbolic value of the direct flight boosting pride and entrepreneurial drive, but it has also made questions of future growth a topic of discussion and by this the questions of limits to the carrying capacity.

All are happy as long as it does not interfere with their lives (quality of life) or if it gives them personal economic benefit, such as employment or an opportunity to start an own business, at least according to Social Exchange Theory (SET). The question is then where the limit of the (social) carrying capacity can be drawn, as defined in chapter 2.3.3. Results show that the current facilities and level of activity, including the increase of English tourists due to the direct flight, does not deteriorate the overall very positive perception of tourism development. But many respondents do not see more construction of accommodation or activity facilities in Jukkasjärvi as a way to go, i.e. a large increase in the number of visitors. This indicates that great care and investigation has to be taken before launching new tourism development projects in the area of Jukkasjärvi. Otherwise, residents' response could turn into retreatism, boundary maintenance or even resistance (c.f. Dogan, 1989) which would deteriorate visitors' tourism experience.

An interesting theoretical conclusion that can be drawn, and debated, is the use of SET when a large part of the local population does not come into contact with the visitors, as in this case study. The analyses in chapter 5.2.5 and 5.2.6 above can call for an extension of SET to include the phenomenon of *social representation* when discussing sociocultural impacts in a socially close-knit community. This is something that should be further studied and developed using other similar case studies as research objects.

Regarding the method used in the study of sociocultural impacts, it would have been difficult to isolate impacts such as conflicts between reindeer herders and tourism developers over land use in a quantitative survey. Maybe hints to this would be found in a quantitative approach, but it would not have been as explicit as in this study. A quantitative report would on the other

hand help understand and possibly generalize across the population how they perceive sociocultural impacts on a more detailed level. In this thesis it is possible to understand which impacts that are present but not their weight according to the whole population.

The richness, examples, and depth would not have been possible to achieve with a quantitative approach. I would recommend the method used in this thesis for tourism developers and researchers trying to understand and describe the sociocultural impacts of a specific destination or when considering their image or possible enlargements and investments. Instead of knowing “a little about a lot” they would, with a good sample and rigorous methods, get a lot of information about the present and future attitudes of locals, being important for further development. It is also a recommended method for exploratory research studies on case studies of big interest.

However, if the interest is to confirm the importance of certain impacts, connections between impacts and locals’ characteristics or generalization, it is suitable to make a quantitative survey among local residents, and a proposition for further research within this field would be to take results of an equivalent study and to quantify an incremental development in a peripheral or rural context such as this one. Doing this, a general understanding of sociocultural impacts on a peripheral destination would emerge. Most importantly, it would give the possibility to quantify the importance of each separate impact and to see what groups of society that are affected and how.

Lastly, the use of the four indicators of Sherwood (2007) as the tool for analysis needs to be commented. It brings both advantages and disadvantages. On a positive note, it is possible to compare with other destinations in similar contexts if the same indicators of analyses as established in research are used across the board. This is especially true when it comes to the application of the TBL-approach which has been advanced (in the event context) by the likes of Sherwood. However, since this study has used a qualitative approach in a rural tourism development context, the comparison can be more difficult to execute. There is also a difficulty to have four rather broad categories of impacts since it can limit the analysis to focus on categorizing and coding extended interview responses into these “boxes”, when there are cases of overlapping impacts such as employment creation. It would be facilitated in a study with a quantitative approach, because you have predesigned questions, in your survey, on these specific topics. In an exploratory study the “risk” is that all topics cannot fit in the predesigned boxes of analysis.

5.3 ANALYSIS OF ENVIRONMENTAL IMPACTS

I have measured per passenger net EF, on a global and a local level, and the perception of some inhabitants in Jukkasjärvi concerning the environment. In this chapter, the intention is to analyze these results and put them together in the context of the destination. A brief discussion, based on the data collected, will be held in order to critically examine the pros and cons of the proposed methodological approach.

5.3.1 INTERVIEWS

The increase in motor traffic on pasture lands can be seen as a negative environmental impact of tourism that has occurred historically. From a physical carrying capacity perspective it is possible to talk about an infringement on an environmental level (O'Reilly, 1986), although the carrying capacity threshold, according to respondents, has not been reached yet. Increased accessibility has not made a crucial difference when it comes to motor traffic.

There is also a notion of positive environmental impacts, namely that the importance of the local environment (as in nature) is understood by the local residents. They value it dearly since it is the basis for the tourism experience. This is particularly manifested by the respondents that are economically and socially dependent upon tourism, as defined in Social Exchange Theory (SET). Examples of positive impacts have earlier been neglected (Green, et al., 1989), but has gotten some attention more recently in research (Wall & Mathieson, 2006). An example is similar to what has been found in this study, namely the perception that tourism development “preserves environment and improves the appearance (and images) of an area” (Ko & Stewart, 2002, p. 524).

However, the fear of mass tourism is equally imminent when it comes to environmental issues as with sociocultural issues (see chapter 5.2). The deterioration of the local environment, if the pace of tourism development would increase, would bring littering, noise, and degradation of the natural capital according to the respondents.

The knowledge above, about negative and positive impacts at the destination, would not be possible to understand if the study of environmental impacts would have been purely quantitative, measuring the tourist ecological footprint. However, for comparability reasons it is important to quantify the environmental impact, which will be discussed here below.

5.3.2 TOURIST ECOLOGICAL FOOTPRINT (TEF)

The estimation of TEF is based on secondary data and the notion that tourists adapt consumer patterns of the host destination. This roughly outlined method of measuring EF has its flaws (e.g. disregarding individual patterns and destination specific emissions), but it does illustrate the impact in a straight forward and all-embracing manner based on sound data collected by the WWF. According to Hunter & Shaw (2006), it is a conservative surrogate using the host

destination EF, rather than looking at primary data, since most ecotourists have a higher than average yearly income (so also in this study, see 4.1.2). Higher income often goes hand in hand with higher consumption, i.e. higher EF.

5.3.2.1 TEF, GLOBALLY

The TEF per person, on a global level, does decrease due to the direct flight (with 0.05 gha). This is because of the shorter flight needed to reach the destination. Actually, the reduction of gha should be even larger since the flight is now direct and not via Stockholm. It is the landing and starting that create the largest proportion of emissions, but there is no calculation available for this in the standard TEF methodology used here. Instead a proxy is used for all calculations and the determining factor is the number of passenger kilometers. The 0.42 gha per passenger amounts to exactly a fifth of the “fair-earth-share”⁵⁹ (0.42/2.1) (Peeters & Schouten, 2005). This means that the return flight is equal to 20% of the fair-earth-share or 12.6% of the UK consumer’s yearly EF (0.42/5.3). It illustrates the high negative environmental impact of tourism in general and flying tourists in particular.

The direct flight stands for 87.7% ($0.42/(0.42+0.059)$) of the total EF which is equivalent to other studies as illustrated in Table 1 (Gössling, et al., 2002; Patterson, et al., 2007) where the average is app. 75%. It is evident that flying tourists will always leave a big environmental footprint regardless of the nature of activities and accommodation at the destination. In the TBL-perspective this would be among negative impacts to balance with the other positive and negative impacts. However, the tourism industry, as it is organized today, would not be what it is without tourists flying to destinations world-wide. It is an inevitable negative impact of tourism development, but it is important to stress the disproportionately large part of negative, quantifiable, environmental impacts that is carried by air travel which has been pointed out by numerous researchers (Gössling & Peeters, 2007; Hunter & Shaw, 2005; Peeters & Schouten, 2005).

As in former studies made on TEF, transport stands for a major part of the total TEF and in this study transport to and from the airport was not included, which would increase the weight of transport even more. Although this additional resource use is often negligible in comparison with the emission of the actual flights (Hunter & Shaw, 2007).

After the direct flight, as mentioned in the result chapter, there is a small reduction per passenger in TEF since the flight requires fewer passenger kilometers. It is therefore possible, from a global perspective, to argue that it is good that UK tourists visit Sweden which has a somewhat lower Total EF per inhabitant (5.1 gha) and a much larger Total Biocapacity (10 gha)

⁵⁹ The average EF per citizen of the world that the planet can sustain with current resource levels. See table 13 for the Total Biocapacity.

(see table 13). Sweden has the capacity to cater for a large amount of tourists and inhabitants due to its very high biocapacity (low number of inhabitants and vast natural resources). In other words, it is possible to state, from a TEF perspective that the physical carrying capacity of Sweden has not been reached when it comes to the environment. But on the other hand, the biocapacity of the planet cannot be limited to countries and borders since the environment is global and emissions affects the whole planet (Hunter & Shaw, 2005) and it also depends on the local destination and its capacity to cater for an increased number of tourists, i.e. their carrying capacity.

5.3.2.2 TEF, LOCALLY

Locally, the TEF of the direct flight should be subtracted which leaves us with the actual TEF on the ground in Kiruna/Jukkasjärvi. The 0.059 gha per passenger is the TEF at the destination, and if the global TEF per passenger decreased with the introduction of the direct flight (using this method), then it is the same at the destination. But, with the 22% increase in passenger numbers, due to the direct flight, the use of resources has increased with the same amount. Comparing TEF with Sweden's biocapacity (10 gha per person), there is still a considerable margin and ability to cater for a growth in tourism arrivals. This must, however, be weighed in with the residents' perceptions of environmental impacts, which is done in the concluding paragraph of this chapter here below.

5.3.3 CONCLUSIONS

There is a consciousness regarding the *importance of nature capital*, i.e. not overshooting the physical carrying capacity threshold of the destination. It is the bread and butter of the tourism industry and the respondents are aware of this connection, i.e. the, to some, exotic nature experiences are what attracts tourists to their destination. The negative impact of tourism has been *diminishing pasture lands* in favor of touristic motor traffic. The TEF, on global level, does decrease on a per passenger basis, but in reality it increases due to steeper passenger numbers. On a local level, the increased accessibility brings a higher total TEF. However, the carrying capacity threshold is not violated since it is lower than Sweden's biocapacity (10 gha). If the TEF is put into the context of environmental impacts as perceived by local residents it still holds true, since respondents believe that the current level of tourists, also after an increased level of accessibility, does not deteriorate the local environment to a large extent. If, however, incremental development would continue at a steady pace or if there would be radical development the risks would increase (Getz, 1983) and residents believe that the natural capital would be vastly depreciated, leading to inferior touristic experiences.

There are some methodological implications which have been noted in this study. For comparability reasons, it can be vital to understand the TEF on a more detailed level as well. It could be of interest for a destination to use more detailed calculations than the ones used in

this study. That would help the destination or specific attractions or hotels to understand the development of TEF, over a period of time, due to initiatives taken, e.g. the CO₂negative campaign run by the Icehotel (www.icehotel.com). This would also be the case from a research perspective since it increases the construct validity of the study as the change in terms of TEF would be analyzed in more detail on the destination level.

The TEF only (?), as discussed earlier, illustrates the use of resources in comparison with the capacity of the planet and does not specify the types of negative (or positive) impacts more than how large EF that is attributed to transport, accommodation, activities, food etc. It gives the researcher a figure which can be compared to other destinations and with the biocapacity of a specific region or the whole planet, although this can also be difficult due to the diversity of proxies used when calculating TEF (McManus & Haughton, 2006). Therefore, this study has tried to use similar or the same proxies as in earlier studies in the field (cf. Gössling, et al., 2002; Hunter & Shaw, 2005; Peeters & Schouten, 2005). Another strong point of this study is the simultaneous use of a qualitative approach where eight local residents were interviewed in order to explore and describe which specific impacts that actually have taken place before and after the direct flight.

Research question 2 regarding the empirical result and contribution of the study will be discussed further in the next chapter, but it could be interesting to look at this from the environmental perspective. The diminishing pasture lands impacts on reindeer herders who make a living on their livestock. Less pasture lands means, in the end, a smaller possibility to herd their livestock on lands close to Kiruna and Jukkasjärvi. Increased motor traffic could also be seen as a cost for local residents, as discussed in the chapter on sociocultural impacts, since they do not have forests and the land totally for themselves and that there is a risk of littering and damaging of nature, although this is not a big problem at the moment according to respondents as long as tourism development is at the current level. At the same time there are benefits for local residents in form of a resurgent understanding of nature's importance and value, both as a tourism experience and for their own enjoyment and livelihood.

6 CONCLUSIONS AND DISCUSSION

In order to tie this thesis together this chapter will start where the thesis began, namely with the research questions that were formulated in chapter 1.1. The subsequent discussion will use the answers in order to discuss TBL and the application of the framework when evaluating tourism development. Moreover, the empirical result will be discussed in terms of sustainable tourism development, which is the rationale for using a TBL-approach. The concepts of the model presented in chapter 3.1 based on TBL (1), capitals and carrying capacities (2), and sustainable tourism development (3) will be starting-points for the discussions. The research questions are as follows;

1. **How can a framework be developed in order to measure, describe and understand impacts of tourism development from a sustainable development perspective?**
2. **How does a step in incremental tourism development impact on a destination?**

6.1 DISCUSSING THE TBL-MODEL AND THE INDICATORS

The first research question concerns the finding of a suitable framework in order to evaluate tourism development from a sustainable development perspective. The framework used is the Triple Bottom Line-approach based on Sherwood (2007), but it has been adapted to fit the case study of this thesis and taken out of the event and festival context and instead used to measure increased accessibility in a peripheral destination. It does also have obvious linkages to other frameworks such as Carrying Capacities (CC) and different capital structures from economics and sociology. TBL has also previously been tested in tourism research on festivals and events. For these reasons it proved to be the most appropriate framework to adapt and develop for the purpose of the thesis. The initial amendments based on the literature review were presented in chapter 3.6 and the table below was presented:

Economic indicators	Sociocultural indicators	Environmental indicators
<i>Direct expenditure from the event</i>	<i>Impact on quality of life of community</i>	<i>Energy and gas use</i>
Opportunity costs	<i>Impact on community pride</i>	<i>Solid Waste sent to landfill</i>
	<i>Impact on sense of community</i>	<i>Emmissions from transport to and from event</i>
	<i>Impact on personal quality of life</i>	<i>Water use</i>
		<i>Percent of solid waste recycled</i>
		Residents' perceptions of positive and negative environmental impacts

Table 15: Reviewed TBL indicators and measurements, based on Sherwood (2007)

A couple of more amendments will be discussed and proposed below following the results of the empirical study. First, an evaluation of the framework used.

The economic indicators used would probably be suitable in any context, although with a possibility to extend them to include a more thorough description and measurement of indirect and induced economic impacts. This would depend on the amount of time available and the possibility to have data necessary for such analyses. The inclusion of *opportunity costs* is also vital and could be more or less detailed depending on the access to data. Opportunity costs could also be considered in a more holistic sense, including the sociocultural and environmental dimensions. A discussion on these topics has been held in the respective chapters and it enhances the understanding of the results. Therefore, the possibility to examine opportunity costs in all dimensions is added to the framework below (Table 16).

Sociocultural impacts were described using a *qualitative approach* in this thesis, which has given a rich and extensive amount of data in order to analyze the incremental step in tourism development and its effects on local residents. One of the main reasons for using this approach has been the possibility to understand the development and the different impacts that have occurred over time at the destination, i.e. the historical context according to local residents with a varying degree of involvement in the tourism industry. However, the possibility to generalize has been small due to this. A quantitative approach could be suitable if further studies on incremental tourism development would be performed in Kiruna/Jukkasjärvi. Partly, because it would help generalize residents' perceptions of sociocultural impacts, but also in order to facilitate the data collection using only one survey instrument in order to obtain data on economic, sociocultural, and environmental impacts. Having the results from this study on sociocultural impacts historically and from the direct flight would give input to a quantitative survey instrument.

Concerning the environmental indicators used, it is important to include the context of the destination and not only focus on the Ecological Footprint. This can be done, as in this thesis, through in-depth interviews with local residents. To understand something of the reasons for certain impacts and to grasp possible positive impacts, as discussed by McManus & Haughton (2006), it is vital in cases similar to this one. It might be even more important if it is the first time that a destination is examined with a TBL-approach since there are no comparative base EF-results

The problem with the methods used within the framework is still that the bottom-line results are not directly comparable. The economic impact is in a monetary unit, the sociocultural interpreted qualitatively and environmental impacts in a quantitative measure (EF) and with qualitative data. This lack of interconnectedness is a problem, and in particular when it comes to communicating the results with stakeholders. It is, however, not a problem to speak about

the individual impacts that have been found in negative or positive terms (or even in a “shade of gray”). The bottom line is the sum of these individual impacts. Should all impacts be positive the bottom line is equally positive, but if there is a mix of positive and negative impacts it is difficult, with the current model, to discuss the final result since the weight and importance of individual impacts is not measured. All bottom-lines should be positive in order to claim a large degree of sustainability. If it would be possible to measure and compare impacts within different impact dimensions it would also be a better model. Thus, the next step, and a recommendation for future research, is to find a methodology to connect the three bottom-lines and each individual impact dimension through a common “unit of measurement”. This would make interconnectedness, market communication for organizers and comparability across destinations easier. This goes in line with the statement from Getz (2009) about the “difficulty of comparing tangibles with intangibles” (Getz, 2009, p. 64). Some attempts to quantify social and environmental impacts in monetary terms have been undertaken in tourism research (Andersson, 2000; Lindberg & Johnson, 1997a), but the task to integrate these methods within the TBL-concept has not been investigated.

Hence, with the above discussion in mind, a proposition for a widening of the TBL-framework based on Sherwood (2007) is proposed below. It would, except for the amendments for this particular study, include a monetary value on sociocultural and environmental impacts. This would enhance comparability between the dimensions as discussed above and facilitate the evaluation of similar impact studies. Research on how to measure these, often intangible, impacts should build on earlier research (Andersson, 2000; Lindberg & Johnson, 1997a), and could be connected to the ideas of Cost-Benefit Analysis where both tangible and intangible impacts are included and measured.

Economic indicators	Sociocultural indicators	Environmental indicators
Direct expenditure from the event	Impact on quality of life of community	Tourist Ecological Footprint (TEF)
Opportunity costs	Impact on community pride	Residents’ perceptions of positive and negative environmental impacts
	Impact on sense of community	Monetary value of environmental costs and benefits
	Impact on personal quality of life	Opportunity costs
	Monetary value of sociocultural costs and benefits	
	Opportunity costs	

Table 16: Proposed TBL indicators and methodology for future research, based on Sherwood (2007)

Furthermore, and in line with the problem of comparability, there is no weight in TBL-reporting on which impacts that are the most vital and important for stakeholders. All stakeholders have their priorities concerning environmental, economic and sociocultural impacts, as outlined by Hede (2007). She does incorporate a stakeholder perspective to TBL and examine which impacts that stakeholders have an interest in. Hence, in developing this stakeholder assessment, it would be interesting and important to understand more about how they put weight on different impacts and such understanding could facilitate tourism planning. It does also bypass, to a certain extent, the comparability issue by clarifying which types of positive and negative impacts (specific and in general) that are most important to work with, since it is often difficult to maximize or minimize all impacts due to (incremental) tourism development. The result would, arguably, also facilitate the efforts of moving towards a more sustainable tourism development at the destination, since stakeholders' views on different impacts dimensions are taken into the planning process. Further research into this area is highly recommended and would advance knowledge both on tourism planning and TBL-methodology.

Moreover, in this thesis it has been argued, in line with Getz's definition (Getz, 2009) of TBL and the Sustainable Tourism Criteria's (www.sustainabletourismcriteria.org) definition of Sustainable Tourism Development, to include cultural impacts together with social impacts. To become even more holistic in the approach of evaluating tourism impacts it would be of interest to try to incorporate further impact dimensions. This has already been discussed in the literature review based on the notion of a *multiple bottom line* indirectly proposed by Vanclay (2004). The critique, concerning neglect of certain dimensions, is correct although the simplicity of TBL and its connections to sustainable tourism development is strong and theoretically motivated. The idea of capitals, put forward by several researchers (Ashley, 2000; Cater & Cater, 2007; Mykletun, 2009) is appealing and would mean an inclusion of dimensions based on human capital, administrative capital and physical capital into the model. The challenge would be to create a multiple bottom line framework with measurable and intercomparable indicators covering all capital structures based on the idea of sustainable tourism development.

A contribution of this thesis to tourism research and how to evaluate tourism impacts from a more holistic sustainable perspective is the applicability of the TBL-framework in other contexts than events and festivals. With a few amendments and suggestions to enlarge the framework, the evaluation process of tourism development can be even more rigorous and create results that can be better discussed in a sustainability context. The use of mixed-methods, inclusion of cultural impacts, and a discussion of CC and capital structures are other contributions from this thesis.

6.2 DISCUSSING THE IMPACTS FROM A TBL-APPROACH

The second question dealt with the empirical problem or how the step in incremental tourism development impact on the destination. In the table below is a summary of the impacts that have been found using TBL.

Economic impacts		Sociocultural impacts		Environmental impacts	
+	-	+	-	+	-
£437 800 direct impacts		Increasing sense of pride	Attention to future growth		TEF increase globally and locally
£ 137 450 indirect impacts to activity companies		Boost to entrepreneurial drive			

Table 17: Impacts of increased accessibility using TBL

These were the impacts that could be derived from the increase in accessibility, although numerous other impacts, especially social and cultural, were identified as part of the historical context of tourism development at the destination. *Attention to future growth* can be said to reflect these impacts. If tourism development continues without any restrictions many of the negative (and positive) impacts experienced during the years leading up to the start-up of the direct flight, such as tensions concerning land use, would accelerate. However, the attention to future growth is an impact that can be said to be neither negative nor positive, but more in a “shade of grey” (Reid, 2008). This is because both negative and positive impacts can be associated with this impact. In the context of the direct flight the impacts of future growth were mostly related to negative impacts, e.g. the opposition among local residents to a growth that would turn Kiruna and Jukkasjärvi into a mass market destination like Finnish Lapland. This is the reason to its place in the table above.

As described in the chapter on methodology and illustrated in Figure 4, the framework of TBL can be closely linked to Carrying Capacities (CC) and Capital constructs when discussing sustainable tourism development. From a CC perspective, it is also the *attention to future growth* that is an important impact. According to the analyses above it is possible to state that the limits of the destination’s carrying capacities have not yet been crossed (social CC, physical CC or Economic CC), but the analyses does also show that future tourism development would probably, depending on how it is planned and executed, creep closer to the thresholds of the carrying capacities. On all dimensions there is evidence (through the in-depth interviews) that

this could be the case, leading to negative impacts affecting long-term growth and in the end the goal of striving towards sustainable tourism development. Great attention should be on the historical context and the impacts that have been evident in the process leading up to the incremental development. Moreover the thresholds of CCs should be, if not put down into a maximum number of visitors, than at least be discussed. This discussion, while planning tourism development, would create an understanding for limits to the pace of tourism development and the possible responses by local residents if thresholds are breached. Jukkasjärvi, being a small community, would probably reach its thresholds in a near future and an option would be to broaden tourism development geographically and not concentrate all activities to one limited area. Taking such a measure would in effect increase the CCs and allow for more incremental tourism development.

Capitals linked to the TBL to some extent (social, cultural, financial, and natural) are affected by the impacts, primarily from a historic perspective, but also from the opening of the direct flight. This is the case on an aggregated level and from the perspective of individuals in the local community. Connected to the impacts above, the *sense of pride* and *boost to entrepreneurial drive* would reinforce *social capital* for individuals and the society as a whole, while the increased negative environmental impacts would depreciate the *natural capital*. By doing this link to capitals, albeit crude, it is possible to illustrate if capitals are reinforced, which means that the destination is striving towards a more sustainable development, or if some capitals are depreciated which means that sustainability is not achieved since, according to Throsby (1999), that would not leave the same level of resources to the next generation if nothing is done to prevent the negative trend.

The discussion about the results from a CC and a Capitals perspective above, based on the results of the TBL is, as in the methods chapter, illustrated below in Figure 6. TBL, as Getz (2009) implies, can be used as a powerful planning tool in order to understand tourism development and how to plan for future development based on the impacts that former development has caused. The planning aspect has been added to the revisited figure below. The result of the TBL-evaluation and the discussion of the results in a sustainable tourism development context produce a number of positive and negative outcomes, affecting the long-term sustainability. When planning (4) for further incremental development these outcomes should be integrated in the process and implemented in the strategic plan when launching new steps in development, i.e. efforts to minimize the negative impacts and maximize positive impacts are included. Following these actions and further incremental development, which can be illustrated by the dotted line in Figure 6, another TBL-evaluation (1) is performed and the process of evaluation and planning continues.

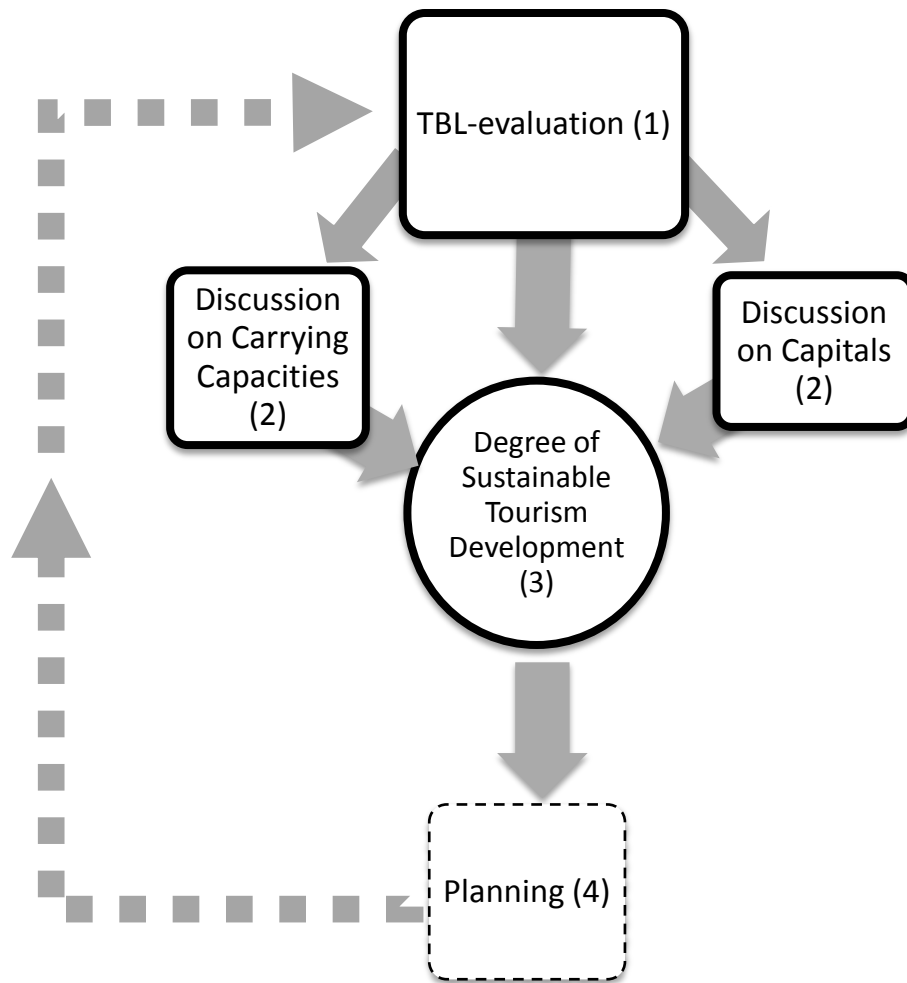


Figure 6: Process of determining degree of Sustainability Revisited

TBL can also provide a more detailed understanding of which stakeholders that benefits and bears the costs of tourism development, and in this case of incremental tourism development. The Icehotel, the activity companies and their staff are the main beneficiaries when it comes to the economic impact (direct and indirect). Surely, there are other stakeholders, such as DTW and SAS, which experience large economic winnings but at the destination the above mentioned are the so-called economic winners. For the Icehotel it is particularly important since the direct flight is partly designed to fill unused capacity at their hotel during periods and days of weak demand on the domestic market. A trickledown effect to activity companies because of this should also be noticeable.

From a sociocultural perspective the *increasing sense of pride* has mostly been evident for residents dependent on the tourism industry, but should also be beneficial to the rest of the community based on the theory of social representation (Moscovici, 1988) and how it is

particularly evident in a close-knit community like Jukkasjärvi. The same applies to the *boost to entrepreneurial drive*, which would foremost benefit entrepreneurs in the making or maintenance of entrepreneurs, but in the long run also the rest of the community. The *attention to future growth*, which seems to concern all layers of the community, cannot be considered a cost for stakeholders at this time in connection with the increased accessibility. However, it does put focus on how future costs can apply to specific stakeholders if impacts that have occurred historically are not dealt with. The conflict over land use has historically impacted negatively on the Sami population and tourist developers. It is not an impact that has been reinforced by the direct flight but it is a cost that could increase due to further growth. The same applies to other negative impacts (increased traffic, snow cannons etc.) and positive impacts (sustenance of public and private services etc.) which has not been further affected by the direct flight.

Lastly, from an environmental perspective, the increased accessibility has a negative impact on all residents at the destination if the Ecological Footprint (EF) is considered. Since more visitors augment the negative impact, the whole destination is affected. However, as stated earlier, the biocapacity (of Sweden) is much higher than the present (national) EF and the carrying capacity threshold is not reached. The consciousness of nature's importance is also something that would benefit many in the community.

Finally, does the analysis above say anything about the degree of sustainability of tourism development in Kiruna/Jukkasjärvi due to the incremental development in form of increased accessibility? If the whole context of tourism development at the destination is considered and carrying capacities and capitals are discussed in connection to TBL, then it is possible to use the results for discussing tourism development in order to strive towards sustainability. The TBL does consider all dimensions that are defined in sustainable tourism development research, but if the results of the TBL-evaluation are considered separately then Vanclay's (2004) critique of TBL, as only a way to cover the real issues of sustainability, would be correct. The concept of sustainability cannot be seen as statistic with a fixed goal where the destination becomes sustainable. It should, as discussed by Clarke (1997) and Lee (2001), be an ultimate goal of tourism development (to strive towards sustainability) but with "moving" goals meaning that it is a constant pursuit of minimizing negative impacts and maximizing positive impacts. A destination like Kiruna/Jukkasjärvi could maybe not decrease negative environmental impacts caused by transport if they want to expand (internationally). However, the direct flight is a step in the right direction since it decreases transport emissions per tourist. If the environmental costs become too steep then other means of transport, such as trains or buses, should be considered or an effort to minimize other negative environmental impacts. Moreover, the alternative environmental costs are not calculated in this thesis. Tourists might still go on

vacation, if not to Swedish Lapland, and this would cause more or less negative net environmental impacts.

The result also points to positive impacts of the incremental step in tourism development, such as a *boost to entrepreneurial drive* and an *increasing sense of pride* that could be enhanced even more with similar initiatives. But it is also important to account for other historical impacts due to tourism development when launching new steps in tourism development as these are evident already and can therefore “come into play” with further development.

Altogether, this is a contribution to tourism research that has been made possible using a TBL-approach when discussing tourism planning and evaluation. The notion of the process as illustrated in Figure 6 along with suggestions of further development of the TBL-approach, in terms of measurability, extension to use more impact dimensions, and weight on different impacts, gives a more holistic view on tourism impacts, in particular from a sustainable tourism development perspective and also in a Swedish peripheral context.

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APPENDIX

Cover letter

Dear customer,

The Centre for Tourism, University of Gothenburg, in cooperation with LFV Group (National airport operator, Sweden) are carrying out research into the influence of tourism in Swedish Lapland. This part of our research is aimed at understanding the economic impacts of travellers to the region with the overall objective of increasing our understanding of the impact of tourism in rural areas.

By completing this survey about your stay in Swedish Lapland, you will be providing us with a valuable contribution to research. All answers and contact information will be confidential and will only be received and analysed by the researcher.

The survey will be sent out to you via e-mail a few days after returning back home. In this way you will be able to enjoy your holiday. The survey is short and should not take more than a few minutes of your time. The questions concern your expenditure during the stay and you can find a few examples of questions here below. We appreciate your effort very much.

Should you have any questions regarding the survey, please do not hesitate to contact Erik Lundberg at the University of Gothenburg (contact details below).

Thank you for your time.

Erik Lundberg

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Examples of questions that are part of the survey

Please note that you do not need to answer these questions! The survey will be sent to you by e-mail after your holiday.

**Expenditure on shopping in the town of Kiruna
(handicraft, souvenirs etc.)**

Expenditure on shopping elsewhere in the region

Expenditure in bars and restaurants in the town of Kiruna

Expenditure in bars and restaurants elsewhere in the region

Questionnaire

The Centre for Tourism, University of Gothenburg, in cooperation with LFV Group (National airport operator, Sweden) are carrying out research into the influence of tourism in Swedish Lapland. This part of our research is aimed at understanding the economic impacts of travellers to the region with the overall objective of increasing our understanding of the impact of tourism in rural areas.

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Thank you for your time.

Erik Lundberg Centre for Tourism, PhD-student
Faculty of Business Administration
School of Business, Economics & Law
University of Gothenburg
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PART 1

1 Date of arrival in Kiruna

ddmmyy

2 Date of Departure to the UK

ddmmyy

3 What was the overall cost of your flight, hotel arrangement, and pre-booked activities? (per person)

£

4 What type of holiday package did you take?

Active

Icehotel

Self-Drive

Short Break

Skiing

Other

- 5 **If you picked Other in question 4, please specify what was included in your package**

- 6 **What made you choose Swedish Lapland? Please fill in one or several factors**

PART 2

Excluding the cost of your package tour, how much did you spend on the following categories of goods and services during your stay in Kiruna and the region of Swedish Lapland? Please be as exact as possible.

- 7 **Please specify in which currency the expenditure is quoted (questions 8 through 17)**

GBP (£)

SEK

- 8 **Expenditure on shopping in the town of Kiruna (handicraft, souvenirs etc.)**

- 9 **Expenditure on shopping elsewhere in the region**

- 10 **Expenditure in bars and restaurants in the town of Kiruna**

- 11 **Expenditure in bars and restaurants elsewhere in the region**

- 12 **Expenditure for activities and excursions**
(If you did not have any expenditure for activities and excursions, please go directly to question 14)

- 13 **What kinds of activities and excursions did this include?**

- 14 **Expenditure on transport**
(If you did not have any expenditure for transport, please go directly to question 16)

- 15 **What type of transport was this?**

- 16 **Other expenditure**

If you did not have any other expenditure, please go directly to question 18

- 17 **What type of expenditure was this?**

- 18 **How important, for your choice of Swedish Lapland as destination, is it that there is a direct flight from London to Kiruna? Please rate the importance on a scale ranging from 1 (very important) to 5 (not important at all).**

- 1 (very important)
- 2
- 3
- 4
- 5 (not important at all)

19 **Would you have considered Swedish Lapland as your holiday destination if there were NO direct flight from London to Kiruna?**

- Yes
- Probably
- Probably not
- No
- Don't know

PART 3

BACKGROUND INFORMATION

20 **Birth year**

yyyy

21 **Number of people in your party**

person(s)

22 **How many in your party were children under the age of 16?**

child(ren)

23 **What is your annual household income?**

- £ 14 999
- £ 15 000 – 29 999
- £ 30 000 – 49 999
- £ 50 000 – 74 999
- £ 75 000 and above

24 **What is your marital status?**

- Single without children
- Single with child/children
- Married/partner/registered partnership without children
- Married/partner/registered partnership with child/children
- Widow/widower

25 **Sex**

- Female
- Male

26 **What is your highest level of education?**

- secondary school/grammar school
 - university or higher
 - vocational/technical
-

Questionnaire, open-ended questions/Jukkasjärvi, autumn 2009

INDIVIDUAL LEVEL

- 1) Do you experience that you or your family's life(s) has changed with the increase of visitors;
-the last decade?

-the last two years?

-in connection with the launch of the direct flight from London?

- 2) What is your view upon a sharp increase of tourists in the future, if the development would head in this direction? What would be positive/negative?
- 3) Do you experience that your family life has been affected, in any way, by the tourism development at the destination?
- 4) Do you experience that your life is temporarily affected in any way during the peak season?
 - time with family?
 - time with friends?
 - time in the nature?
 - time for relaxation etc.?
- 5) Why did you move to Jukkasjärvi/the region? Alt. Why have you remained in Jukkasjärvi/the region?
- 6) Do your sense of safety and/or security change during the peak season?

COMMUNITY LEVEL

- 7) Has the local community been affected in any way by the tourist development?
- 8) Are there many people that move here in search for a job?
 - Do you experience that people have the possibility, thanks to tourism, to remain/move to the district?
 - Do you experience that many change jobs to the tourism sector from traditional occupations?
- 9) How do you experience the relationship between tourists and local residents?
 - Are there any resentment and tension between tourists and local residents?
 - Are there any resentment and tension in the local community regarding tourism development?
 - Are there positive encounters/relations created between tourists and local residents?
 - Are there positive encounters/relations created in the local community thanks to tourism development?

- 10) Do you experience that the encounters between local residents and tourists have led to changed attitudes among locals (towards the tourism industry/towards tourists)?
- 11) Do you feel that local community development is adapted to tourists' needs more than to locals' needs?
- 12) Do you feel that local residents change their behavior imitating visitors' behavior?
- 13) Do you believe that nature/the environment has been affected in any way by tourist development/the tourists?

ADDITIONAL QUESTIONS ABOUT BASIC DEMOGRAPHICS OF RESPONDENT

Age, distance from house to the Icehotel, contact with tourists, length of stay in the region, political missions, estimated knowledge of the tourism industry.