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**Sustainable recreational trails in Sweden: Is it possible to talk about ROI for hiking trail investments?**



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Nr: 2022:02

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# **Sustainable recreational trails in Sweden: Is it possible to talk about ROI for hiking trail investments?**

## **Abstract**

Spending time in nature is becoming increasingly popular in Sweden, as in many other countries, following the pandemic. In the Swedish context, the issue of funding investments and regular maintenance of recreational trails in nature is a challenge given the *Allemansrätten* (public access to private land), which hinders the closing of land and charging of entrance fees. Still, high-quality trails are demanded to serve as a driver for attracting visitors to destinations.

This report looks into aspects that are relevant for a discussion on return on investment (ROI) for investments in trails, and especially hiking trails. The first section offers an outlook to a few international cases that discuss access and funding types for hiking trails. Another section uses a mini-case to evaluate a few larger trail networks in relation to guidelines for the Swedish national framework for hiking trails.

This report highlights that people's use of trails bring a number of benefits to society, mainly economic, environmental, and public health benefits. The economic benefits originate from spending by the visitors and direct investments during construction of trails, while environmental benefits come from reduced CO<sub>2</sub> emissions and the public health benefits derive from reductions in health care spendings. Finally, quality of life and happiness values arise from the increased relationship between individuals and nature and social aspects.

The report notes that a proper evaluation of ROI for trails can be conducted, with consideration of the many loopholes. The benefit side incorporates such needs as considering visitors' potential multiple purpose of trips and how to properly value and include the non-monetary effects coming from improved health, interaction with nature, and socializing with other people. Finally, the report discusses the benefits of trail use in relation to the fulfillment of the United Nations' sustainable development goals (SDGs). We find that investments would contribute to decent work for all and sustainable economic growth, as well as a reduction in inequalities.

A key point to emerge from this report is that, to properly use ROI for trail investments in practice, there is a need to further analyze the economic impact of hiking trail users in Sweden.

Keywords: WTP, ROI, economic impact, funding of trails

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Sustainable recreational trails in Sweden: Is it possible to talk about ROI for hiking trail investments?

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## **Preface**

This study has been conducted as part of the project “Nationella ramverket för vandringsleder” (National framework for hiking trails) run by Tourism in Skåne. Project lead has been Visit Dalarna and Johan Engström. The Swedish Board of Agriculture and The Swedish Agency for Economic and Regional Growth has funded the project.

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## 1. Introduction

Following the COVID-19 pandemic, spending time in nature has become increasingly popular, both in Sweden and in many other countries. Trail-based activities like hiking, biking and cross-country skiing are especially popular. In the Swedish context, the issue of funding investments and regular yearly maintenance of such trails have received attention given the *Allemansrätten* – public access to private land. However, a recreational trail in nature brings several other challenges. The increased number of visitors could contribute to the wearing down of nature and other potential conflicts could occur, so it is important to introduce means of guidance, and appropriate measures are needed in recreational areas (Naturvårdsverket, 2022). Other factors, such as infrastructure, conflicts of interest, exclusion, and collaboration, must also be taken into consideration to ensure the accessibility of nature-based tourism activities for all (Kling, 2021).

This report focuses on hiking trails, and when the term *trails* is used in this text, it refers to hiking trails. Trails have important functions; they work as a guidance tool in nature, preventing visitors from stepping on sensitive landscapes and/or getting lost. Further, trails are considered to be safe, which reduces the risk of injuries (Kling, 2021). Further, they encourage participation in recreational outdoors activities and exploring nature (Kil, 2016), which positively impacts their well-being and enhances the perceived quality of life (Kling, 2021).

In this report, the funding of trails is in focus in relation to the costs and benefits of its use by visitors. Most often, the trails are located in nature and governed by the *Allemansrätt*, which stipulates that trails (and nature in general) are accessible for everyone, free of charge (Reynisdottir, Song & Agrusa, 2008). There are several examples where funding is raised for investments in a trail system, such as EU funds and other funds directed at regional development. It is considered more difficult harder to gain support and funding for maintenance and further development (Howard, 2001). Considering the many possible benefits of people and visitors using trails, such as direct economic values from visitor spending and indirect values health and recreational values, is it possible to talk and discuss investment in trail systems in relation to the concept of return on investment (ROI)? This is the question that this report focuses on.

## **2. *Allemansrätt* and the funding and benefits of hiking trails**

### **2.1. *Allemansrätt* and the dilemma of funding investments in recreational trails**

In Sweden, access to private land is governed by the *Allemansrätt* – the right of public access. It allows individuals free access to nature, meaning that people are allowed to walk, cycle, ski, etc. on almost all rural land without the permission of the landowner, without disturbing the landowners' privacy. However, when practicing the right of public access, one must act in a way that is respectful and non-destructive to nature (Campion & Stephenson, 2014). The *Allemansrätt* poses a dilemma, in that the right of access means that businesses and associations that develop and maintain trails are not allowed to charge user fees (Reynisdottir, Song & Agrusa, 2008). However, funding is required for investments in trails. For example, there are construction costs for when the trail is being built, depending on the width, location, trail surface, signage, and amenities. There are also regular maintenance costs, which include cutting back vegetation, removing trash, and map or signage updates.

### **2.2 Benefits of hiking trails**

People, whether they are local residents or international visitors, using hiking trails brings several benefits. A number of benefits are summarized in the following sections.

#### **2.2.1 Health benefits**

Engaging in nature has certain health benefits, such as escaping from unpleasant situations (such as stress) (Kil, 2016; Oh, Kim, Choi & Pratt, 2019). Others seek exercise, adventure, bonding with nature, relaxation or just nature itself (Kil, 2016), which can be healing, as it makes people feel more positive (Metsähallitus 2018) and less stressed (Metsähallitus, 2018; Oh et al., 2019). One study found that 87 percent of people felt that being in nature positively impacts their health, and as little as 15–20 minutes of being in nature can have a positive effect on one's blood pressure (Metsähallitus, 2018). Engaging and connecting with nature positively impacts well-being, enhances the perceived quality of life (Kling, 2021), and lets one refill their batteries (Oh et al., 2019).

Trails also promote public health (Fredman, 2018) physical fitness and a healthy lifestyle (Oh et al. 2019), as they are also used for exercising (Kling, 2021). By providing the opportunity to take part in outdoor activities and exercise, the medical costs of the trail visitors are reduced (Richman, 2011). One could even say that trails are important safety features because they are a path through nature that is considered to be safe, reducing the risk of visitors getting lost and being physically hurt (Fredman, 2018; Kling, 2021).

### ***2.2.2 Improved relationship between individuals and nature***

Signage and online services allow individuals to explore natural areas (Metsähallitus, 2018), which encourages them to take part in outdoor recreation activities (Kil, 2016). They also enable visitors to improve their knowledge of natural and cultural surroundings (Fredman, 2018) and ecological connections (Naturvårdsverket, 2022). Trails also promote the engagement of individuals in nature through outdoor activities, such as wildlife viewing (Kling, 2021). Being in nature deepens the sense of being connected with it, and promotes pro-environment attitudes and behaviors (such as waste recycling, contributing time or money to an environmental or wildlife conservation group) (Kil, 2016). According to Jurowski, Uysal, Williams and Nog (1995), the higher the pro-environmental attitude of a visitor, the higher the likelihood that the visitor will show pro-environmental behaviors. It is also important to develop child-friendly trails, as their experience in a natural setting influences their interest in taking place in activities that happen in nature (Kil 2016).

### ***2.2.3 Socialization***

Further, trails provide the opportunity to socialize by meeting people with common interests, as well as meeting family and friends, strengthening the ties they have with one another (Oh et al., 2019). However, it is important to make nature accessible to everyone; women and the disabled are often the groups in society that do not have the same opportunities as others, which raises a call for action to assure equal, inclusive access for all (Kling, 2021).

### ***2.2.4 Accessibility***

Ideally, some trails should be easily walkable so that they are accessible to visitors of different ages and capabilities (Metsähallitus, 2018). Further, trails offer the opportunity to pursue free



recreational activities for low-income families, making them accessible to everyone (Richman, 2011). In sum, increased accessibility means that more people can enjoy the benefits listed above.

### ***2.2.5 Benefits for local businesses***

Trails are attractions at a destination, luring certain visitors to explore nature (Fredman, 2018). Visitors have a direct impact on the destination's economy (in Finland, for example national parks and hiking areas benefit the local economy by 250 million euros per year) (Metsähallitus, 2018), as they often spend their money at local businesses, resulting in higher tax revenue. The businesses, in turn, can be attracted to the destination (because of the trails, for example), as it offers them the opportunity to sell their product or service to their target group – trail visitors. In general, the economic return is high and easily outweighed by the initial investment that must be made for land acquisition, the construction of the trail, and maintenance (Richman, 2011). Also, surrounding regions benefit from the visitors; in Finland, for example, in 2017, over 3 million national park visitors generated 206.5 million Euros and 2,055 person-years of employment. Well-maintained trails are not only beneficial for local communities and surrounding areas but the whole country itself, as they benefit the image of the country, encouraging more potential visitors (Metsähallitus, 2018).

Further, businesses can be drawn to a certain destination in order to be able to offer attractive amenities to their employees, thus maintaining and attracting new staff. Trails can increase the value of nearby properties and can raise a community's attractiveness as a place to live (Richman, 2011). Trails are not only attractive to tourists, but also to locals as they are a significant resource for recreation (Kling, 2021).

### ***2.2.6 Benefits for nature***

Lastly, nature itself benefits from the implementation of trails. By providing a trail, visitors are guided through landscapes. As there are ecologically sensitive places in nature, paths assure that the trail users do not walk outside the given path, which avoids them from stepping on sensitive places (Kling, 2021).

### **2.3 Looking ahead – Current project to boost Sweden’s competitiveness as a hiking destination**

The current “Nationellt ramverket för vandringsleder” project aims to design a country-wide framework that provides a guideline for the development of attractive, high-quality hiking trails with harmonizing standards and regulations (such as a joint trail-grading) across Sweden. The project will provide destinations with the conditions to work on harmonizing standards and regulations regarding everything from signage to long-term management of hiking tourism and pilgrimage routes. This should ease the access to well-maintained hiking trails in Sweden and guarantee that the trails fulfill certain quality standards, eventually making Sweden one of the world’s top hiking destinations, which would create a boost in the hospitality industry and an increase in employment.

Stakeholders from the whole country are involved; these include Tourism in Skåne (= project owner), Visit Dalarna for project management, Visit Värmland, Tourist Board of Western Sweden, but also national actors and organizations such as The Swedish Environmental Protection Agency, the hospitality industry and institutions that work with rural development issues like Svenska Turistföreningen.

Together with “Led-Sweden”, quality criteria were developed that aid destinations with trail management under the standards of the framework.

The guide provides useful information about three aspects: (1) the trail (such as signage, trail surface, maintenance plan, financing and budgeting, integration of natural and cultural values, theme); (2) trail information (such as online availability in Swedish and English, trail maps, security aspects, visitor responsibility, amenities along the trail, what the visitor can expect regarding nature and culture); and (3) service (amenities, drinking water stations, public transport access, etc.) (Tourism in Skåne, 2019).

### **2.4 Mini case study: Reviewing trails in Sweden vs. national framework**

For illustration purposes, this section presents and analyzes three hiking trails in Sweden related to the *Nationellt ramverket för vandringsleder*.

### 2.4.1 Gotaleden

The Gotaleden is a hiking trail between Gothenburg and Alingsås. The total length is 77 km and the trail is divided into nine sections.

When looking into how this trail is managed with the guidelines of the *nationella ramverket*, it seems some criteria can be said to have been fulfilled. For instance, the Gotaleden is accessible by public transport and the website also provides general information about the different sections (length, difficulty level, duration, elevation level). Also, tips regarding the proper equipment are provided, as well as information about the accessibility-adapted section and the *allemansrätt*. Even a printable map is provided, which illustrates the different sections of the trail. However, not all the information is provided in English, leaving room for improvement regarding the accessibility of the information for international visitors. For example, on the map it says “environment and character: *Tätortsnära*”, and also on the site about the different sections it says “you’ll experience: *Skog*” (instead of forest). When one clicks on the “good to know about outdoor life” section, images with only Swedish words are revealed, and the website that one is redirected to when clicking on one of the images is only in Swedish as well. Trail status information is provided about the different sections, which include a description of what the visitor can expect (natural sights, flora, and fauna, historic background, information about resting places, toilets, drinking water places, accommodation), but the sections do not include information about if/how it can be reached by public transport. Also, there is no information about the signage on the website; according to the framework, there should be orange signs, but visitors are not given any information about what the signage might look like. Also, it is not clear if the sign of the Gotaleden from the website (shown on the top right) is the/ sign for the trail that can be found on the trail or if it has a deeper meaning.

Further, the website(s) that open when clicking on one part of the section from the ‘Gotaleden’ website has a section called ‘highlights along the section’, where different keywords are presented (groceries, parking places, trail status, toilets, etc.) but only in Swedish and some do not show information when they are being selected (West Sweden trails, n.d.b). Also, the website offers a German version, although the German translations could be improved (West Sweden trails, n.d.a). Another aspect that could be improved is their social media management. The website of the Gotaleden encourages visitors to tag their social media activities

with a hashtag, but does not provide information about the name of the hashtag, which makes it also difficult for those seeking some impressions/information about the trail via social media platforms (West Sweden trails, n.d.b).

#### **2.4.2 Vasaloppsleden**

The Vasaloppsleden is 90 km long and is divided into five sections that range between 9 and 27 km in length. The trail runs between Berga and Mora (Svenska Turistföreningen, n.d.b).

When looking at the website and analyzing the content with the standards of the *ramverket*, it can be said that certain aspects are being fulfilled. For instance, the map that is provided online can be downloaded and provides an overview of the amenities on the way (such as *vindskydd*, *stuga*, drinking water, sights, viewpoints, etc.) as well as the area profile (with the ascending and descending levels on the trail). The cities that the hiker is going to pass are marked, but the different sections themselves are missing. Those sections are described on the website (the start and end points of the section and how they can be reached by public transport, its length, estimated hiking time, including a description about what can be expected in terms of nature and culture, and accommodation options on the section (whereas it is often just mentioned as *stuga*, which does not make it clear if it is one where you can stay for free or if it is run by a company that needs to be prebooked)). However, a description of the difficulty level is missing. Information about the signage of the Vasaloppsleden is provided – according to the website, hikers must follow the orange marks on the trees and even information signs are posted along the trail. However, some relevant information is also missing for this trail, such as information about drinking water, toilets, information about accessibility by public transport for every section, the current trail status, access points along the trail (and how to reach them), the *allemansrätt* (only on the main page), equipment (only on the main page), hunting season dates, local weather reports, accessibility-adapted sections, and information about when the conditions are good for hiking this trail.

The information that was found about this trail was only available on the Swedish website, when changing to the English version of the Svenska Turistföreningen, information about the Vasaloppsleden in English is impossible to find, even via the search bar (Svenska Turistföreningen, n.d.b).

### 2.4.3 Signature trail Siljan–Siljansleden

According to the website, the *Siljansleden* consists of several trails. One goes around Siljan and Orsasjön, the other heads from Rättvik to Orsa. The total distance of the trail is 340 km, allowing hikers to choose different entrance points and different durations of their hike (see Figure 1 below).



**Figure 1** – Siljansleden, Source: Rättviks kommun (n.d.)

The website only offers relevant information for the 60 km trail between Fryksås and Rättvik. According to the information online, this part is divided into four sections, which have a length of between nine and 17 kilometers, meaning three to eight kilometers of hiking per day.

As per the *ramverket*, relevant information is provided to visitors online, such as regarding where water stations are and if food and accommodation are available along the sections or not. Also, there is a brief description of the natural and cultural environment the hiker can expect, including viewpoints. A map with the different sections is provided on the website, but there is no information on the map about the elevation level or where the water stations, *vindskydd*, etc. are located.

Information about the signage is provided; as suggested in the *ramverket*, the trail has orange marks that indicate the route of the trail. Further, there is a description of the trail surface and how it runs in the landscape (however, this is only the case for the trail between Fryksås and Rättvik) (Swedish Tourist Association, n.d.). Information about the *allemansrätt* and the equipment is provided only

on the main page of the 'hiking' section (Svenska Turistföreningen n.d.b). However, information about the hunting season, accessibility-adapted sections, when the conditions are good for hiking this trail, waste management, and a local weather report are all lacking. As a side note, a hashtag name (#sftourist) is provided with which users can tag their photos from the trail on social media. However, this hashtag is not trail-related; it refers more broadly to the whole association. Therefore, implementing a separate hashtag for this specific trail might be beneficial as users can access content about the trail of interest in a direct, easy way (Swedish Tourist Association, n.d.).

### **3. Examples of trail management and financing around the world**

This chapter provides an international outlook on how trails are funded around the world. The three cases of Switzerland, Finland, and the USA are used for illustration.

#### **3.1 Switzerland**

In Switzerland, hiking associations take care of the trails. The association encompasses the “Kanton”s hiking trail associations and aims to build a network and support organizations and people that are interested in hiking trails and hiking itself. They are a center for service and competencies that share expertise (Schweizer Wanderwege, n.d.). Other associations focus more on the signage of the trails and ensure that the hiking network is in a good condition and gets adjusted constantly (Thurgauer Wanderwege, n.d.c).

Therefore, two examples of hiking associations were chosen: the Schweizer Wanderwege and the Thurgauer Wanderwege (TWW). The Schweizer Wanderwege was founded in 1934 with the aim of creating unified signage for existing hiking trails and promoting hiking for the Swiss people. The association receives support in different ways. It has partners (large companies such as Die Post, Die Mobiliar, Transa – Travel and Outdoor, Loba, and Lindt), which offer financial help or more ‘practical’ support. Die Post’, for instance, financially supports the realization of family-friendly hiking trails by awarding the post sponsorship price to two to three concrete hiking projects. These projects then get financially supported. Die Mobiliar, on the other hand, supports the Schweizer Wanderwege by committing to the maintenance and construction of bridges and footbridges which are part of the network of the Schweizer Wanderwege association. (Schweizer Wanderwege, n.d.a). They also have donors that support the association with a yearly donation. Those are companies and institutions, such as Lidl, Kulturpark, and Wetter-Alarm. The donor program was established for companies and institutions that care about hiking trails and hiking itself and want to give something back to the Swiss people (Schweizer Wanderwege, n.d.b). Finally, there are volunteers that help out with trail maintenance. This can include simple maintenance work on hiking trails, such as renovating steps and footbridges, renewing drainage, strengthening routes with gravel, repairing or installing steps, clearing hiking trails, cutting back trees and shrubs, renovating routes, and laying out new hiking trails. As a token of appreciation, the volunteers receive a free lunch (Schweizer Wanderwege, n.d.a)

The second example is the TWW. The whole ‘Kantonsarea’ entails 1000 km of hiking trails, which are free of charge. The association is in charge of the signage of the trails and ensuring that the hiking network is in a good condition and gets adjusted constantly. The signage should be consistent across the entire area and trails should run mainly on nature trails. They support the Kantons and municipalities with the planning, development, and maintenance of hiking trails. The TWW members control routes on a yearly basis, report damage, and provide suggestions for improvements (Thurgauer Wanderwege, n.d.c). Members finance themselves through such methods as providing events (for example, guided hikes), memberships (‘basic’ is €21/year, ‘plus’ (which includes the hiking magazine *Wandern.ch*) costs €57/year, and ‘collective member’ (associations, companies, municipalities, also including the magazine) is €88/year (Thurgauer Wanderwege, n.d.b). Members receive certain discounts, such as in hiking shops, when booking a certain youth hostel chain, or when purchasing sunscreen, or a certain brand of insect spray (Thurgauer Wanderwege, n.d.a).

### **3.2 Finland**

Like Sweden, Finland has the *allemansrätt* (Kettunen & La Mela, 2021). Finland has 41 national parks (Metsähallitus, n.d.), which is more than Sweden’s 30 (Sveriges Nationalparker, n.d.). Access to national parks is free (Metsähallitus, n.d.), but a lot of money is being invested in them. The return on this initial investment is tenfold for the local economy (Naturvårdsverket, 2022).

One-third of all Finnish national parks are managed by Metsähallitus, a state-owned organization that will be examined in the following section.

The department of interest is National Parks Finland, which finances its work through public funds, under the supervision of the Ministry of the Environment, Agriculture & Forestry and the Parliament. National Parks Finland and Wildlife Service Finland manage protected areas and historic sites and are in charge of providing free facilities for visitors. For a more detailed structure of the Metsähallitus organization, see Appendix 1.

In 2017, National Parks Finland had €61.4 million of funding allocated to administrative work. The Ministry of Environment contributes 55 percent of this amount, while 18 percent is generated from rentals and permit sales, 11 percent comes from the Ministry of Agriculture and the Economy



and 7 percent from the EU. The Ministry of Employment and the Economy, as well as the Ministry of Justice, are the smallest contributors, with only 2 percent in total. For a visual presentation of the allocation, please see Appendix 2.

National Parks Finland generated external funding of €1.5 million from an initial €500,000 investment funded by the state. This money was used for projects concerning nature conservation, which were then implemented with the help of the EU's LIFE fund. The projects concern, for example, the restoration of wetlands and the protection of an endangered seal and take place in cooperation with local partners. One example is the 'Freshabit IP LIFE Project', in which 30 partners are involved (under the supervision of National Parks Finland). The aim is to promote nature conservation and nature tourism in certain areas that are ecologically valuable. By providing those outdoor services, people are motivated to interact with nature, which creates favorable conditions for businesses that are interested in nature-based activities. This causes a boost in the economy, also because visitors buy local products. National Parks Finland also takes care of land and waters that are protected and state-owned, both to conserve nature and to offer facilities and services that are sustainable and for visitors.

National Parks Finland has cooperation agreements with nature tourism enterprises. Volunteers also play a large role, as they restore nature and organize events. In 2017, volunteers contributed with a total of 26 person-years.

In order to distribute the money in an efficient way, services are developed especially on the most popular sites. Some of the work that is needed is outsourced or done in collaboration with local firms. Sites that have low popularity were cut back on funding, ensuring that the popular ones can continue to offer certain services. These services include nature centers on site (which receive about one million visitors every year), maintained nature trails, public docks, wilderness cabins, and campfire sites.

National Parks Finland also provides services that are especially attractive for families and schools, such as creating opportunities for them to learn about nature and experience it directly, on-site (Metsähallitus, 2018).

### 3.3 USA

In the United States, landowners are allowed to use their land practically however it pleases them, which could be done in a way that is unsuitable for wildlife (such as ignoring habitat management) (Morgan et al. 2019). Further, accessing private land without the permission of the owner is considered trespassing (Cornell Law School, n.d.). In the USA, members of the public may hike in national parks, but an entrance fee must be paid (except on certain national holidays) (National Park Service, n.d.).

Trails are funded through various sources, which vary from trail to trail. Forms of funding include one-off government grants, donations (from businesses or individuals), entrance fees, licenses (for concessionaires that operate along trails and hunting and fishing), membership fees, resource extraction royalties, lottery funds, and developer contribution schemes, and special district tax.

For instance, the Montecito Trail Foundation in Santa Barbara is a private, non-profit organization. It is based on memberships, and the organization preserves and maintains 322 kilometers of public trails. It finances its activities through private donations and tax-deductible membership fees; it has 800 members who pay an annual \$35 membership fee per person, or \$45 per family. In return, members can participate for free in a guided hike (once per month), attend an annual barbeque event, receive newsletters and can access maps.

Another example of how to fund trails is made by a community in Arizona, which faced the problem of losing public land to developers. Therefore, the community introduced a tax whereby, when a taxable good get bought, 0.35 percent is automatically paid to the City Council and invested into maintaining areas that are accessible for everyone (such as trails, parking lots, and toilets).

Due to declining resources and staff, there is a high dependency on volunteers all over the country. In Connecticut, for example, there is an organization that has 350 volunteers, each of whom is responsible for performing maintenance tasks on a 4.8 kilometer trail sequence. In return for their help, they are given t-shirts, safety vests, water bottles, an annual dinner, peer awards, and a roll call at which each volunteer has their name called out with the number of hours that they worked.

A current trend is the development of trails that have “play” features (such as logs, rocks, and art installations) in order to attract families and young people. Such installments appear to have proven

successful in the past, as not only the number of trail users increased but also the time that is spent there. They also provide opportunities to learn and engage with nature (Holland, 2013).

In general, efforts are being made to attract businesses to have their standpoint in proximity with the trails, which they can link to their branding.

### **3.4 Worldwide examples of financing incentives**

This section provides some ideas from different countries about incentives that were implemented to fund hiking trails.

#### ***3.4.1 Hiking passport***

There are many examples where hiking ‘passports’ are used. For example, Dominica is considering the introduction of a kind of trail passport for its Waitukubuli National Trail, which is 183.5 kilometers long and divided into 14 sections. A page of the passport should be dedicated to each section, including relevant information about that segment (and the accommodation of the date-stamp). For every segment that the hiker successfully completes, they receive a stamp in the passport at the end of the segment. Such a passport can generate revenue and be used as a tool for promotion and marketing in favor of the trail, both, for locals and visitors (Christian, 2021).

In Sweden, Visit Dalarna introduced something similar in the context of cultural and historical sites: a ‘culture passport’. The pass can be purchased for approximately €12 and visitors can collect stamps from nine different cultural and historic valuable sites. The pass includes a special offer at every destination, and when all stamps are collected the visitor is gifted a special Culture-Route-Dala-horse. Further, visitors are encouraged to tag their photos with a certain hashtag (#visitdalarna), which eventually gets reposted by the Destination Management Organisation, DMO on their marketing tools (Visit Dalarna, n.d.). Depending on the success of the cultural passport, it might be worth considering implementing a similar incentive for hiking.

#### ***3.4.2 ‘Adopt’ a trail segment***

In Missouri, USA, the Ozark Trail Association initiated the ‘adopt-a-trail’ program, where trail and outdoor enthusiasts (such as private members of youth groups, local businesses, and running

groups) can adopt a 2.4–8-kilometer-long trail section of the Ozark Trail. When adopting a section of the trail, individuals are expected to do some trail maintenance work (such as cutting back vegetation that grows in the trail, removing sticks from the surface, and replacing missing trail signage) at least three times a year. New volunteers receive a handbook with information about how to properly maintain a trail and are able to attend a volunteer event where knowledge about trail maintenance is communicated to the participants (Ozark Trail Association, n.d.).

A similar incentive was also introduced in Sweden for the ‘Kungsleden’. Here, individuals and companies were able to become sponsors of the trail by paying about €2.50 per trail meter. The money goes into the renovation and the development of the STF’s 16 cabins along the trail – the trail itself is governed by the Swedish state (Svenska Turistföreningen, n.d.a).

## **4. Return on investment and economic impact of trails**

### **4.1 Return on investment (ROI)**

As money is being invested in a destination, it is important to have knowledge about how these investments impact the economy and who benefits from it. The concept of return of investment (ROI) is a standard metric in business to measure rates of return on money invested for a certain period. The idea is often to obtain a metric with which to compare a portfolio of investment options to compare and decide whether to undertake an investment or not. A definition of ROI for an investment would be the net profit divided by its costs. When using an ROI measure in practice, it would also be important to consider the ROI over the relevant time periods.

Several studies from the US have shown that there is great potential to generate a ROI for recreational trails. For instance, a 2014 study examined the economic impact of the 241-km-long Great Allegheny Passage between Pittsburgh and Cumberland, finding that overnight trail users generated a high revenue –62 percent of the almost one million annual trail users spent on average the equivalent of €124 on accommodation per night. On average, users spent the most money on each day (apart from accommodation) restaurant visits (€60), followed by snacks and beverages (€20). For transportation, an average of €14 was spent per day and €8 for equipment rental (Trail Town Program, 2015). Further, according to Evans (2019), 63,000 trail users of a trail in Montana generated an equivalent to 60 full-time jobs.

Another recent study on the Capital Trail Network in Washington DC points to the trail network producing economic, environmental and public health benefits. Calculating impact from a US\$1.09 billion investment in trail network expansion, using IMPLAN (input-output system), is expected to yield economic impacts from construction over 25 years (16,000 jobs), \$940 million/year in local spending (supporting the equivalent of 8200 jobs), and also annual public health savings of \$517 million. Furthermore, the environmental benefits amount to \$433 in lifetime carbon storage value. The study also points out the potential to be a core in community development and highlights benefits from increased accessibility for residents living close to the trail. Note that the trail network is intended for multiple use, where also biking would be allowed (Capital Trail Network 2021).

#### ***4.1.1 ROI for first-time and return visitors***

According to Oh et al. (2019), first-time visitors have higher spending than repeat visitors. First-time visitors are more attracted to what the destination has to offer and focus more on seeking information about the features of the destination. Therefore, they have higher promotional costs than repeat visitors, who often return because of their positive experience and memories from previous trips. They seek the emotional or psychological significance of the destination, meaning that it is possible to attract them at a lower expense. The same study found that, when developing new trails, the different needs of the two groups should be kept in mind. First-time visitors of the trail want to observe attractive scenery, seek the novelty of experiencing other tourist attractions, and interact with new people. Return visitors, on the other hand, are more drawn to relaxation, whereas they also want to see other attractions. They are also interested in educating themselves and they seek activities that enhance their knowledge or intellect along the trails. Oh et al. (2019) also spoke about excitement factors, which surprise trail visitors and ideally generate delight, which is defined as a mixture of joy and excitement. This could lead to positive behavior intentions; research has found that this cannot be guaranteed, as delight and future intentions have a nonlinear relationship (Oh et al., 2019).

#### ***4.1.2 Economic impact studies in tourism and trails – a brief overview***

The field of economic impact studies to understand the impact of visitors to a destination is a broad topic. Depending on the scale of the destination – a geographically small local area, a region or a country – different types of approaches and methods are being used. Essentially, the basic formula to estimate the impact is to multiply number of visitors to the area of interest by the visitors' spending. Somewhat surprisingly, a recent review of economic impact studies of recreational trails (Lukoseviciute et al., 2022) found only three published papers related to economic impact of recreational trails: Boker et al. (2007), Raya et al. (2018), and Venegas (2009).

The Input-Output method is found to be the most suitable theoretical approach to study long-distance trails (Lukoseviciute et al., 2022). This method is used to analyze the role of different sectors in the economy and how they are connected (Surugiu, 2009) and has been used by, for example, Atan and Arslanturk (2012) to analyze tourism impact on the economy in Turkey. The results of that study showed that the hospitality industry and restaurants contribute especially to

the economy as they have high backward linkages, meaning that they entail a lot of output from other industries. Thus, the industries that are needed for the hospitality and restaurant industry benefit from tourism as well and are thriving (Atan & Arslanturk, 2012).

A recent in-depth study that analyzed the impact of tourism with a focus on employment is Kronenberg and Fuchs (2021). According to their study, between 2008 and 2016, the number of tourists increased. However, when looking into the effect on employment, no additional employment was generated; it was quite the opposite, as there was a decrease of employment in the tourism sector. However, this was due to an increased labor efficiency, meaning that already a small workforce is able to handle the increasing tourism demands. This can be linked to the introduction of new technologies (such as new information and communication technologies) that are able to carry out time-intensive work tasks that previously had to be done manually (Kronenberg & Fuchs, 2021).

Another study in the Swedish context related to the topic of economic impact of trails is one on biking tourism in Varberg and Gotland (Heldt and Liss 2013). The study found a wide range of nightly spending per guest, of SEK 466–1,233, depending on the region and type of visitor. The study points to the importance of not only having knowledge about the total number of tourists but also about the tourist type. The study also noted the limited use of traditional cost-benefit analysis to evaluate public investments in trail infrastructure and adds to the discussion by reporting on findings from a stated choice experiment on willingness of pay (WTP) for increased bike trail length. The results show that longer bicycle trails are preferred over shorter ones and that there seems to be a WTP of approximately SEK 0.5 per kilometer to increase the length of the bicycle trail. As a conclusion, the study highlighted that factors attached to the specific bicycle trail, such as length and signage, as well as factors related to tourism industry services, like quality of lodging and restaurants, are important for a bicycle tourist's destination choice (Heldt and Liss, 2013).

#### ***4.1.3 Direct spendings on trails***

In Sweden, as the *Allemansrätt* prohibits landowners from demanding entrance fees for the access of nature (Reynisdottir et al. 2008), no income is generated from such access. However, there are cases of a “trail pass system”, where users are prompted to pay to use services along a trail. An example is the *Naturvårdskort*, used in the DANO water trail area in south-west Sweden. The

current price of the pass is SEK 60 per day per person and is framed to give access to camp sites and its facilities (DalslandNordmarken.se).

Along similar lines, it is possible to charge direct fees for activities that are not governed by *Allemansrätt*, such as fishing. By developing nature areas with trails and camp sites in close vicinity to popular fishing water, it is possible to charge a direct user fee, while indirectly covering the costs of the trail maintenance.

#### ***4.1.4 Indirect spending***

Spending by visitors whose main purpose for visiting is to hike on a trail is considered indirect spending. In relation to economic impact studies of tourism, this type of spending is referred to as direct spending. To be able to manage a trail system, it is important to understand the size and spread of visitor spending to the local economy.

Beneficiaries of visitors are companies, as they generate additional revenue. The revenue generates taxes, meaning that also the municipalities benefit. As the demand increases, more staff is needed, which generates livelihoods for locals. Further, tourism helps improve and develop the local infrastructure (Terpstra, 2011).

In Figure 2, the starting point is the trail, funded by some association, that attracts visitors to the area. The visitors spend in the area, which constitutes the economic input to the economy.



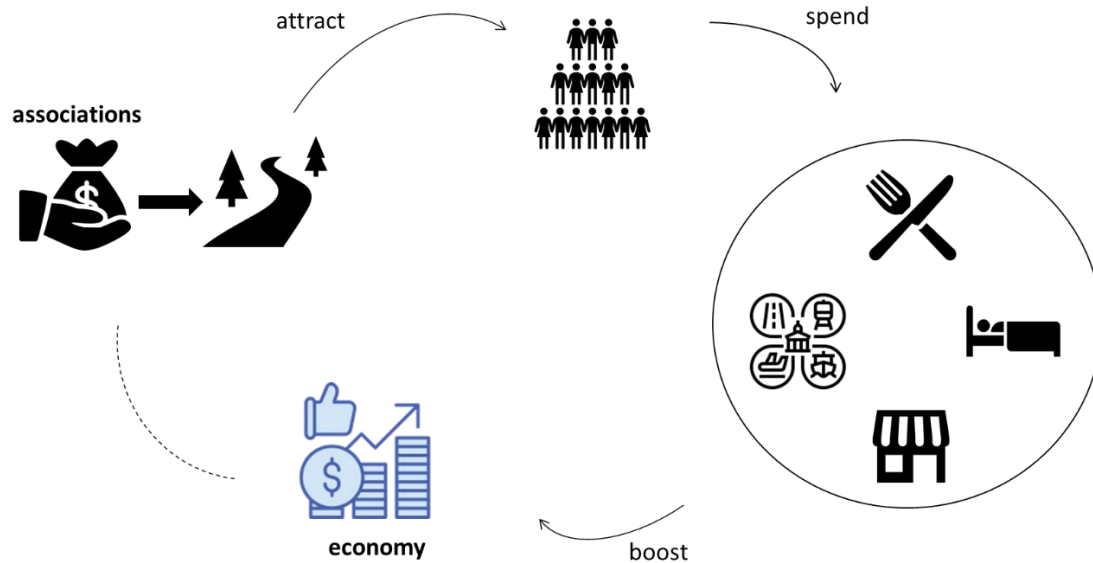


Figure 2. Illustration of economic flows related to the attraction Trail (Terpstra 2011)

#### 4.1.5 Demand for services related to the trails

A study by Fredman (2018) looked into WTP for amenities along the trail and found that visitors are more eager to visit the trail when there is signage, cards, and flyers, as well as good infrastructure, thus showing a high level of relevance for those items to be available (Fredman, 2018). Other factors that influence the decision about what trail to take are attractions along the trail and the end destination, the length and difficulty level of the trail, its elevation level, and the natural setting of the trail (Molokáč et al., 2022).

The study by Fredman (2018) also found three possible solutions for financing “common good” in Norway: (1) financing through all companies in the destination, (2) financing solely through leading companies, and (3) financing solely through authorities. According to the study, the first option is the most ideal and can be realized through the introduction of a destination fee. These fees are often included in an overnight price of, for example, a hotel, or based on the income of a touristic enterprise. However, not every tourist stays overnight, and it is hard to elaborate on which companies should have this tourism-income-based fee. The result of a study supports this view, as it would be a revenue-based fee that is applied to all companies that profit from the tourists. The

money would then be invested in the trails. This is a fair system as the money goes back to benefiting the tourists as it gets invested into a tourism product, such as trails (Fredman, 2018).

However, the biggest challenge of setting up a financing tool is motivating the actors in a destination to set up and contribute to the implementation of a funding system. This is what stopped the Lofoten from implementing a financing model where the players of the hospitality industry contribute to trails (depending on the benefits the companies indirectly receive through the free trails); they would have to contribute a certain amount to a large fund in which they have no say. Therefore, it is important to consider certain criteria before the implementation. For instance, the financing tool must generate enough resources, be easy to administrate, be accepted by the contributing actors, and be market-orientated, and it should not distort the competition.

Two studies – the ‘Friluftsliv i förändring’ (Fif) that took place from 2006–2012 and the ‘Novus 2017’ – have been conducted to find out what Swedes think about how trails should be financed. The results showed that one in five people believe that (inter alia hiking) trails should be financed by everyone in the form of taxes, and that fewer than one in five people feel that trails should be financed through fees (meaning that trail users pay). The image below shows the results of the two studies:

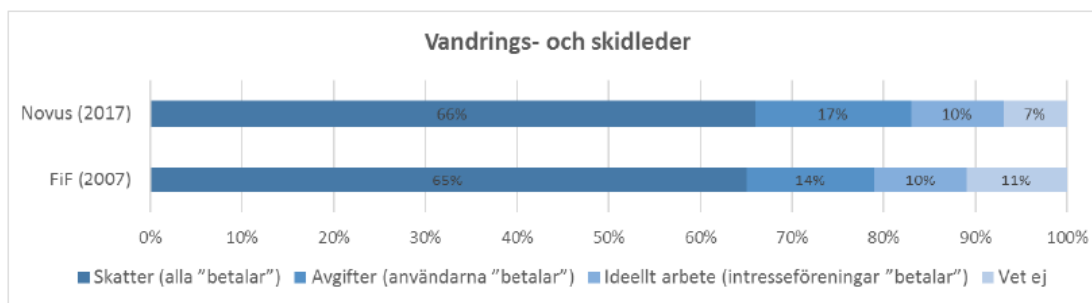
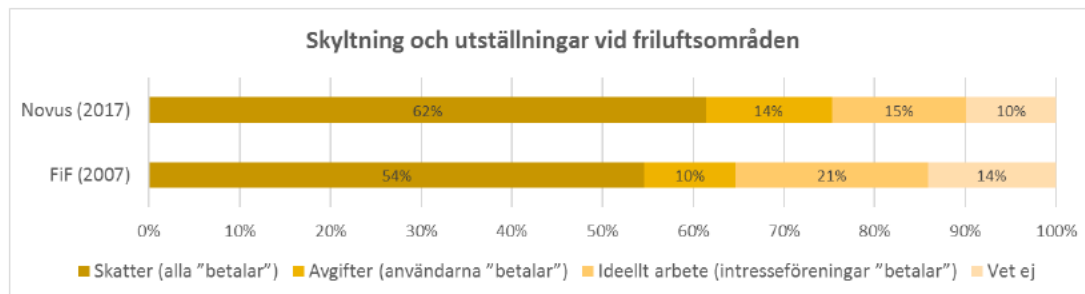


Figure 3. Financial responsibility of trails. Fredman (2018), p.4

Further, the majority thinks that signs and exhibitions should be financed collectively (through taxes). In the Novus study, which took place more recently than the FIF study, 15 percent of the participants had the opinion that associations should be responsible for the signage, and 14 percent felt this should be done by the trail users. The FIF survey, which was conducted 10 years earlier, showed that more participants (21 percent) thought that associations should carry the costs; this suggests a shift in peoples’ opinions in the decade between the two studies. The results are shown in Figure 4.



**Figure 4.** Financial responsibility of signage (Fredman, 2018, p. 4).

## **4.2 Trails and links to the sustainable development goals (SDGs)**

Financing (hiking) trails could support reaching some of the United Nations' sustainable development goals (SDGs).

### ***Goal 8: Decent work and economic growth***

Goal 8 aims to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.

The Ukraine conflict has had an impact on economies worldwide (United Nations, n.d.). Financing trails could, to some degree, boost the Swedish economy by generating new jobs (thus working against the higher unemployment rate due to the pandemic) in the trail sector or companies that somehow benefit from (hiking) trails.

Regarding tourism, policies could be introduced that promote sustainable tourism by creating jobs and promoting regional products and cultures. Further, tourism activities that are based on sustainability need to be supported, and capacities need to be build up. This should promote environmental awareness, conserve and protect the environment, and respect wildlife, flora, biodiversity, ecosystems and cultural diversity. Lastly, the welfare and livelihoods of local communities should be improved by supporting the local economy as well as the human and natural environment.

### ***Goal 10: Reduce Inequalities***

This goal can be achieved in the tourism sector, as it is a large employer. When local communities and stakeholders get engaged, they feel heard and thus included, which is an important aspect of sustainable development. The outcome is an inclusive, equal, and sustainable society. However, it is important to make sure that everyone has an equal opportunity to take part in nature-based tourism and recreation. In Sweden, steps have already been made in this direction by implementing 10 national objectives that should lead to the implementation of policies regarding the *friluftsliv*. The overall goal is to make engaging in outdoor recreation more accessible for everyone and thus enhance the opportunity of the population to be in nature (Kling, 2021).

### ***Goal 11: Sustainable cities and communities***

Goal 11 aims to make cities and human settlements inclusive, safe, resilient, and sustainable. This includes promoting sustainable land-use planning and management. In order to reach sustainability, the well-being of people and the earth need to be addressed as one. The benefits that humankind receives through nature are hard to measure and in order to maintain the value that is received through nature, incentives that manage nature in a smart way are needed.

Nature offers countless possibilities for creating goods and services. While GDP can be measured, it does not take into account the cost of environmental degradation and ignores the fact that natural resources decline. Also, the benefits of nature for the humans' well-being, health, and education are often being ignored because there is no economic value put on them. Currently, the price of the destruction and exploitation of nature is being ignored, which is threatening economies and societies. By ignoring the intangible value of nature, economic investments are made that are *not* moving in the direction that benefits nature and well-being in the long run, even though investments that lead to a more sustainable use of resources while increasing wealth and well-being would be sensible (United Nations, 2021).

### ***Goal 15: Life on land***

Goal 15 refers to protecting, restoring, and promoting the sustainable use of terrestrial ecosystems, sustainably managing forests, combating desertification, and halting and reversing land degradation and halting biodiversity loss. Investing in forest and forestry is not only about investing in nature, but also in the people and their livelihoods. According to the UN secretary-general, it is crucial to implement smart policies with laws, allowing the enforcement of those laws, and the partnerships and funding should be innovative (United Nations, n.d.a).

### ***Agenda 21***

In addition to the SDGs is 'Agenda 21', established in 1992, which aimed to provide action recommendations for the (at the time) upcoming century (the 21<sup>st</sup>).

Chapter 11 of Agenda 21 deals with forests, and the Agenda argues that its potential for development has not been fully realized. However, the potential to raise the value of forests is existent and can be done through eco-tourism. The awareness of the importance and use of the

forests need to be strengthened, as this awareness is important for the survival of the forests and the humans' well-being (which in turn depends on the forests' survival). The awareness can be strengthened by supporting the appreciation of the social, economic, and ecological value of trees, forests, and forest regions, whilst also pointing out the consequences of the damage that occurs due to the lack of forests. Also, forest areas should be used more extensively, for instance by including eco-tourism, which broadens the spectrum of the forests' economic contributions. In order to ensure efficient use of the forest, an analysis should be made that looks into the supply and demand side for forest products and forest services (n.n, 1992).

## **5. Additional means of funding**

### **5.1. Funding through stakeholders**

As noted in the previous section, there are many benefits from tourism. Therefore, a collective approach to the financing of hiking trails should be considered, meaning that all companies that benefit from tourists (for example, in the form of spending) contribute to the development and maintenance of hiking trails, as they all profit from the attraction of the ‘trail’. United, they would support the trail systems, and as the money gets invested back to the trail, the trail users benefit (Fredman, 2018).

In a Swedish context, a recent study looked into funding models for open access MTB trails and ice-skating trails, two types of trails that are often developed and maintained by local associations. One common funding model is to ask for a voluntary donation of the trail users or to have them become a member of the association. In the case of MTB trails, a nudging method was tested by introducing a sign with a text message of how many people donated to the trail, and how much. The outcome was that beliefs about others’ donations impacts the donation behavior positively in the form of donation rates and also the sum donated per biker (Heldt et al. 2022).

Another study looked into financing ice-skating trails; here, it is ice-skating associations that take care of the trails. A survey of ice-skaters found that safety was the most important aspect of their experience, ahead of aspects of a well-maintained ice-skating trail and ancillary services (such as fireplace, kiosks, etc.). However, when asked about the allocation of SEK100 towards the three items, respondents stated that most money should be devoted to maintaining ice-skating trails. This shows that ice-skaters attach a higher monetary value towards the trail, meaning that there seems to be demand and willingness to pay for a well-maintained trail (Fleckhaus and Heldt, 2021).

## **5.2. Other ideas about creating financing opportunities for hiking trails**

### ***5.2.1 Increase accessibility for certain visitor groups***

According to Kling (2021), there are two groups for whom nature-based tourism activities are not equally accessible: women, and people with disabilities.

Regarding women, the reasons for unequal access are (a) personal (such as security fears and doubt in their own abilities); (b) socio-cultural constraints, which relate to factors such as social expectations (for example, women are not 'supposed to' take part in adventurous activities in nature), but also because they do not want to go alone, do not want to receive unwanted attention from males, gender stereotypes (adventure tourism is often portrayed as a manly activity); (c) practical (lack of time, money, role models, or insufficient promotion of benefits or opportunities) (Kling, 2021).

An incentive to ensure that women have better access to outdoor activities could be to create an online platform where female hikers can find other female companions and share experiences about the difficulty of the trail (through scale ratings, for example). Alternatively, guided hikes could be offered for females only, which allows hikers without a companion to socialize and network in a safe environment (avoiding the fear of unwanted male attention), empower women to go hiking, and contradict stereotypes. DMOs could try to work against stereotypes and market outdoor adventures in a way that also features women, or when doing social media advertisements in the form of a video featuring a woman who speaks about her experience and encourages others to follow her example.

The second group that does not have equal access is people with disabilities. There are several barriers to them accessing nature fully, such as a lack of infrastructure in nature, negative social attitudes, perceived intrapersonal constraints, and a lack of monetary resources and adapted technology. This could be solved through the inclusion of all stakeholders when trails are being planned and developed (thus promoting socially sustainable tourism) (Kling, 2021).

An idea about how to make trails more accessible for these groups is to develop trails that suitable for this segment, which could be a USP for the trail and could attract a different crowd of tourists; this could create the potential for new business opportunities that also provide services for disabled



trail users. Further, the destination would set itself apart from other destinations and could strengthen its competitiveness.

### ***5.2.2 Promote engagement in nature from an early age***

As mentioned, children who had positive experiences in nature are more likely to be interested in participating in future outdoor activities and be pro-environmental, which could, at a later age, lead to pro-environmental attitudes and actions (Kil, 2016).

An idea would be to provide nature-based experiences from an early age on and promote possible educational, child-friendly trails to parents or schools. Additional working material or exercises could be downloaded from the website of the trail. An example of such a trail is the 11-kilometer-long ‘fable trail’ in Switzerland, which is an easy trail alongside a large lake. Along the trail are different signs with different trail mascots in the form of animals from fables, which get introduced in the form of stories. In addition to the stories are quiz questions and ideas for games. Further, there are pieces of knowledge that create an ‘aha’ experience, as is often the goal of fables. Along the trail are barbeque sites and several benches, and special ‘fable trail’ signage (Thurgauer Wanderwege, n.d.a).

### ***5.2.3. Keeping up with new friluftsliv***

The *friluftsliv* is constantly changing (Gelter, 2010), which eventually means that other nature-based activities become popular that have different demands on the trail. A solution could be multi-purpose trails given that the potential conflicts between different user groups is well understood and managed. The issue of conflicts between recreational users has long been recognized as a topic (Jacob & Schreyer, 1980). For example, one study shows that there is a WTP within one user group (cross-country skiers) to separate trails to reduce negative externalities from another group (snowmobilers) (Lindberg, et.al (2009). On the other hand, the same study found that many of the skiers perceived the presence of snowmobilers as positive for safety reasons, the machines being a lifeline in case of emergency (accidents or bad weather) in the mountain.

Managers should also keep up with which trails are in high demand and which ones are not, and allocate money for maintenance in a cost-efficient way, ensuring that popular trails are well-maintained (Metsähallitus, 2018).

## 6. Summary and Conclusion

In light of the recent increase of demand for hiking on trails, this report has looked into aspects that are relevant for a discussion on ROI for investments in trails. As this report has shown, the key aspects for the calculus of ROI are benefits of trail use and cost of investment, but the funding aspect is also relevant in order to make a project happen in practice. Given the *Allemansrätt*, access to nature and hiking trails can be given without mandatory user fees. Nevertheless, funding is needed for the initial development of the trail, but also for its upkeep, especially if the trail is intended to serve as a driver for attracting visitors to a destination.

This report has highlighted that people using trails brings a number of benefits to society, mainly economic, environmental and public health ones. The economic ones originate from spending by the visitors and direct investments during construction of trails, while environmental benefits come from reduced CO<sub>2</sub> emissions, and public health benefits come from reductions in health care spending. Finally, quality of life and happiness values arise from the increased relationship between individuals and nature and social aspects of meeting new people during hikes.

While it is possibly to conduct a proper evaluation of ROI for trails, there are many loopholes to consider. For example, the calculus on the economic side needs to consider visitors' potential multiple purpose of trips to avoid overstating the economic spending benefits. Another issue would be how to properly value and include the positive so-called non-monetary effects coming from improved health, interaction with nature, and socializing with other people. This can be done using cost-benefit and multicriteria analysis. The example of Finland illustrates the potential economic effects where money spent by the tourists in the destination benefits hotels (and other accommodation facilities), as well as restaurants, the 'goods' sector, the transport sector, and the cultural sector. This increase in revenue means a higher income from taxes. Further, as the demand increases, the need for new employees develops.

The report also lists and discusses alternative ways to finance trail development and maintenance. Associations often take over the work and try to find creative ways to ensure trail maintenance. Examples include the introduction of a kind of hiking passport and an incentive where individuals can 'adopt' parts of a trail and commit to undergoing maintenance work on his/her part of the trail at least three times a year.

As there are many beneficiaries, an approach should be introduced where all the beneficiaries somehow contribute to the development and maintenance of trails. As the surveys conducted by Novus (2017) and FiF (2007) have shown, a majority of Swedes are of the opinion that trails should be financed through taxes, thus supporting a collective approach. Exactly how a collective solution could work has to be investigated through further research and must overcome certain potential barriers such as the willingness of the businesses to contribute.

Also, a trail's function is important, not only for nature, as it provides a clear path that trail users can follow to ensure that they do not access or tramp a certain area and eventually damage sensitive landmarks, but also for the well-being and health of the users as it improves well-being and allows to escape certain unpleasantities. Trails can also be seen as a space that allow users to be active in nature, thus promoting a healthy lifestyle.

There are potential points of conflicts with landowners, such as commercial berry pickers (as berries are a shared natural resource) and entrepreneurs that offer horse-riding tours. These commercial activities would contribute to the exploitation of the forest, which disadvantages the landowners. Further, landowners feel like their property rights concerning forests is being attacked, particularly their right to extract resources and management rights, such as transformations of the forest and the planning certain forest activities.

The development of trails would not only benefit the economy and the tourists, but would also contribute to the fulfillment of some SDGs. For instance, it would contribute to decent work for all and sustainable economic growth, as well as a reduction in inequalities. Additionally, it would promote sustainable cities and communities as well as the sustainable use of land.

Some further ideas for future actions are given below:

- Make regular assessments of what target groups should be attracted and whether the current trails fit the portfolio (for example, whether families are target groups – Are there enough family-friendly trails? Could improvements be made or could new themes be introduced, such as the fable-theme in Switzerland? Adventure enthusiasts might be keen to go wild camping – is this being promoted enough?)

- Analyze the economic impact of hiking trail users at relevant scale; that is, destination level, local level, up to regional level. The number of users of the trail network is a key variable to measure on a regular basis.
- Try to find a solution to trail funding that involves all stakeholders/beneficiaries (for example, through a fee/tax), which needs research (this could also include what attributes hikers are looking for in a trail, what is important/unimportant and develop trails accordingly, why do they go hiking – because of the activity itself or because of natural and cultural sights on the way, and also develop trails according to results).
- Analyze who the user groups are and if and how their needs, wants, and WTP might differ for certain products and services. This could be done in the form of segmentation studies. The results of such studies will provide valuable input for development projects, increasing the attractiveness of the trail network and for marketing campaigns.
- Map and make inventories of trails at the local and regional levels to allow for strategic evaluation and planning of future development.
- Improve online information about the trails so that they fulfill the criteria of the national framework (especially providing all information in English).
- Consider access for all and work towards inclusiveness (focusing on women and the disabled).

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# Appendix 1 – Metsähallitus

## Metsähallitus organisation

DIRECTOR GENERAL, METSÄHALLITUS

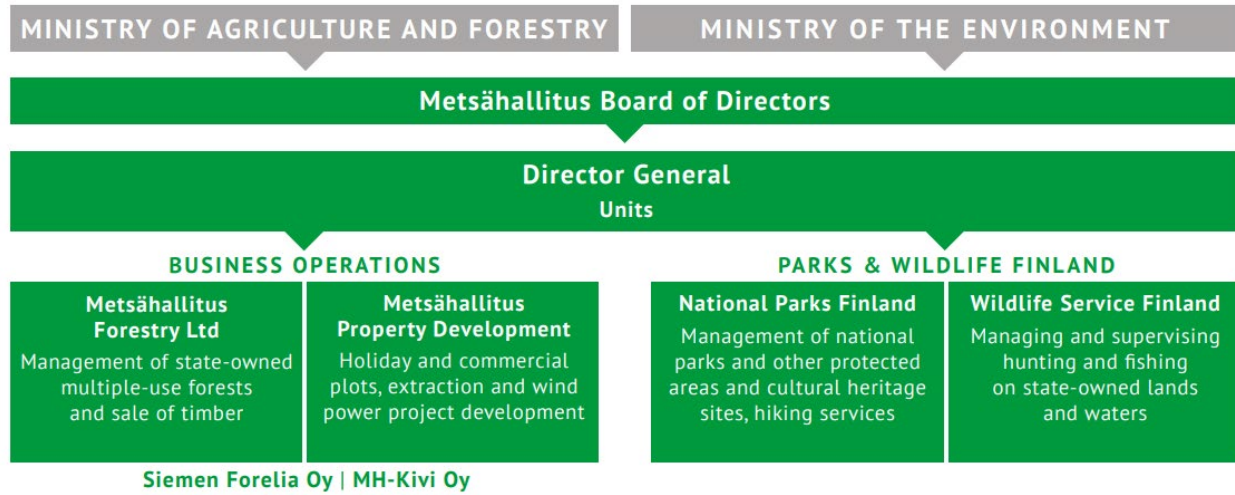
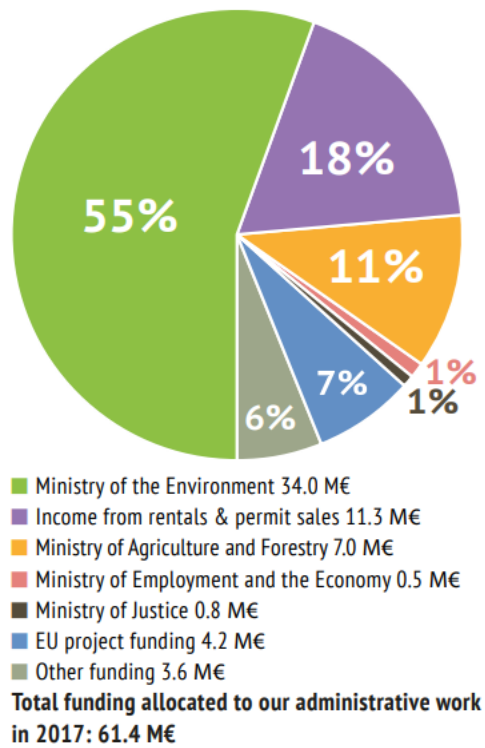


Figure 2 - Overview of the organization

Source: Metsähallitus (2018)

## Appendix 2 – National Park Finland funding sources



**Figure 5.** National Parks Finland funding sources

Source: Metsähallitus (2018)