



**Universität für Bodenkultur Wien**  
University of Natural Resources  
and Life Sciences, Vienna

# Master Thesis

## **The Implementation of Green Care Forest in Austria as a policy for social innovation**

submitted by

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## **Master Thesis**

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Submitted by:

Benjamin Stadler BSc

Matriculation number 01 34 05 33

Vienna, November 2021

## Affidavit

I hereby declare that I have authored this master thesis independently, and that I have not used any assistance other than that which is permitted. The work contained herein is my own except where explicitly stated otherwise. All ideas taken in wording or in basic content from unpublished sources or from published literature are duly identified and cited, and the precise references included.

I further declare that this master thesis has not been submitted, in whole or in part, in the same or a similar form, to any other educational institution as part of the requirements for an academic degree.

I hereby confirm that I am familiar with the standards of Scientific Integrity and with the guidelines of Good Scientific Practice, and that this work fully complies with these standards and guidelines.

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Benjamin STADLER

## Abstract

This thesis analyses the formulation and implementation of the policy programme Green Care Forest in Austria in hindsight to the potential for supporting social innovations. Beginning in the 1980s, various social activities in forests such as forest pedagogics, cultural aspects, touristic activities, and health-oriented activities started in Austria. As a traditionally economic dominated sector, social forest activities can help forest owners to diversify. As a first step, a document analysis and actors mapping were carried out. After identifying the main actors within the policy programme, qualitative interviews were conducted with the main representatives of the programme, experts in this field and managers of pilot projects of the Green Care Forest programme. The results from the interviews were structured and analysed within a policy analysis framework. The focus was set on actors, their resources, and the institutional context. Findings show that the policy programme aims to coordinate all social aspects of forestry in Austria. At the same time, the programme seeks to create knowledge on health-related activities within forestry, promote the topic and give scientific and practical information. Although a lack of basic budget and personal resources was found, voluntarism from various civic society actors helped the policy programme to carry out a wide range of activities. Activities conducted can be regarded as innovative due to the high degree of novelty. The policy programme supports the diversification of companies, forest owners, and other private actors to create an additional income from social forestry.

## Kurzfassung

Diese Diplomarbeit analysiert die Formulierung und Einführung des Politikprogramms Green Care Wald in Österreich im Hinblick auf das Potenzial für die Unterstützung sozialer Innovationen. Seit den 1980er Jahren wurden in Österreich verschiedene soziale Aktivitäten im Wald wie Waldpädagogik, Forst und Kultur, Forst und Tourismus sowie Wald und Gesundheit gestartet. Als traditionell wirtschaftlich geprägter Sektor können Angebote im Wald im sozialen Bereich den Waldbesitzern helfen, sich zu diversifizieren. In einem ersten Schritt wurden eine Dokumentenanalyse und eine Kartierung der Akteure in diesem Bereich durchgeführt. Nach der Identifizierung der wichtigsten Akteure innerhalb des politischen Programms wurden qualitative Interviews mit den wichtigsten Vertretern des Programms, Expertinnen und Experten in diesem Bereich und Managerinnen und Managern von Pilotprojekten des Green Care Wald Programms geführt. Die Ergebnisse der Interviews wurden strukturiert und nach dem Ansatz der Policy-Analyse ausgewertet. Der Fokus lag dabei auf den Akteuren, ihren Ressourcen und dem institutionellen Kontext. Die Ergebnisse zeigen, dass das politische Programm darauf abzielt, alle sozialen Aspekte der Forstwirtschaft in Österreich zu koordinieren. Gleichzeitig soll das Programm Wissen über gesundheitsbezogene Themen in der Forstwirtschaft schaffen, das Thema fördern und wissenschaftliche und praktische Informationen vermitteln. Obwohl es an grundlegenden Finanzmitteln und personellen Ressourcen mangelte, konnte im Rahmen des politischen Programms dank des freiwilligen Engagements verschiedener Akteure der Zivilgesellschaft eine breite Palette von Aktivitäten durchgeführt werden. Die durchgeführten Aktivitäten können aufgrund ihrer Neuartigkeit als innovativ angesehen werden. Das politische Programm unterstützt die Diversifizierung von Unternehmen, Waldbesitzern und anderen privaten Akteuren, um ein zusätzliches Einkommen aus sozialen Aktivitäten im Wald zu schaffen.

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## List of Abbreviations

|        |  |
|--------|--|
| API    | Anton-Proksch Institute for addiction therapy                      |
| BFW    | Austrian Research Centre for Forests                               |
| BMLFUW | Federal Ministry of Agriculture, Forestry, Environment, and Water  |
| BMLRT  | Federal Ministry of Agriculture, Regions and Tourism (former BMNT) |
| BMNT   | Federal Ministry of Sustainability and Tourism (former BMLFUW)     |
| BOKU   | University of Natural Resources and Life Sciences Vienna           |
| GCF    | Green Care Forest  |
| FAST   | Forest Training Centre   |
| FP     | Forest Pedagogic   |
| F&C    | Forest and Culture   |
| F&T    | Forest and Tourism   |
| F&H    | Forest and Health  |
| LE     | Austrian Rural Development Programme 2014 – 2020                   |
| PCS    | Project Case Study   |
| SKA    | Special Institute for Rehabilitation                               |

# 1. Introduction

## 1.1. International trends and policies affecting the social role of forests

### **Trends affecting the social aspects of forests**

The megatrend of urbanization is continuing. People are leaving the countryside and moving to live in the cities. In general, high-income countries have a higher percentage of urbanisation than low-income countries. The upper-middle-income countries have had the strongest urbanization since 1950 (United Nations 2019). Therefore, the recreational needs are growing stronger (van den Bosch and Bird 2018). In 2020 about 70% of the forests and other wooded lands in Europe were available for public recreation. In most European countries, the public has access to more than 90% of forests for recreation. About 6% of the total forest area in Europe are primarily designated for this purpose (FOREST EUROPE 2020). The rate of recreational use of forests is highest in Central Europe and lowest in Southern Europe (FOREST EUROPE, Liaison Unit Bratislava 2019).

Outside of scholarly interest, forests have been recognized as important places for communities to relax, find balance, sustain and revive their health (van den Bosch and Bird 2018). Nature-based tourism has always been popular in Europe and around the world. In the past years' new trends and movements promoting a reconnection with nature started and spread around the globe. They consciously try to reverse the ongoing process of people distancing themselves from natural spaces (FOREST EUROPE, Liaison Unit Bratislava 2019). The most popular trend is “forest bathing” or “shinrin-yoku”, as it is called in Japan, where it originated. But also tree climbing is a very popular outdoor activity in Japan, not only for healthy but also for physically disabled people. Also, in South Korea, the Korean Forest Service operated 133 recreational forests in 2009 (Cervinka 2014).

Also, forest therapy advocates the importance of being in nature for our health. Since the 1990s, more and more studies comparing urban, build up environments with green natural ones describe the benefits of nature on human health and wellbeing. Also, the topic of how trees can help improve health and happiness through forest-based activities became an intensely studied field, with many publications providing guidance and practical steps for improving health, finding happiness, and using nature's recreational strength (FOREST EUROPE, Liaison Unit Bratislava 2019).

Besides the economic use of forests, which was and is still the most crucial aspect of forestry in Europe (FOREST EUROPE 2020), the value of the social and cultural dimensions of sustainable forest management of society has increased in the last years (Johann 2004). Forests

have always been a substantial part of our cultural heritage, our traditions and identity. Forests are linked to many folklore traditions, costumes, and events. Therefore, they are enormously worthy of being protected and revitalised (FOREST EUROPE, Liaison Unit Bratislava 2019). The knowledge of the importance of forests, their services, and how they function as an ecosystem are continuously decreasing and at a significant low point. People often don't know what foresters do and have very little knowledge about nature (FCN-Subgroup-Forest Pedagogics 2017a).

Nature pedagogic offers, such as forest pedagogics, are much needed. Since the turn of the century, nature pedagogic offers emerged from a need to recreate and relax in the times of industrialization and alienation of nature experiences. This increased interest in nature led to the creation of movements and nature protection associations. Strong influences in nature pedagogic came from the US to Europe. In the German-speaking countries, forest pedagogic then started in the 1940s and developed throughout Europe. International organizations such as UNESCO have also emphasized the importance of environmental education early on. UNESCO strives to foster and promote environmental education across borders. International conferences on environmental education supported this development (Voitleithner et al. 2002).

Also, human health promotion, therapy interventions, sport and tourism have immense potentials to boost new green jobs in the forest sector. This development may lead to the establishment of new funding- or incentive schemes. Using this opportunity may lead to a situation in which the society and the forest sector will benefit (FOREST EUROPE, Liaison Unit Bratislava 2019).

These trends are already affecting forests and their ecosystems but will increase to influence them in the future. Therefore, the forest sector and forest policies have to decide how to respond to them. For example, the growing demand of urban populations for recreation in forests can be seen as unwanted, inevitably problem causing. Or it can be received as an opportunity to create new green jobs, types of services, value chains and profitable investments enhancing the competitiveness of the forest sector in the coming decades (FOREST EUROPE, Liaison Unit Bratislava 2019).

In Europe, entrepreneurial activities in the field of ecosystem services were often more necessity-driven than opportunity-driven. These can be various touristic offers or environmental services. There are many activities in forest pedagogics, which are pretty popular but aim more to improve public relations than improving income opportunities (Rametsteiner et al. 2005).

Weiss et al. (2021) summarize the main characteristics of past innovations in the forest sector. Altogether, process innovations were more important than product innovations for the past

decades. This more narrow focus on innovation solely in economics is regarded as a weakness when looking at the growing demand of society for ecological and cultural services and non-timber products (Weiss 2019). Structural problems, especially fragmented property and missing economic interest in forest management, have caused weak innovation orientation. The solely focus on rationalization of roundwood production is another factor for missing business opportunities. Forest sectoral innovation systems are often poorly connected to innovative sectors or innovations systems on a national level (Rametsteiner and Weiss 2006).

Although this general trend of low innovativeness in the forest sector, forest recreation and health prevention tactics have developed consciously and focused in different countries around the globe (Gallis 2013). As a result, the topic is discussed in a growing number of conferences, new associations were founded, and the first projects were realised in different areas of Europe. Examples, therefore, are the curing and healing forest, implemented firstly in Usedom, Mecklenburg Vorpommern but now spread out to other parts of Germany (Eigenbetrieb Kaiserbäder Insel Usedom 2019). Interactive virtual forests are used for health promotion in Zurich, Switzerland, as well as for educational purposes like the united Paper Mills (uPM) forest life from the Company Biofore. Near Copenhagen, in Denmark, a forest therapy garden named Nacadia offers measures to treat patients with stress-related illnesses in a natural environment (Cervinka 2014).

The FOREST EUROPE “Expert Group on Forests and Human Health and Wellbeing“ categorises existing projects in Europe with the scope of improving health into five categories with one or more subcategories:

1. **Curative and healing forests and healing forest trails** – with activities like “forests for mindfulness and forest bathing” and “forests for outdoor recreation”.
2. **Forests for therapy and rehabilitation - treating illnesses** – with Forests for hospitals and health care, for social prescribing and in combination with wilderness therapy.
3. **Forest education providing indirect health benefits** – with outdoor educational institutions like kindergartens and schools and Forest pedagogy /Forest Related Education for Sustainable Development.
4. **Forest recreation and tourism provide indirect health benefits** – like sustainable recreation and tourism
5. **Green jobs generating additional income and investments in the forest sector** – career opportunities, for example, for forest guides, forest pedagogues and health care professional

(FOREST EUROPE, Liaison Unit Bratislava 2019).

## **International and European policies for social aspects of forests**

On a global and European level in forest policy, forests' social and cultural aspects are recognised, focusing on improving these aspects. The United Nations Strategic Plan for Forests 2017–2030, worked out by the United Nations Forum on Forests and adopted by the Social and Economic Council of the United Nations, highlights the four values of forests. These are economic, social, ecological, and cultural values. Number two of the five Global Forest Goals reach out to:

“Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people” (United Nations Forum on Forests 2017, p. 6).

This goal is dedicated to the traditional forest-related knowledge, forest-related education, training and extension, socioeconomic functions of forests, ecotourism development and new and innovative forest products (United Nations Forum on Forests 2017).

The approach of sustainable forests is to be realized. Sustainable forests aim to conserve and enhance the economic, social, ecological, and cultural values of forests to benefit present and future generations. Forests are healthy, productive, resilient, and renewable ecosystems that provide essential products and services to people worldwide (United Nations Forum on Forests 2017).

The Helsinki Resolution H1 of the 2nd Ministerial Conference on the Protection of Forests in Europe (MCPFE – now FOREST EUROPE) sets out the General Guidelines for the Sustainable Management of Forests (SFM) in Europe for the Signatory States and the European Community. In this first guideline on SFM, social aspects of forest were not considered (FOREST EUROPE 1993). The Vienna Resolution 3 of the 4th Ministerial Conference firstly addressed the social and cultural dimensions of sustainable forest management in national forest programmes and other relevant policies. The Signatory States and the European Community committed themselves to maintain and further develop the social and cultural dimensions of sustainable forest management by including them into education, research and rural development programmes, raising awareness and encouraging the conservation and management of significant historical and cultural objects and sites in forests (FOREST EUROPE 2003).

The first set of criteria and indicators was adopted in Lisbon 1998 at the 3rd Ministerial Conference on the Protection of Forests in Europe to further promote and develop sustainable forest management. The ministers endorsed the current set of updated Pan-European indicators at the 7th Ministerial Conference in Madrid 2015. There are currently six quantitative criteria and one qualitative. They reflect the most important aspects of SFM and should help assess progress on sustainable forest management. Criteria 6 “Maintenance of other socio-economic functions and conditions,” is the most relevant criteria for social aspects of forestry. With

indicator 6.10 “The use of forests and other wooded lands for recreation in terms of the right of access, provision of facilities and intensity of use” or short “Recreation in forests” the area of forests primarily designated and/or managed for public recreation, the forest roads and paths available for public recreation and other recreation facilities are assessed (FOREST EUROPE 2021). In the “State of Europe’s Forests 2020” report, most countries reported having policy objectives on the maintenance of other socio-economic functions and conditions focussing among other things, on ecosystem services, free access to forests, forest-related value chain contribution to GDP, favourable employment opportunities, forest biomass for energy production, investments in innovation and on sustainable wood consumption (FOREST EUROPE 2020). Significant challenges and obstacles related to continuing depopulation of rural areas are pressures from increasing recreation use and limited access infrastructure (FOREST EUROPE 2020).

On 14 July 2021, the European Commission published the "New EU Forest Strategy for 2030". The strategy is strongly embedded in the European Green Deal and the EU 2030 Biodiversity Strategy. Therefore, the focus lies mainly on forest protection and restoration, sustainable re- and afforestation and supports sustainable forest-based bioeconomy. In this context, the strategy promotes the social aspects of forestry like sustainable ecotourism and recreational opportunities, limiting extractive human activities in primary and old-growth forests. Therefore, the tourism industry should work in close cooperation with the forest managers. Cultural aspects should be strengthened through the involvement of the network for Europe’s natural and cultural heritage. It is suggested in the New EU Forest Strategy for 2030 to enhance the employment and entrepreneurship for services like eco-tourism and educational programmes about forest biodiversity. Therefore member states should harness the European Social Fund Plus (European Commission 2021).

## 1.2. The Austrian forest sector

Forests play a significant role in Austria's economy. They cover about 50 % of the state area. In 2013, the forestry sector contributed 1.7 % to the gross domestic product. Thereof, 0.4 % accounted for forest management, 0.7 % for wood processing and 0.6 % for the production and processing of paper and cardboard. By far, the most crucial aspect of the forestry sector in Austria is timber production. About 80 % of Austrian forests are privately owned. Half of all forest properties in Austria are smaller than 200 ha (Federal Ministry for Sustainability and Tourism 2015b).

Hogl et al. (2005) categorise forest owners into three groups. The first group is the traditional forest owners with farmers, forest owners, and Part-time farmers, who make up about 40% of all forest owners. The transition types with small-town dwellers with an agricultural

background and job takers make up about 28%. And the new forest owners with farm dropouts, urban forest owners and offshore forest owners make up about 32% (Hogl et al. 2005). About 30% of the forest owners also work full- or part-time, aside from agriculture and forestry. Many of these people have to take large distances to their workplaces (Federal Ministry for Sustainability and Tourism 2015a).

According to Eurostat (2010), 72.2% of Austria's land area is predominantly rural at NUTS (Nomenclature of Territorial Units for Statistics) 3 level, which refers to the size of groups of districts. However, in OECD methodology in the same NUTS classification, 78,5% of the land area of Austria is predominantly rural (Eurostat 2010).

The Austrian Forest Act of 1975 defines four forest's functions. These functions are a) the productive effect, i.e., in particular, the economically sustainable production of wood as a raw material, b) the protective effect, i.e., protecting against elementary risks and harmful environmental influences as well as maintaining the resistance of the soil against rainwash and drift, scree-formation and landslips, c) the beneficial effect, i.e. the influence on the environment, especially on the balance of the climate and the water regime, on the purification and renewal of air and water, d) the recreational effect, i.e., in particular, the effect of the forest as recreational areas on those visiting forests (§6 Article 2a-d Austrian Federal Forest Act). Thus, the legal right of the public to enter forests for recreational purposes is set here. Conflicts resolve from different needs of users in the forest. Forest spatial planning, consolidated in the Austrian Federal Forest Act, tries to fix these problems. The three most essential planning instruments are the forest development plan, the hazard zone plan and the forest sector plan (§8 Article 2a-c Austrian Federal Forest Act). Is there a high public interest to promote the recreational aspects of forests near the metropolitan area, or for touristic purposes, forests can be declared by law as a recreational forest in the forest development plan (§36 Article 1-3 Austrian Federal Forest Act).

The Austrian Forest Strategy is the starting point and orientation for Austrian forest policy. The field of action "Society and Economic Aspects of Austrian Forests" of the Forest Strategy defines strategic objectives on the topic of the health effects of forests and provides suggestions for strategic measures. These include, for example, raising awareness of the health effects of forests, balancing the interests of forest owners and social groups, and health programmes at all levels (Federal Ministry for Sustainability and Tourism 2018b).

The interest in the health effects of forests is present in Austrian society. It is foreseeable that the flow of visitors to the forest will continue to grow in the coming years. Without the active involvement of forestry, conflicts with forest visitors are foreseeable. Uncontrolled visitor flows pose a high risk to disturb the forest ecosystem (Reimoser 2012).



According to a comprehensive forestry innovation study in Austria from Rametsteiner and Kubeczko (2003), very little focus has been put on other potential economic prospects aside from timber production, such as non-wood forest products and forest capacity health and recreational services. Hardly any entrepreneurialism is found among small scale forest owners in Austria, besides the founding of forest management cooperations. Most big forest enterprises are described as companies, which seek more industrialised possibilities. The most common start-up activity is found within the bioenergy sector (Rametsteiner and Kubeczko 2003). Timber production in the past was seen as the only economic valuable function of forests. The wake theory (original in German: “Kielwassertheorie”) stated that all other functions of forests are provided in the wake of the timber production. Glück (1982) showed that this claim of the wake "theory" is low or not justified.

### 1.3.Social aspects of forestry in Austria

Besides the legal requirement to manage the forests sustainably, small-scale farms and forests owned by families kept the enormous cultural heritage in Austria intact by providing and shaping landscapes. The rich historical and cultural heritage, together with the beautiful landscapes, serves as an essential foundation for the tourism and leisure industry. These two sectors are of vital importance for the Austrian economy (FOREST EUROPE 2005).

Stadler et al. (2020) describe the development of activities in the social areas in forestry in Austria, their institutions, and the emerge of the policy programme Green Care Forest <sup>1</sup>(GCF). Forest Pedagogics (FP) was the first institutionalized social activity in forestry in 1994. The development was strongly supported by the former Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW). The goal of FP is to educate communities about the forest environment and promote sustainable forestry. Forest and Culture (F&C) was initiated in 2003, promoting the cultural aspects of forests. Forest and Tourism (F&T) started in 2007 as the working series “destination forest” (Destination Wald). Touristic activities were developed in cooperation between the former BMLFUW and the University of Natural Resources and Life Sciences Vienna (BOKU). As the last of the four pillars, Forest and Health (F&H) started in 2011. It promotes and develops the health aspects of forests. All four social activities in forests were combined under the GCF programme. The programme was officially initiated in 2014 as an initiative of the former BMLFUW (Stadler et al. 2020).

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<sup>1</sup> The original name of the policy programme is “Green Care Wald”. Because it is a proper name there is no official translation into English. Nonetheless in this thesis the term “Green Care Forest”, short GCF is used due to better readability and understanding.

GCF should help forest enterprises and other companies diversify their social competencies, creating new sources of income. The programme is still located in the Federal Ministry. The BFW is advised to carry out and coordinate activities, especially in the F&H pillar and function like a contact point for GCF (Stadler et al. 2020).

Other research done on GCF is the bachelor thesis by Brüstle et al. (2018). They described the development of GCF in a general way and gave a rough overview of the connections between the different pillars of the programme and how they originated. They focus on the perception of teachers in Vienna on pedagogical offers in FP and GCF. One outcome was that the term GCF is unknown by almost every teacher, but there was a high level of interest in forest pedagogical offers and their implementation in schools (Brüstle et al. 2018)

A master thesis focusing on the health aspects of forests in Austria was done by Laubreiter (2019). The thesis aimed to explain the area of “forest and health” from the perspective of the Austrian Forestry to develop concepts to define the next steps on this topic actively. The study concludes that forestry actors and society perceive the subject “Forest and Health” differently. Foresters and forest owners are reacting cautiously to green care activities. They are associated with the recreational function of forests, and economic added value is currently not seen by this group (Laubreiter 2019).

The romanticism of forests often opposes the economical use of wood. Especially near cities felling of trees can lead to conflicts with the residents. More visitors in the forest makes it also harder for forest owners to cope with their legal responsibilities. Intensified security measures and increased control walks are often the consequence. The tension between forest owners and forest visitors was highlighted as forest owners have to live from their earnings, but forest visitors mostly want to experience untouched nature (Laubreiter 2019).

The experts from the forestry sector suggested the establishment of a “forest and health” brand, using professional visitor monitoring, developing product innovations, using digitalization, and developing integrated forest management as strategic measures to actively develop this topic (Laubreiter 2019).

Laubreiter (2019) concluded from their interviews that there is low recognition of society regarding the services provided by forest owners. She, therefore, stresses more mutual respect or understanding between the forest sector and the civil society is needed (Laubreiter 2019).

#### 1.4. Background of the thesis

This thesis contributed to the European research project Social Innovation in Marginalised Rural Areas (SIMRA). Definitions and methods were adopted from the project for this thesis.

This Master's thesis within the conceptual framework of the project did a detailed case study, in addition to the SIMRA case studies, with a specific focus on policy analysis. SIMRA was funded by the European Union's Horizon 2020 research and innovation programme. The overarching objective of the research project is to fill the significant knowledge gap in understanding and enhancing social innovation in marginalised rural areas. In this project, the state-of-the-art in social innovation and connected governance mechanisms in agriculture and forestry sectors and rural development, in general, are developed further (Social Innovation in Marginalised Rural Areas 2019).

“SIMRA seeks to advance understanding of social innovation and innovative governance in agriculture, forestry and rural development, and how to boost them, particularly in marginalised rural areas across Europe, with a focus on the Mediterranean region (including non-EU) where there is limited evidence of outcomes and supporting conditions” (SIMRA 2019b).

Social innovation is seen as a process to find new solutions to problems, especially in marginalised rural areas. In this process, social arrangements or networks are created between diverse actors, including civil society. New institutions or governance arrangements may be designed to enhance the development outcomes (SIMRA 2019a).

During the SIMRA project, new patterns of cooperation, co-construction and collaborative learning are developed, contributing to science, policymaking, and direct operational impacts on the ground. In addition, the project focused on ensuring that the research outcomes are brought to policy formation at all scales (SIMRA 2019a).

## 1.5. Research Questions

Following the international but foremost European development in the forest sector, the economic use of the resource wood will play a significant role in forestry in the future. Emerging are the social aspects of forestry coming more and more into the spotlight of Europeans. As described in the introduction, the possibility for forest owners to earn an income from social activities in forests is becoming more visible. Austria has already for several years promoted these activities. That was also suspect to studies and other publications in the past. Recent research also focused on the development of the policy programme GCF, like Brüstle et al. (2018), Laubreyter (2019) and Stadler et al. (2020). However, a comprehensive overview and analysis of the development of GCF in the four programmes are missing so far.

The goal of this master thesis is to find out **if and how the policy programme Green Care Forest supports social innovation in the Austrian forestry sector**. In the SIMRA project, a comprehensive definition of social innovation was developed and will be used for this thesis. SI is here defined as:

“The reconfiguring of social practices, in response to societal challenges, which seeks to enhance outcomes on societal well-being and necessarily includes the engagement of civil society actors” (Polman et al. 2017, p. 4).

The research questions of this thesis are the following:

- How did the Austrian policy programme Green Care Forest originate, and which institutions and organizations are involved?
- Which resources are used, and what were the supporting and hindering factors in the development of Green Care Forest?
- How does Green Care Forest support projects carrying out social activities in forests?

## 2. Methodology and Methods

### 2.1. Methodology

This study aims to understand better how the policy programme GCF is strengthening the social innovation initiatives emerging in social forestry. Therefore, a qualitative approach was chosen to understand better the policy formulation and implementation processes. For this purpose, policy documents are analysed the relevant actors were interviewed to understand their intention and motivation for why they act in a certain way (Kalof et al. 2010).

In this study, inductive and deductive approaches are combined for analyzing the policy programme GCF as a case study of a policy programme to support social innovations. A case study approach is suitable to gain an in-depth understanding of a case (Eisenhardt, K., Graebner, M. 2007). A single case study approach, where conclusions are drawn from one context, is used. Looking at the scope of a case study, it is

“An empirical inquiry that investigates a contemporary phenomenon in depth and within its real world context, especially when phenomenon may be context-dependent” (Yin 2010, p. 18).

This approach is used to address specific methodological challenges. A case study

“copes with distinct situation in which there will be many more variables of interest than data points and thus relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as a result, benefits from the prior development of theoretical propositions to guide data collection and analysis” (Yin 2010, p. 18).

An inductive approach is used to create a theory from collected data (Eisenhardt, K., Graebner, M. 2007). Then, after a deep insight into the case study is achieved, the factors promoting social innovation and the patterns in the triad of actors, as postulated by Lukesch et al. (2020), are discussed in the deductive part.

Interviews were used to investigate the case study and projects connected to the programme, allowing to go in-depth and ask clarifying follow-up questions if needed and allowing the emergence of unpredicted topics (Adams 2015). To gain insights into the topic of GCF, a content analysis of policy documents and other information material was conducted (Lacy et al. 2015).

## 2.2. Policy analysis

The analysis of the case study follows a policy analysis approach. Policy analysis is described as the process of systematic investigation of policies. This analysis can be done ex-post about the implementation and impact of an existing policy or ex-ante about options for a new policy (Weimer and Vining 2017). These two types of analysis can be used complementary and are often applied together. In this thesis, the analysis was done ex-post. A policy analysis aims to enable the choice of a sound policy and implement improvements (Ukeles 1977). This study follows the suggestion of Knoefel et al. (2010) to highlight actors, their resources, and the institutional context as crucial elements for policy analysis.

A commonly used concept for analysing policy processes is the policy cycle (Bandelow 2003), which is used as a model to show the different stages of a policy programme: problem definition, agenda-setting, policy formulation, policy implementation, policy evaluation, and policy termination (Bandelow 2003). This study focuses on the formulation stage of the GCF programme within research question 1 and the implementation stage of the GCF programme within research questions 2 and 3.

Kevenhörster (2008) describes a public policy as the actions governments choose to do or not to do. Therefore every implementation of political action is called a public policy perspective, including each rejected alternatives selected from the government and parliament and carried out by the administration (Kevenhörster 2008). The analysis of a public policy as the dependent variable is explained by polity and politics as independent, explanatory variables (Schubert and Bandelow 2009).

Polity describes the political and institutional framework structures (Kevenhörster 2008). These structures are analysed for the policy formulation stage within research question 1 and the policy implementation stage within research question 2 in the context of the policy cycle. From the set of different policy resources described by Knoepfel et al. (2010), law, personnel, money, information, consensus are used for describing and analysing the case study. Other resources, such as force, organization, time, infrastructure, and political support, are not explicitly described in this thesis. They were considered less relevant for describing the case study or combined with other resources. Knoepfel et al. (2010) argue that all of the different policy resources may be used in the policy process (Knoepfel et al. 2010).

Actors within GCF were identified and illustrated in an actors mapping. This actors map was split into three levels, macro, meso and micro. At the macro level, all institutions leading and coordinating the policy programme are arranged. On the meso level, all institutions that emerged within, supporting, or working with GCF are mapped. At the micro-level, all projects working within the field or projects supported by the programme are mapped. To identify these

projects, a web search with the search engine Google was conducted. The keywords for this search were taken from already categorized projects on the BFW webpage and other already known projects. Three projects were named by representatives of the GCF to be supported by the programme within the case study. As part of the implementation analysis, these three SI projects shown in Table 1 were analysed in more detail in the form of project case studies (PCS). Due to the short implementation period of PCS 3, no interviews with the project initiator were conducted. Therefore, in-depth insights, in this case, are partly missing. However, relevant information about this case came from interviews with representatives within the case study.

*Table 1: Overview of selected projects case studies Source: own illustration.*

| Project Case Study and Carrier                                    | Promoter     | Location           | Characterization of the Social Innovation                           |
|---|--------------|--------------------|---|
| Therapeutic walks at Special Institute for Rehabilitation Villach | FAST Ossiach | Villach<br>Austria | Rehabilitation centre using forest pedagogics as a treatment method |
| Forest health trail at the Nature Park Geras                      | BFW          | Geras<br>Austria   | Regional development initiative implementing a forest health trail  |
| Addiction therapy at Anton Proksch Institute                      | BFW          | Vienna<br>Austria  | Addiction clinic using forest pedagogics as a treatment method      |

The triadic configuration from Lukesch et al. (2020) was used for the PCS in connection to the overall policy case study. This model helps to evaluate the constellation and relationships between:

“(i) a committed core of key actors, (ii) the benevolent shadow of hierarchy represented by public actors, and (iii) multifunctional and malleable intermediary support structures for a successful development of social innovation initiatives” (Lukesch et al. 2020).

Politics describes the processes of the implementation of a policy (Kevenhörster 2008). In the light of research question 3, these processes are categorised in and discussed within the context of the three kinds of instruments for a policy to be implemented: (i) legal policy instruments, (ii) monetary policy instruments and (iii) informational policy instruments (Ludvig et al. 2017).

### 2.3.Document analysis

Relevant documents were searched on websites and folders of the Federal Ministry of Agriculture, Regions and Tourism (BMLRT, before 2020 Federal Ministry of Sustainability and Tourism, before 2018 Federal Ministry of Agriculture, Forestry, Environment and Water Management), the Austrian Research Centre for Forests (BFW), Forest Training Centres (Forstliche Ausbildungsstätten FAST), the University of Natural Resources and Life Science, Vienna (BOKU) and other relevant organisations. Moreover, scientific literature, articles in forest-related newspapers and magazines were searched for GCF related topics.

### 2.4.Expert interviews

In total, eleven semi-structured, face to face interviews were conducted. Some of them were employees of the Federal Ministry of Agriculture, Regions and Tourism (BMLRT), the BFW and the FASTs Orth and Ossiach. The interview partners were experts in Forest Pedagogics (FP), Forest and Culture (F&C), Forest and Tourism (F&T), Forest and Health (F&H) and Green Care Forest (GCF), researchers in green care (GC) or innovators of related projects as shown in Table 2. The interviews aimed to get a better insight into the GCF programme. All interviews were carried out in German and therefore had to be partly translated into English.

*Table 2: Overview of conducted interviews Source: own illustration.*

| Interview Nr. | Field of expertise        | Date       |
|---------------|---------------------------|------------|
| INT 01        | Researcher in GC/GCF      | 25.04.2018 |
| INT 02        | Expert in FP, F&C and F&T | 22.05.2018 |
| INT 03        | Expert in FP              | 26.05.2018 |
| INT 04        | Researcher in GC/GCF      | 12.06.2018 |
| INT 05        | Expert in FP, F&T and F&H | 19.06.2018 |
| INT 06        | Expert in FP and F&C      | 20.06.2018 |



|        |   |            |
|--------|---|------------|
| INT 07 | Expert in FP, F&C and F&H                 | 22.06.2018 |
| INT 08 | Expert working in GCF                     | 23.01.2019 |
| INT 09 | 2 Experts working in GCF                  | 29.01.2019 |
| INT 10 | Innovator “Recreation Trail Geras”        | 16.01.2019 |
| INT 11 | Innovator “Rehabilitation centre Villach” | 17.01.2019 |

The qualitative research approach described by Flick (2007) was applied for conducting the interviews. Within the SIMRA project, two interview guidelines had been developed, tested and used for similar case studies (Secco et al. 2017). They were also adapted for this research. One guideline was designed for policy experts and experts involved in the SI case studies. The main topics of these interviews were the interview partner's role in the SI project, the type of support provided by the organization to the projects, the core businesses of the programme/project, and major successes. The second interview guideline was designed for innovators or other persons involved in the innovation process. The main topics for these interviews were: the role of the interview partner in the project, the project's development, actors involved, resources such as the information needed, financial issues, cooperation's, political support, core businesses of the project and successes. The interview guidelines were adapted to every interview regarding the specific role of the interview partner in the GCF programme or projects, interviewees prior knowledge, and related tailored questions.

## 2.5. Analysis of interviews

All interviews were recorded, transcribed, and anonymised. All statements from the interviews were organised into categories in an analytical reporting document provided by the SIMRA project. Categorised statements were then compared with the statements of the other interview partners. The categories developed were adapted to the research questions according to Mayring (2010). The main contents of every interview were reported in a document provided by SIMRA (Tool 9). At the same time, this document works as a first content analysis. The first research question, the development of the GCF programme, is addressed at the beginning of the results section of this thesis. For the second, all resources used in the GCF programme are analysed. Regarding the third, projects supported or financed through the GCF programme are examined.

## 3. Conceptual approach

### 3.1. Green care

#### **Definition of green care**

Green care (GC) generally describes the use of natural elements to obtain health, social and educational benefits (Hine et al. 2008). Moreover, the term sums up various health protection and health promotion interventions with the help of animals, plants, and nature within many target groups. To be just in contact with nature without any intervention is not understood as green care. (Haubenhofer et al. 2010). GC is seen as:

“an overall concept that aims to restore peoples alienation from nature in general and to promote the general state of health in the physical, mental, coordinative and cognitive spheres through the effects of nature” (Wiesinger 2011, p. 6 - translated by the author).

Green care can always be seen as establishing a link between two sectors:

„Green care links aspects of the traditional health care systems to agriculture (care farming), ... Thus, green care creates a link between sectors that were not formerly linked, and therefore creates new benefits for all sectors involved. In doing so, green care may sometimes be particularly linked to one sector, depending on the type and practical application. It can be seen as a system of interdisciplinary innovation“ (Haubenhofer et al. 2010, p. 107).

The activity does not necessarily have to take place in nature. However, GC needs a connection to natural elements, such as plants or animals. Implementation can be carried out in health and care facilities. Significant for GC activities is an affinity to nature (Haubenhofer et al. 2010).

GC is understood differently in each country of Europe, and these differences relate to the diverse activities deemed GC, how they are financed, and their goals and target groups. Such diversities are justified according to the cultural diversity and the variances in the structures of the health, social, and education systems (Haubenhofer et al. 2010).

#### **Origin of green care in Europe and Austria**

The concept of GC was established in the framework of the “European Cooperation COST Action 866: Green Care in Agriculture”. The COST Action began in 2006 and ended in 2010, with expert contributions from 22 countries (Wiesinger 2011). In a COST action, leading scientists drive science and research forward by exchanging ideas, experience, and cooperation. The result of a COST action is always to define clear goals and activities in a memorandum of understanding (Wiesinger 2011). The primary goal in the Memorandum of Understanding of the COST action 866 was to spread the scientifically proven knowledge about the possibilities

of the implementation of GC in the agricultural sector. Creating an interdisciplinary scientific network and an international research agenda were secondary goals (Wiesinger 2011).

Until 2006 the term green care was unknown in Austria. However, 200 to 300 facilities and projects conducted activities that could be summarized under green care. Peasant families and households were the main organisational structure of these tiny care centres (Wiesinger et al. 2006). In addition, training in animal-assisted therapy and garden therapy was developed in the following years (Wiesinger 2011).

In 2014 the ARGE Green Care Österreich was founded as a network of stakeholders from the agricultural, educational, health, social and economic sectors. Later in 2015, the association Green Care Österreich was founded as a nationwide competence network to which all nine Chambers of Agriculture belong. The main tasks of this association are to raise awareness, develop offers, connect partners, provide skills and competencies and ensure quality through its own certification programme (Ländliches Fortbildungsinstitut Niederösterreich in Kooperation mit Green Care Österreich 2021). Green Care Österreich differentiate offers in hindsight to the age and circumstances of the target audience in four categories. In that respect, they distinguish between the farm as a working-, health-, education- and living place (original in German: Arbeits-, Gesundheits-, Bildungs- und Lebensort Bauernhof.) (Green Care Österreich 2017).

Austria's strategic orientation for green care was developed jointly with 24 stakeholders from agriculture, education, health, social services and business, health, social and economic sectors. The driving forces behind implementing the strategy are the partnership ARGE Green Care Österreich and the association Green Care Österreich (Green Care Österreich 2015). The strategy focuses on awareness-raising of the economic added value of green care for the Austrian society. Further, the focus is on developing high-quality green care products and services and implementing certification criteria to secure legal framework conditions for green care offers and provide a platform for exchange and networking on the topic of green care (Green Care Österreich 2015). In this thesis, the implementation and development of GCF will be analysed.

## 3.2. Social innovation

### Definition

Innovation, in general, is defined very differently in literature (Edquist and Johnson 1997). The economist Schumpeter (1883 – 1950) was one of the first to study innovation, named five types of innovations: new products, new methods of production, new sources of supply, the exploitation of new markets, and new ways to organize business (Schumpeter 1934). A similar

broad understanding of innovations found its way into practice in 2005 by the OECD. Every innovation must contain a degree of novelty, which can be new to the firm, new to the sector or market or new to the world (OECD 2005).

Innovation research in the past focused on firms with product and process innovations for an extended period. Nowadays, the crucial role of relationships between firms and social actors and institutions is increasingly considered as they can support or hinder firms' operations (Weiss et al. 2021).

In literature, a vast number of definitions of SI are postulated. Polman et al. (2017) gave an overview of these definitions from 2005 to 2016. Neumeier et al. (2012) highlighted the broad and inconsistent range of meanings – descriptive, heuristic, voluntaristic or normative, resulting from the different ways of defining social innovations (Neumeier 2012).

Characteristics of SI that are often named are, e.g., the involvement of a group of people (Polman et al. 2017). The idea is new, or a new combination, or hybrids, of existing elements (Mulgan et al. 2007). SI create value for society responding to social problems (Murray et al. 2010). SI has different stages, from an idea to a pilot project to a stable initiative and eventually creates a system change (Polman et al., 2017). SI does not necessarily imply a non-profit orientation. SI can have an economic aspiration (Saul 2011), but profit maximisation is not the core motivation (Mulgan 2006).

Polman et al. (2017) used the different existing definitions as a starting point to analyse the key themes of these definitions and, in a reconstruction process, develop a definition useable for researchers and policymakers to delimit the field of SI in marginalized rural areas (Polman et al. 2017). For use in the SIMRA project, which is also used in this thesis, they define social innovation as follows:

“The reconfiguring of social practices, in response to societal challenges, which seeks to enhance outcomes on societal well-being and necessarily includes the engagement of civil society actors“ (Polman et al., 2017, p.12).

### **Stages of social innovation**

Garud et al. (2013) divide the social innovation process into three phases: invention, development, and implementation. Oeij et al. (2019) highlighted that the process of social innovation is not linear, which makes a social innovation unpredictable and unique. The delimitation between these three phases in social innovation was described (van de Ven et al. 2008). First, the idea is slowly evolving in the invention period. Coincidences trigger the concentration of the efforts and the planning to obtain resources. Second, in the development period, efforts are made to bring the ideas into reality. Complex interactions and activities

characterize this period. Finally, in the implementation period, the idea is either abandoned or institutionalized in an ongoing programme or business. With institutionalizing, the project can scale up or not. If so, it becomes a sustainable social practice of the system itself. If not, the project serves the target group but does not achieve dissemination of wider social/societal change (Howaldt and Hochgerner 2018; Oeij et al. 2019).

A SI that is long-lasting and proof to succeed over time is referred to as a sustainable project. However, long lastingness does not necessarily mean the SI have to offshoot or spread (Buckland and Murillo 2017). The spreading of a SI is often referred to as scalability (Carvache-Franco et al. 2018). According to Carvache-Franco et al. (2018) and Buckland and Murillo (2017), scalability is seen synonym with replicability meaning the potential to replicate the SI in another place in different circumstances. Whether a SI can be considered successful depends not on the scalability but the sustainability, especially in economic sustainability (Buckland and Murillo 2017). Factors that make SI in rural development successful were grouped by Neumeier (2017) into three tiers:

1. factors important for the success of the overall innovation process;
2. factors influencing the room to manoeuvre for the social innovation actor's network;
3. factors influencing the actual participation process.

In this study, the second factor, the “room to manoeuvre”, is of particular relevance. This factor explicitly shapes rural development initiatives and programmes and, therefore, directly supports social innovation development. Moreover, this factor is politically directly controllable and goes beyond the actor's responsibility involved in the participation process (Neumeier 2017). These external determining factors can be advantageous or disadvantageous and are:

- funding;
- readiness of public administration to get involved;
- organizational structure;
- judicial conditions to which a rural development process is subjected.

(Neumeier 2017)

Ludvig et al. (2018) report that social innovations are seen as an alternative to policies significantly when cuts to public spending occur during an economic crisis and a crisis of the social support system. However, social innovations do not have the resources and the function to replace policies. Policies should support the emergence of SI as they, in return, improve social well-being where it lacks (Ludvig et al. 2018).

Weiss et al. (2021) conclude from recent innovation research in the forest sector that SI brings various activities in the service-based sector and can therefore be a valuable tool for local and regional economic development. In addition, SI contributes to public policy formulation

through its non-hierarchical processes of governing, in which various non-state and civil society actors and private corporations participate (Weiss et al. 2021).

Ludvig et al. (2018) identified three key types of policies that touch upon SI and/or have at least some potential to support SI:

1. Policies that target vulnerable groups in society like youth, migrants, elderly, unemployed, single mothers, socially excluded people and others
2. Policies that target societal challenges in integrated regional and rural development. Land-flight, unemployment, or lack of infrastructure
3. Policies that target societal participation, institutional change and inclusion of civil society actors (Ludvig et al. 2018, p. 148)

Ludvig et al. (2018) categorized the topic of green care on the EU level and programme Green Care Forest on a national level into type 1 - “Support for vulnerable social groups: The policy supports SI that addresses social needs through forestry services”. It is concluded that within “Green Care Forest”, new ideas for forest-based products and services, including non-timber forest products, are developed:

“In Austria, it is a policy programme that encourages forest owners and managers to emphasize the social aspects of their forests and open them for social initiatives, projects and engagement.” (Ludvig et al. 2018).

### 3.3. The role of policy in social innovation

According to the study by Ludvig et al. (2017), public policies can foster SI. These can be done through different forms of support from policy measures such as:

1. normative or regulatory
2. monetary (financial subventions, special loans, tax reduction, project funding)
3. material inputs (in kind, such as land, infrastructure, equipment)
4. informational (coherence of arguments, publication, training, knowledge transfer, coaching, mentoring)
5. networking (peer-to-peer-actions, exposure trips, twinning, mentoring) (Ludvig et al. 2018).

To better understand and correctly describe the policy support of GCF, it is essential to know the broader scope of EU, national and regional policies are needed. Ludvig et al. (2017) describe seven policies and policy instruments for SIs in rural areas within the EU and on a national and regional level. They mainly provide support on a monetary level but in some cases also through other measures.

On a European level, the European Structural and Investment Funds is the basis and common framework of the EU Cohesion Policy. It is denoted as “the promoter of SI” by the European

Public Policy Advisor. Within the European Structural and Investment Funds, there are three central funding schemes for SI. These are the European Social Fund, the European Regional Development Fund and the European Agricultural Fund for Rural Development, according to the Bureau of European Policy (2014) (as cited in Ludvig et al. 2017).

In the EU, there are over 118 Rural Development Programmes, which cover an entire nation or a specific region. The budget for these Rural Development Programmes comes from the European Agricultural Fund for Rural Development. Member states use this EU-policy tool and funding mechanism to support the rural development needed in the designated territories. Actions are funded by the member states associated with the themes/axes of EU rural development policy in the respective period. The LEADER, rural development method, is also included (Ludvig et al. 2017)

The aim of the LEADER programme is the support of the inclusion of civil society at large. Looking at the SI potential of the LEADER programme, difficulties arose in areas with no history of collective action. Missing networks and a lack of knowledge brokers are found by Dargan and Shucksmith (2008) as internal limitations. Ludvig et al. (2017) summarize critical findings of the Leader programme from their interviews as that the system is very complex with a heavy bureaucratic delivery system. Also, in some Leader Action Groups, a lack of resources to stimulate participation has been identified where dedicated funds for expert coaching in social involvement and management would be needed. Also, positive examples were reported, for instance, in the Tyrol in Austria. It was concluded that:

“It appears to be the most important policy instrument with regard to social innovation and rural development. Moreover, because it is a bottom-up regional and rural development method, with strong emphasis on the inclusion of civil society actors it partially maps onto the SIMRA conceptualisation of SI” (Ludvig et al. 2017, p. 11).

Another EU-policy tool is the European Innovation Partnerships. They are for developing research and innovation actions in addressing societal challenges and enhancing Europe's competitiveness. In Austria, there are only seven projects in technical innovations in the agricultural sector funded. In other European countries, there are even less funded projects (Ludvig et al. 2017).

INTERREG Europe aims to support innovation in regional and local governments. It has been running for 25 years and comprises a set of five main programmes which aim to stimulate cooperation between regions in the European Union. It is funded by the European Regional Development Fund. There are five funding categories within INTERREG: Research and Innovation, SME competitiveness, Low-carbon economy, and Environment and resource efficiency. Ludvig et al. (2017) highlight the potential to foster SI through these funding

schemes. Furthermore, the impact of funding can be improved through decentralization if it can close the gap between decisions and the people affected. In this light, decentralization policies, especially local, can foster SI (Ludvig et al. 2017).

The EU Member States are obliged to develop a Research and Innovation Strategy for Smart Specialisation under the current period of the European Structural and Investment Funds. They have to identify niche areas of competitive strength, solve significant societal challenges, and emphasise greater coordination between different societal stakeholders and alignment of resources and strategies between private and public actors at varying levels of governance (Ludvig et al. 2017).

Policies on national and regional levels can also have a substantial impact on the development of SI initiatives. In Austria, the Austrian Chambers of Agriculture falls under this category, even if it is not seen as a policy. This programme provides information and assistance, and there is a certification system for participating farms (Ludvig et al. 2017).

Private institutions exist which provide funding in size comparable to nation-states. The own policies of these institutions have the potential to make a significant change where they invest (Ludvig et al. 2017).

Lukesch et al. (2020) developed the model of a "Triad of Actors" as an analysis tool. This model helps to highlight the main elements of an SI with their connectedness, and mutual relationships can be highlighted. The model aims to help to understand better and get more consistent results for policy recommendations from case studies. This model focuses on three critical groups of actors that have central roles and interrelations in the social innovation process. The strength of these actors and the quality of their cooperation significantly determine the success of SI. In a concurrent "triad of actors", the cooperation system of social innovators and policymakers has improved resilience and dynamic (Lukesch et al. 2020).



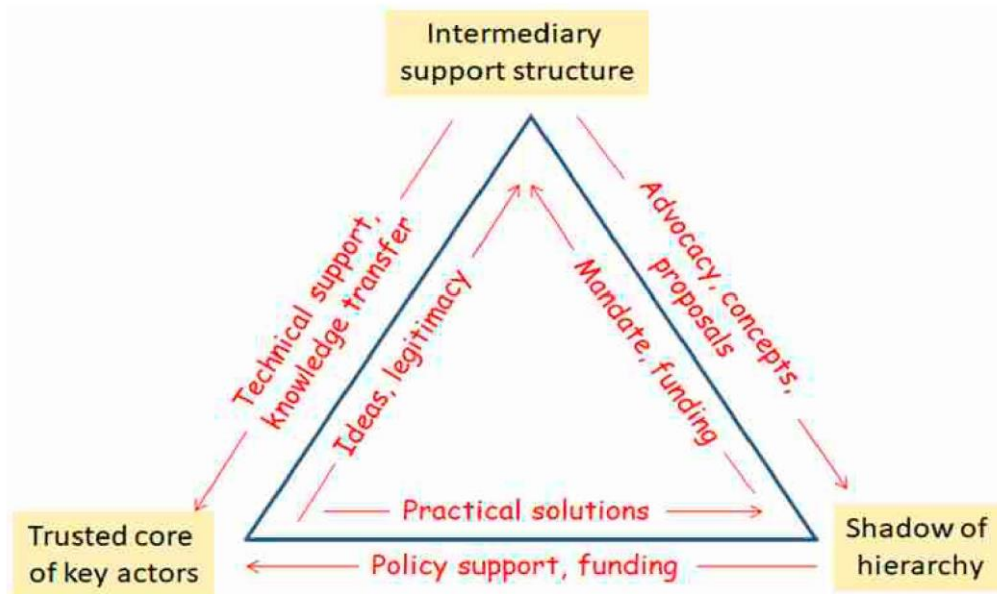


Figure 1: The triad of actors in social innovation Source:(Lukesch et al. 2020, p. 8)

The trusted core of key actors are the individual promoters of the SI. Besides their capabilities and motivational strengths, trust between each other and a broader network is essential (Lukesch et al. 2020).

Intermediary support structures are the third figure between the “bottom-up” and “top-down”. They are embedded in the ambient institutional fabric and stabilise but also give a dynamic to the interactions. They provide thematic, functional, or territorial support to SI and are often “third sector agencies or structures”. Their support may consist of acquiring and transferring funding, training, and other forms of knowledge provision, coaching and mentoring, networking, and lobbying in one or more of these areas. They can also be part of the innovation themselves. They can function as a protective shell to the outside and as service providers to the inside. For example, education -, research-, and training centres may help to transfer knowledge and facilitate dialogue. In complex situations, intermediary structures may help to develop new ways of problem-solving. They can be initiated “top-down” as implementing bodies for state support structures in specific sectors or “bottom-up” as umbrella or lobbying organizations. As an intermediary body, they link and translate between the local initiatives and the policy (Lukesch et al. 2020).

The benevolent “shadow of hierarchy” is an essential driver of success when relevant public actors at least tolerate, if not actively encourage SI initiatives. Therefore, this “shadow of hierarchy” uses different mechanisms involving legislative inducements and sanctions, encouragement, and control. Public actors present at or actively supporting SI conveys the benediction of the SI to the society as a whole. Public influence can range from a passive involvement in long-term contractual relationships to legally binding public-private-civic

governance arrangements. Trust plays a crucial role among the people involved and in institutions (Lukesch et al. 2020).

SI and policies can be arranged in mutual relationships and interdependencies. However, this arrangement varies across cases and may change over time. Lukesch et al. (2020) summarized the main hindering and furthering influences from policies and political frameworks on SI analyzed in the SIMRA project (Lukesch et al. 2020).

Hindering factors on SI (Lukesch et al. 2020):

- resistance from established actors
- lack of inclusiveness of the political-institutional environment
- suppression or hindering by existing political frameworks and policies
- regulations that ignore or do not allow other forms of delivery of products or services
- divisions between policy departments, sector policies, and silo thinking
- lack of openness and willingness towards risk-taking of public officials
- cross-sectoral coordination or integration of policy goals and political measures between departmental
- the long-term character of social innovation is disregarded because of short-term political priorities and signals
- complex impact evaluations for long term impacts
- changes through SI gain ground over a more extended period and are then not perceived as new
- absence of political goodwill
- lack of financial resources and access to relevant knowledge

Furthering Factors on SI (Lukesch et al. 2020)

- constitutional provisions
- legislation on co-operatives and non-profit associations
- regulations on Environmental Impact Assessment
- rural proofing
- delegation of powers to local communities
- state regulations and supportive policies on decentralized and community-based energy provision
- policy niches, such as communal land ownership and resource
- improvements in the basic infrastructure as well as specific support activities for knowledge exchange, capacity building, participatory regional development, and social initiatives

- Investments into opportunity structures like physical and virtual education facilities, third sector employment opportunities, regional and local development hubs and agencies, IT connectivity, technology centres, business incubators, co-working spaces, and advisory and information services
- Community-based development bodies such as a regional development association or trust
- cross-sectoral support instruments like EU CLLD/LEADER
- Policies that offer participation opportunities for stakeholder and citizen engagement
- the participation of civil society outcome groups and organizations

## 4. Results

### 4.1. Development of Green Care Forest in Austria

The policy programme Green Care Forest (GCF) was implemented in 2014 by the former Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW). All four existing programmes promoting social activities in forests, namely Forest Pedagogics (FP), Forest and Culture (F&C), Forest and Tourism (F&T) and Forest and Health (T&H), were merged into the umbrella concept of GCF. The development of these four programmes and the policy programme GCF are described in figure 2. It is differentiated between a latent and the active phase. This differentiation was done by the author. The latent phase describes when a specific topic is discussed and is worked on outside the ministerial structures or prepared at the Federal Ministry responsible for forestry (BMLFUW, renamed in BMNT after 2018, renamed in BMLRT after 2020) or the BFW. In F&T, information was missing to define the start of the latent phase. In the active Phase, studies or handbooks were published, workshops, conferences were conducted, or certification courses were held by representatives of the same institutions.

### 4 Programmes of Green Care Forest

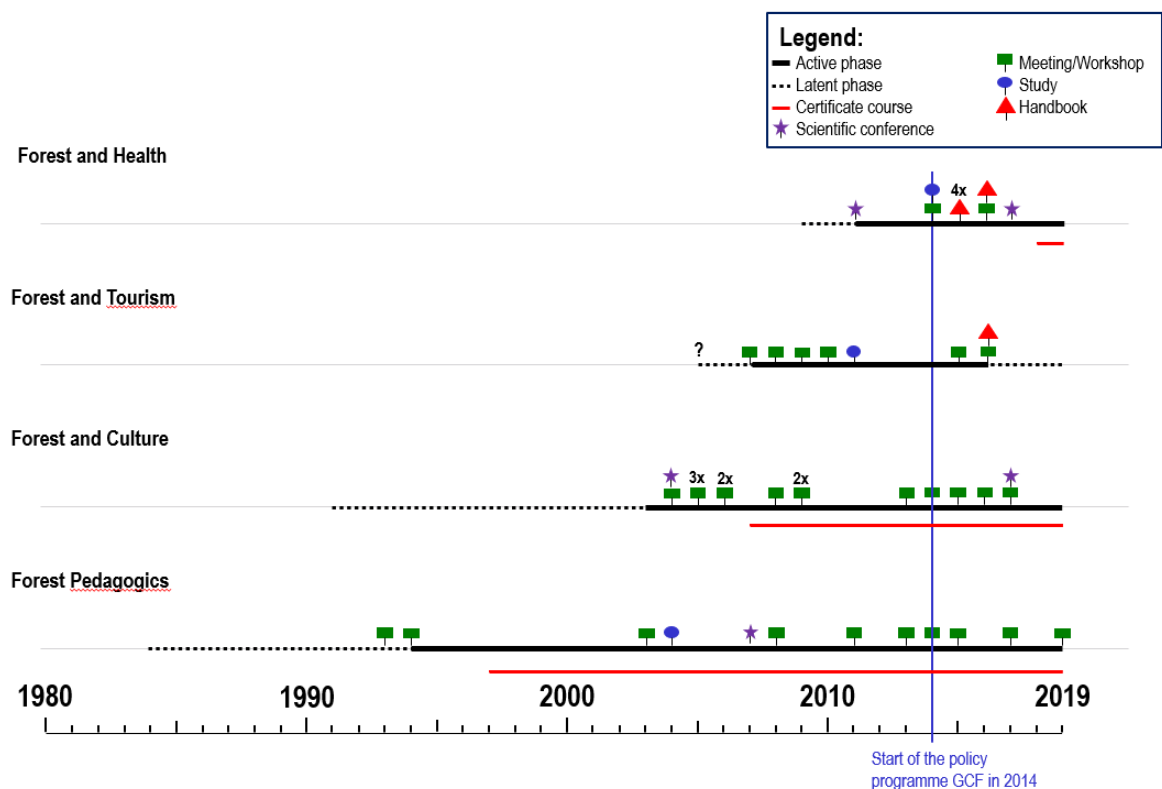


Figure 2: Development of the four pillars of GCF. Source: (modified from Stadler et al. 2020)

## 4.2. Forest Pedagogics

### Goals and origin of Forest Pedagogics

Forest pedagogics are a form of environmental education and enable dialogue between humans and nature (Federal Ministry for Sustainability and Tourism 2018e). Aside from ecological and environmental topics, forest pedagogics activities can address a wide range of issues about the cultural, social, economic and environmental aspects of forests and the relationship between humans and their environment. The main goal is to give visitors an understanding of forestry concerns but also to improve interpersonal relationships. Therefore, the activities can focus on knowledge sharing, the personal experience of the forest environment or social experiences (Johann 2019).

Beginning in the 1950s, various activities with a social, pedagogical implication started to emerge in Austria. Some examples are forest trails, reforestation activities with pupils and young adults, events like “Day of the tree”, “Day of the forest” and “week of the forest” and various other programmes. Since the 1980s, forest pedagogic activities have been seen as forest public relations (Johann 2016).

In the early development of FP in Austria in the 1990th, inspiration and knowledge from the Swiss, from Bavaria, Germany (Voitleithner et al. 2002) and “Waldschulheime” from former DDR (EP 3, 57–59) was brought to Austria. In addition, literature from American national parks and books by Joseph Cornell and John Muir brought ideas for creating FP in Austria (EP 3, 14–17).

### The Forest Pedagogics programme in Austria

Forest Youth Games (Waldjugendspiele), originated in Bavaria, were first organized in Upper Austria in 1984 but were not continued to be held there. Since 1988, they have also been held in Lower Austria (Voitleithner et al. 2002).

Two employees of the Forest Training Centre (FAST) Ort started to collect different information about environmental pedagogics through the books of Joseph Cornell and John Muir. These authors shared the American idea of national parks. The employees from FAST Ort then also started to visit projects like Silviva in Switzerland and others in Germany. They did this in their work time, but costs for the journey were paid by themselves (EP 3, 8–22). Using the knowledge gained from other countries, both employees developed their own forest pedagogics (FP) model at the FAST Ort. The developed seminars had two blocks with together

80 hours. According to the interviewed expert, this course was tolerated within the FAST but not actively supported (EP 3, 66–73).

In 1994 the first training course for FP officially started at the Forest training centre (FAST) Ort. Later training courses were also held in the FAST Ossiach, in the FAST Pichl of the Styrian Chamber of Agriculture and other training centres (Johann 2016).

The alumni Association for FP was founded in 1995 and is the official representation of FP in Austria. As presidents of the alumni association, Alfred Fürst, Elisabeth Johann and Andreas Holzinger were chosen because they are all highly recognised people within the forest sector. To take these persons as representatives was done to improve the poor acceptance of forest pedagogics (EP 3, 100–114).

The main event for FP was the Ministerial Conference on the Protection of Forests in Europe in 1998 in Lisbon. The conference's outcome was to focus on new sources of income through products or services other than timber products. The interviewed expert stated that this helped improve the structures' acceptance (EP 3, 189–195).

In 1999, the "Platform of Forest Pedagogics Austria" was established. In 2001, the association with the same name was founded as their legal body (Voitleithner et al. 2002). The Association is also doing public relations work, organizing conferences and supporting its members with information material (Verein Waldpädagogik 2021). Furthermore, the association provides a network to connect all Forest Pedagogues make them visible to the public (Johann 2019).

The expert interviewed stated that persons without a professional forestry background must complete a basic technical module for forestry (Federal Ministry for Sustainability and Tourism 2018c). Half of the trained forest pedagogues are people without formal training in forestry. These are primarily teachers and other pedagogues (EP 5, 226–227). The certification course, since 2002, has been consistent in Austria advanced training measures, renewal of the certificate all five years (Johann 2016).

With certification and the permission of the forest owner, the forest pedagogue can receive funding for guided forest pedagogics tours. Funding is supplied by the Federal Government, the Provinces and the European Union within the framework of the Austrian Rural Development Program 2014-2020. The current support measures in FP are based on the Austrian Rural Development Programme (Voitleithner et al. 2002; Klima-Schutz-Wald Verein 2019).

In 2002 the former BMLFUW conducted a study „Waldpädagogik in Österreich; Zwischen Naturerlebnis, Bildung und forstwirtschaftlicher Öffentlichkeitsarbeit". The study analysed the activities in forest pedagogy and its framework. Target groups were identified, and a

comparison with the neighbouring countries Germany and Switzerland was made. This study was used to derive recommendations for the structural, institutional and personnel conditions of forest pedagogy in Austria. In addition, possible courses of action for optimising FP practice were suggested, and suggestions for improvement in forest educators' training and continuing education (Voitleithner et al. 2002).

Also, in 2002, the first national congress of forest pedagogics took place (Bancalari 2015). Till 2019 there were seven forest pedagogics congresses, held every second year, with presentations, discussions and workshops (Verein Waldpädagogik 2021).

Stakeholders of FP are people and institutions providing forest pedagogic offers, institutions for education and training and trainers, and the Forestry Section of the former BMLFUW (Voitleithner et al. 2002). Since its beginning, the topic of forest pedagogics has been coordinated in the Department III/3 of the former BMLFUW (Federal Ministry for Sustainability and Tourism 2018a).

In 2005 actors in FP started to cooperate with colleges in Germany in an initiative group. The aim was to exchange knowledge and discuss recent developments. Following this regional cooperation, a European-Forest-Pedagogic Network of governmental representatives was founded in 2007 (FCN-Subgroup-Forest Pedagogics 2017b). The first international Congress Pedagogic Work in European Forests, 22nd and 23rd March 2007 in the Forest Training Centre in Gmunden with the topic "Heart, Head and Hand in the Forest - Pedagogic Work in European Forests" (Waldcampus Traunkirchen 2007).

In May 2008, this Network was combined with the Forest Communicators Network (FCN) and officially implemented as "FCN-Subgroup-Forest Pedagogics". At the moment, 17 states are cooperating (FCN-Subgroup-Forest Pedagogics 2017b).

In October 2014, the 20th anniversary of forest pedagogy was celebrated at the Ort Forestry Training Centre with expert lectures, a festive event and excursions in Austria (Federal Ministry for Sustainability and Tourism 2017). In 2010 130.000 people did a guided forest pedagogics walk. In 2016 1400 forest pedagogues had completed the training courses, 1000 of them with certificates (Johann 2016). About 2,000 people took the training throughout Austria in 2018 (Haubenhofner 2018).

In 2017 registered guided tours in FP dropped from 120.000 in 2016 to 30.000. An interviewed expert stated that this was due to funding restrictions (EP 3, 122–128). The funding modalities used to be simpler before 2017, and therefore, there was better motivation. The demand for forest pedagogic certificate courses also dropped a few years ago. Before, courses were often completely booked, and now the demand is covered with the offers available (EP 5, 201–215).

### 4.3. Forest and Culture

#### **The development of forest and culture related activities**

In Austria, small family-owned forests and farms play a crucial role in providing and shaping landscapes and keeping the cultural heritage intact. Moreover, these landscapes and the cultural heritage are an essential foundation for the tourism and leisure industries, two sectors of vital importance – especially in the rural areas (International Union of Forest Organizations 2006). Examples of the cultural heritage in Austria are charcoal burning sites, graves of the Celts and traces of haulage everywhere in the forests (EP 7, 57–59).

Knowledge of forest history and culture has been handed down in many different ways, orally and written. In addition, some of this knowledge has been compiled scientifically. About 500 institutions in Austria (museums, associations, enterprises, initiatives by dedicated private individuals) are currently disseminating this knowledge. These institutions constitute the basis for distributing forest cultural content. These are Forestry museums, Natural and agricultural history museums, Museums and explorers of the local history, modern Education – Projects outside museums (FOREST EUROPE 2005).

Many of these regional working researchers, associations and museums regularly publish at a high professional level. They have to do this in self-publishing, using black and white copies. Publications are mostly not visible to a bigger audience because they are "grey literature". Researchers showed largely an unwavering and frequently unpaid commitment. Without this commitment, their efforts would not be as effective as they are (Kiessling 2019).

Research facilities dealing with cultural aspects in Austria are the institutes and experts for forest and agrarian history at the University of Natural Resources and Life Sciences, Vienna and the Institutes for History, History of Art, Archaeology, Architecture, etc. at the Universities of Vienna, Salzburg, Graz, Linz (FOREST EUROPE 2005).

Other important institutions are the Austrian Federal Office for the Care of Monuments and the Federal Ministry of Agriculture, Regions and Tourism (BMLRT), which provide a forest land-use planning tool called "forestry technical plan". This plan is especially suited to describe and develop cultural dimensions, potentials and measures of forest enterprises (FOREST EUROPE 2005).

Forest authorities are not directly responsible for detailed or systematic documentation or preservation of relevant sites/Monuments etc. These tasks and aspects are not addressed in the



Austrian Federal Forest Act. Furthermore, forest authorities don't have personal or financial resources for this task (International Union of Forest Organizations 2006).

In 1991 the Working Group on Forest History was established. It emerged to the Expert Committee on Forest History in the Austrian Forestry Association. It is a loose association of all interested in multidisciplinary research of forest-human relations in a broader perspective (Forstverein 2021).

This working group aims to draw on the experience this field from other European countries, such as Norway, Germany and Estonia. Also, communication and informing the public and "forest-relevant actors of society" is an important goal (Johann 2004).

The Forest History Committee of the Austrian Forestry Association built up a nationwide network, "Forst+Kultur" (Forest+Culture). It is a loose association of all research and educational opportunities in Austria and neighbouring countries that deal with forestry and forest history (including "wood trade" and "wood industry") in the broadest sense. Therefore, members like research institutes, universities, museums, nature and national parks, regional private initiatives and interested forest owners should be addressed and won over for cooperation (Johann 2004).

The Experts-network "Forst+Kultur" conducts forest-cultural workshops and meetings – dealing with specific themes, lectures, exhibitions to change ideas, data and information. Furthermore, this network aims to help to select specific promising projects. Other relevant goals are preparing strategies, establishing permanent links between enterprises and authorities, supplying corresponding proposals for user-based research. Last but not least, the network aims to get a better overview of the number of relevant objects, sites, etc. (International Union of Forest Organizations 2006; FOREST EUROPE 2005).

### **Development of the Forest and Culture pillar**

The first step in creating what can be seen as the programme Forest and Culture (F&C) was the fourth Pan-European Minister Conference on the Protection of Forests in Europe (MCPFE – now FOREST EUROPE), held in 2003 in Vienna (Ablinger 2018). The third resolution of this conference dealt with forests' social and cultural values for the first time. By signing the Vienna Resolution 3, Austria and 40 other European countries committed to raising public awareness surrounding forestry culture. Together with the other countries, Austria committed itself to planning specific implementation steps in the National Forestry Programme (Johann 2004). In the process of developing Resolution 3 by the Pan-European Minister Conference on the Protection of Forests in Europe in Vienna (2003), besides employees of the former BMLFUW, Austrian forest experts were especially involved (International Union of Forest Organizations 2018).

After the conference, by working together in a network, the former BMLFUW, Dr Johann, and other dedicated private persons created the idea of a certificate course. The course aimed to raise awareness to protect and maintain historical and cultural forest sites for the future while also creating jobs in rural regions (INT 07, 82 - 86).

In 2007, the first training course started. This course is built on four course units, with forest-cultural and forest-historical foundations, practical implementation, and project management (INT 02, 23 - 24; INT 07, 90 - 93). The certificate course aims to enable the participants to develop their projects as far as possible independently. Projects are created mainly in rural areas as cooperation between forest, culture and tourism. In addition, each participant prepares a submittable project during the course and present it at the training course (Ablinger 2018).

With this method, participants, especially forest experts, are encouraged to diversify by new projects in their business or region. Furthermore, strong links between the partner and outside of the forest and cultural institutions can be obtained. Graduates from this course are also well informed about the suitable subsidies and funding (International Union of Forest Organizations 2018).

There are no general requirements for starting the course, so very different groups are coming together. One-third of them are people working in the forests. Some are from the tourism sector, and others are from the art sector. However, the participants get connected quickly and learn and work together immensely because of the common interest. Participants of the course always were very enthusiastic about F&C (EP 7, 229–239).

After finishing the first training course, the participants wanted to have an alumni association. They wanted to meet again to learn and be together. Therefore, s the creation of the alumni association in 2009, a voluntary meeting has been held annually to strengthen the community of F&C alumni and interested participants (EP 7, 242–246; Verein FOKUS - Forst- und Kultur-Service 2020). The alumni Association is called FoKuS (Ablinger 2018).

A student of the professional school Hagenberg made a webpage for all projects, if the participant wanted it, in F&C as his master thesis. Dr Jirikovsky and Dr Johann were coordinating this. The FAST Ort should further maintain the project. But the capacities were not enough to keep it up to date (EP 7, 279–294).

F&C course is offered only in FAST Ort, since 2018 on the new location, the "Waldcampus" (forest campus) in Traunkirchen. In January 2019, the 7th F&C course was finished (EP 2, 136–137). Around 50 people completed the course till that time (Ablinger 2018).

F&C has also become a topic for discussion in the Austrian Forest Dialogue and are reflected accordingly in the Austrian Forest Strategy 2020 (International Union of Forest Organizations

2018). Austria is seen as a forerunner in developing and business-oriented utilization of cultural values for forest managers in Europe (International Union of Forest Organizations 2018). The active involvement of Austrian experts in global processes on F&C can be shown by leading the international working group 9.03.02 on Forest culture at the International Union of Forest Research Organisations (IUFRO). This working group aims to collect and disseminate information on cultural aspects around forests and forestry, in an ancient and modern context, forest among member countries (International Union of Forest Organizations 2019).

In December 2018, the international scientific conference named "European Forests – Our Cultural Heritage" was organised by the International Union of Forest Research Organisations sub-working groups “9.03.01 Economic and Social Forest History” and “9.03.02 Forest and Culture” jointly with the Austrian Forest Association/Working party Forest History and Institute of Ethnology, and the Czech Academy of Sciences. Furthermore, the conference was financially supported by the Federal Ministry for Sustainability and Tourism through the Austrian Forest Dialogue (International Union of Forest Organizations 2018).

#### 4.4. Forest and Tourism

##### **The forestry sector and tourism**

Forests in Austria offers excellent conditions for tourism. After all, it covers a large area, can be used in all seasons, and has the tremendous competitive advantage of being seen as "intact nature". Almost 80 % of tourists in Austria state that the landscape was a criterion for their holiday vacation decision (Zimmermann 2007). The tourism sector and forestry sector are playing both an important role in Austria's economy. However, the relationship between forestry and tourism was described as eventful and with some problem areas (Grieshofer et al. 2011).

In the late 2000s, Mayer (1997) interviewed high representatives from the most relevant parties in tourism, nature protection, forestry, worker associations, administration and political parties about how they perceive the competence of forestry in the recreation area. These groups showed a significant acceptance of paying for specific products and services for recreation and spare time in forests. Furthermore, economic orientated regulatory mechanisms are found to be highly welcomed. Even if the forest sectors competencies in recreational topics were questioned, they granted the forest sector a big chance to conduce recreational forest offers if the public needs are adequately cared for (Mayer 1997).

In 2011, the former BMLFUW published a study about the touristic aspects of forests in Austria (Arnberger et al. 2016). The objective of this paper was to describe the importance of forests for tourism on a national and international level. Furthermore, an analysis of the relationship

between tourism and forestry in Austria was made. The aim was to identify specific cooperation potentials and to present corresponding best practice examples. Findings showed the forest alone is not yet a tourist product. It needs an additional offer, a service to be put into value (Grieshofer et al. 2011).

### **Destination WALD (Destination Forest)**

The programme F&T was started with a series of workshops named “Destination WALD” (Destination FOREST), initiated by the Department 3 Forest Protection, Forest Development and Forestry Subsidies at the Directorate General III - Forestry of the former BMLFUW together with BOKU (Arnberger et al. 2016).

The working series started with a well-attended start-up conference at the University of Natural Resources and Life Sciences in April 2007. First, the current research situation was presented with networking opportunities and demonstrations of ongoing best practice examples in "Forest and Tourism". Then, three follow-up workshops were held with six core topics in the sense of logical project development. They were starting with the first on the topics “Potentials and Partnerships” in 2008, resuming with “Sustainability and Quality Assurance” and ending in 2009 with the issue of “Product Development and Marketing” (Arnberger et al. 2016).

Each of these three events offered a dense, professionally demanding programme of lectures with experts from Austria and abroad, excursions tailored to the core topics and the host companies and, above all, sufficient time for discussions and active group work on specific issues concerning the two core topics of the respective workshop. The interim results and suggestions from the working groups of the workshops were documented, analyzed and presented in a workshop with selected experts in forestry, tourism and regional development in forestry (Arnberger et al. 2016).

In a workshop at the FAST Orth in March 2015, experts came together to summarize the results of the previous workshops. It resulted in concrete "recommendations for action" for further cooperation, development and implementation of exemplary and innovative forest-tourism activities and projects (Arnberger et al. 2016).

Under the motto "Forest and Tourism: From the classic field of conflict to a profitable partnership", development opportunities are explored by quality customer offers that emanate from the forest managers themselves or develop with them in line with the company goals and processes (Arnberger et al. 2016). In Austria, there are considerable - often untapped - potentials for the development and use of economically relevant tourism offers in the environment of forest-based businesses of all sizes (Arnberger et al. 2016).

A threefold approach was developed in the working series considering the ecological, social and economic effects of nature tourism in forests. In the scope of the ecological pillar, sensitive natural space where the activities are taking place is considered and protected. The possible damage is evaluated at permanent touristic offers before starting actions following up monitoring conducted by specially trained staff. In the social pillar, the focus is on one side on tourists, who should enjoy their stay. Therefore, well-trained, motivated and passionate workers are essential to secure and increase job opportunities in rural areas. Appropriate remuneration is necessary to guarantee social responsibility. Forest owners' rights and the communication and dialogue between forest owners, foresters, visitors, municipalities, public, politics, media, and interest associations are crucial. The economic pillar focuses on sustainably earning money from touristic offers to secure ecological and social responsibilities (Arnberger et al. 2016).

In “Destination WALD”, the development of possible solutions to conflicts in the field of recreational use in the forest was explicitly not at the centre. Instead, the working series developed strategies and relevant educational- and funding programmes in "rural development" and "tourism". As a result of the whole working process and, in essence, the manual, published in 2016, showed that forestry is well suited for tourism (Arnberger et al. 2016).

Also, experts stated tourism would be critical in the future for forestry, but now there is only little use of the many possibilities for touristic offers in the forest (EP 3, 245 – 248; EP 6, 37–39).

### **Forestry and Tourism as a challenge**

According to Mayer (1997), some public groups have a partly very sceptical opinion on forestry. Generally, trust and expectations for the recreational area in the forestry sector differ strongly. In the 2000th, there was a political highly controversial debate about mountain bikers who used forest roads, which also led to problematic communication between the tourism and forestry sector (Mayer 1997). In one interview, mountain biking was also seen as a passive way of using forests for touristic purposes (EP 5, 294–295).

Experts have seen a big challenge in the cooperation between the touristic and forestry sectors (EP 2, 94–96; EP5, 290–293). The best way to reduce conflict situations to a minimum is the guidance of visitors, as stated by an expert. It is argued that tourists are especially easy to direct if you give them proposals for routes or a programme. On the contrary, locals using the forests for recreation and sports are the group bringing the most prominent disturbance into the woods because they often don't follow a signed path or forest roads (EP 5, 319–324).

A goal of F&T is diversification. The goal is to get some profits aside from the earnings from wood harvesting (EP 2, 100 - 106). There are excellent cooperations between F&T and farms

or companies offering GC activities (EP 3, 244–245). Touristic aspects can be seen in all pillars and have the potential to create an income through diversification (EP 8, 101–106).

Experts interviewed suggested adding value if touristic lightning house projects in forests would be documented and promoted. The expert compared the initiative Green Care, which is already documenting and sharing best practice examples. The result would be that if more of the same projects emerge, the visibility of these projects would be higher (EP 5, 352-370).

Entrenched examples for nature-based touristic offers in Austria are nature tourism and holiday on a farm. They can be extended for forest specific topics (Arnberger et al. 2016). Information on topics paths in the forest is available to interested people via the webpage of the former BMLFUW. Information about the arrival, location and contents of the approximately 250 forest paths in Austria is documented on this website (Arnberger et al. 2016).

Further examples of forest enterprises using touristic offers in their forests mentioned by experts are the Malteser Waldbetrieb Ligist (EP 2, 106–117), Lichtenstein Sparbach (EP 3, 215–218) and the Austrian Federal Forests (ÖBF) (EP 2, 97–101). In addition, the project "Waldness" in Upper Austria was also seen as a touristic offer (EP 2, 298–301).

#### 4.5. Forest and Health

##### **“Forest and Health” Conference at Reichenau an der Rax**

The international conference “Health and Recreation in Forest and Landscape” took place from April 1st to 3rd, in 2009 in Birmensdorf, Switzerland. Two representatives from the Department III/3 of the former BMLRT who participated in the conference were inspired by presentations from Austria, Switzerland, Germany, Italy (EP 8, 63-70).

With these inputs from the conference, they focused on developing this topic and sharing information about it in Austria. As a result, they decided to organize a conference, “Wald und Gesundheit” (forest and human health), from 27 – 29 October 2011 in the castle of Reichenau an der Rax. The summit was held for two days and had three main topics: Forests as a place for recreation and therapy, the health products of forests, and law matter and economics (EP 8, 90-96).

“The forest and health topic was discussed in Reichenau an der Rax broadly” (EP 9, 04:06).

The conference is seen as the start of the F&H pillar in Austria. It was hosted by the company “Schule Wald GmbH” (Company “Forest School”) and organized together with the former BMLFUW in cooperation with BOKU, the Austrian Medical Chamber, the association

“Ärztinnen und Ärzte für eine gesunde Umwelt (Doctors for a Healthy Environment) and the hosting region (SchuleWald GmbH 2011).

Employees of the former BMLFUW wanted an overview of the topics in F&H in Austria and to start a multi-stakeholder dialogue. Therefore, people working in forestry-related issues were invited to participate in the conference in Reichenau to share their experiences and knowledge. (University of Natural Resources and Life Sciences, Vienna 2019).

At the summit and afterwards, experts interviewed stated that one of the main issues was figuring out the main health benefits of forests. At the beginning of the conference, there were many things seen included in this topic. They tried to figure out how the health effects of walking through a forest can be made measurable, but it was found out to be very difficult (EP 9, 346–358).

### **Further development of “Forest and Health”**

After the summit, some major institutions in the forest- and the medical sector, the Federal Ministries, and state administration agreed to deepen the collective focus on this topic in the upcoming years (University of Natural Resources and Life Sciences, Vienna 2019). As a result, a working group for F&H was implemented. All speakers and interested participants of the conference were invited to join. Soon it evolved into a platform with regular meetings held once or twice a year since its beginning for collaboration on the topic. New members joined this working group steadily, bringing in new inputs. The Department III/3 of the Federal Ministry responsible for forestry (BMLFUW, renamed in BMNT after 2018, renamed in BMLRT after 2020) coordinates and organizes the platform (Federal Ministry for Sustainability and Tourism 2014).

The topics within F&H were split into three themes. These are; (i) forests as recreation space, (ii) forests as therapy space, and (iii) the products of the forests. This tripartite design was already created at the conference in Reichenau and is still used for all F&H matters (EP 8, 91–95).

Soon after the conference, the Chamber of Agriculture discussed the topic of green care. They were mainly searching for new types of businesses in agriculture. Therefore, the Green Care group of the Viennese Chamber of Agriculture initiated the Association Green Care Österreich (Green Care Austria) (EP10, 42-94).

Because of the strong focus of the Chamber of Agriculture on the topic of green care, the BFW consulted with them and started to be more active in forest-related activities on this topic actively. However, the Chamber of Agriculture's focus solely on GC activities in agriculture forest-related issues would not be covered. Therefore, the Department III/3 of the former



BMLFUW and BFW employees started to focus on this subject and created the GCF as a forest-related counterpart to GC in agriculture (EP 9, 428–433).

“The green care group of the Viennese Chamber of Agriculture was the initiator of green care. It was part of the "Forest and Health Platform". This gave rise to the idea of actively incorporating the health services of the forest into green care. We have tried this with the Green Care Forest initiative, and we are continuing to try.” (EP 9, 54–57)

#### 4.6. Implementation of Green Care Forest

In 2014, the former BMLFUW officially initiated the GCF programme. In the GCF programme, the previously established four programmes in social forestry, Forest Pedagogics (FP), Forest and Culture (F&C), Forest and Tourism (F&T) and Forest and Health (F&H), are bundled. According to the programme, these schemes are seen as the four pillars of GCF (Schwarz 2014). The federal ministry declares on its webpage that the goals of GCF should be to strengthen the use of social activities in forests and to be a platform connecting interested forest owners with people seeking recreation in nature. Therefore GCF should be an open modular system to offer interested forest owners the opportunity to open their forest accordingly for those seeking relaxation (Federal Ministry for Sustainability and Tourism 2016).

Together with its partners, the former BMLFUW decided to implement a contact point for GCF at the BFW (Schwarz 2014). GCF should give companies the chance to diversify with activities in the social area of forestry and therefore create new sources of income (Schwarz 2014). The brochure "Green Care WALD - Wohlbefinden und Lebensqualität im grünen Bereich" (Green Care Forest - Well-being and quality of life in the green) was published in 2014 by the BFW to provide an overview about the topic and explain the programme GCF (Bundesforschungs- und Ausbildungszentrum für Wald 2014).

The programme start of GCF was accomplished by publishing a study on the health impact of forest landscapes, published in 2014 (Pucher 2014). The study on the health effects of forest landscapes tries to give answers to ecological, socio-demographic and medical challenges Austria faces. The aim was to systematically search and review the scientific literature on the topic of forests, health and well-being. According to the study, even short stays in the forest can lead to recovery and reduce stress levels, fatigue and exhaustion. Detailed information on the planning, design and evaluation of interventions in forests for health benefits are described. Information was also provided on how forests can be selected or designed according to the target group's needs. Examined valuation studies clearly show that cooperation between the forestry sector, health experts, policymakers, and local structures is essential. The study was conducted by the Public Health Institute of the Medical University and the University of Natural Resources and Life Sciences Vienna (Cervinka 2014)



Based on the study, the workshop of the Austrian Forest Dialogue was held on May 15, 2014. Around 130 experts worked in four working groups on the following topics: Forest Pedagogics for older people, Forest Kindergartens, Equal Opportunities through Forest Experiences, and Managing Aggression through Forest Experiences (Austrian Research Centre for Forests 2018b). In May 2014, the first conference, “Green Care WALD - Was der Wald zum Wohlbefinden beitragen kann” (Green Care Forst – What the forest can contribute to well-being), took place at the forest training centre in Ossiach (Pucher 2014).

On 5 April 2015, the handbook “Lehrkraft Natur” (Teacher Nature) was presented in the Austrian Chamber of Agriculture ballroom. "Impressionen der Waldpädagogik" (Impressions of forest pedagogics) were also shown in the form of a video. This handbook is a detailed guide for forest pedagogic walks with school classes. Stefan Lirsch carried out this project in cooperation with the Dirnhirm Primary School (Austrian Research Centre for Forests 2018b).

On 5 November 2015, the previous Green Care WALD activities could be presented to about 100 interested people from Austria and South Tyrol at the 5<sup>th</sup> forest pedagogics congress in Innsbruck. Furthermore, in cooperation with the “Verein Waldpädagogik in Österreich” (Association for Forest Pedagogics in Austria), three workshops could be held on violence prevention, new authority and forest kindergartens in Austria (Austrian Research Centre for Forests 2018b).

In 2017, GCF hosted the 3rd International Conference on “Zur Gesundheitswirkung von Waldlandschaften” (Landscape and Human Health - Forests, Parks and Green Care) in Vienna, Austria, and received international attention. Around 140 international experts contributed to this conference organized by the BFW and BOKU in Vienna (Austrian Research Centre for Forests 2017).

The BFW published their “BFW Praxisinformation” (BFW practical information), an information magazine released 3 to 4 times a year, on the topic GCF in 2018 (Austrian Research Centre for Forests 2018b).

The course “Green Care WALD: Gesundheitsort Wald” (Green Care FOREST: health resort forest) took place for the first time from 18.-22. June 2018. The location was FAST Ossiach. Module 1 provided impulses and knowledge for the practical implementation of projects dedicated to forest, well-being and human health. There will be altogether three modules in this certificate course. The initiative came from the former BMNT within the framework of the priority area Forest and Health, for which an employee in Department III/3 is responsible. The initiative was supported by the head of the forestry training centre of the BFW in Ossiach, Hans Zöschner, and by Dr Elisabeth Johann from the “Verein Waldpädagogik in Österreich”

(Association for Forest Pedagogics in Austria), who provided her many years of expertise in this field (Austrian Research Centre for Forests 2019a).

Summing up, the policy programme GCF consists of the four pillars mentioned above. These developed independently. Beginning in 2014, GCF was also used to describe the activities for health promotion in forests. These activities were before known under the term Forest and Health (F&H).

## 4.7. Policy support

In this section, the policy resources available or missing for the policy programme are described and analysed. Knoepfel et al. (2010) list them as force, law, personnel, money, information, organization, consensus, time, infrastructure, and political support. Therefore, law, personnel, money, information, organisation and consensus were found to be the most relevant resources to describe this case study and will be described and analysed.

### 4.7.1. Institutional and legal framework

#### **Institutional framework**

All four pillars promoting social activities in forests are coordinated by Department III/3, of the Federal Ministry for Agriculture, Regions and Tourism (BMLRT), under the umbrella of Green Care Forest. One ministerial staff member coordinates the programmes Forest and Culture (F&C) and Forest and Tourism (F&T) on an operative level. The programmes of Forest Pedagogics (FP) and Forest and Health (F&H) are managed by one ministerial employee each (EP 8, 49:10 - 49:55). The department head is the leading person on a strategical level and is involved in more significant decisions. Critical strategic decisions require coordination with the federal minister's office (EP 8, 54–58). Because social activities in forests became more important on a national and international level, the former Federal Ministry for Agriculture, Forestry, Environment and Water Management (BMLFUW) started actively coordinating these activities. (EP 8, 130–134).

In 2005 the BFW was divested from the former BMLFUW. It was established as an institution under public law with its legal personality as a research, education and training centre in the fields of forests, natural hazards and landscape (§1 Article 1 BFWG).

Using the designation GCF for the policy programme is seen as a controversy among the interviewed experts. The main argument was to combine all social activities in forests under one umbrella (Schwarz 2014). Although it was not a question to the interview, two experts confirmed this (EP 8, 165-168; EP 2, 16–19). As a reason to use the term GCF an expert interviewed stated:

“Then we said, yes, that's the same thing, what we mean. Some mean "health on the farm," we mean "health in the forest." And then, based on tactical considerations, it was decided that we should use our initiative Forest and Health, our well-developed programme and attach the well-known or interesting catchword "Green Care" to it. Both mean the same thing so as not to duplicate the efforts. And then we added the forest, "Green Care Forest"... we remained independent. But of course, we have thought about it for some time and discussed it. We have also decided it would be good to call "Green Care Forest" all social activities, also Forest Pedagogics, Forest and Culture and Forest and Tourism” (EP 8, 172–184).

But experts interviewed also had other opinions on using the term GCF for all social pillars in forestry. One expert not directly involved in the programme argues that it was due to marketing reasons to name the initiative GCF. The expert stated that green care is an established concept in Europe and the former BMLFUW wanted to adopt this term (EP 1, 128–131).

Some experts highlighted, combining all pillars improves the possibilities for diversification for forest owners, as also written on the website of the Federal Ministry responsible for forestry (EP 2, 71–720; Federal Ministry for Sustainability and Tourism 2016). Moreover, bringing the pillars together in GCF should increase the number of interested people carrying out activities in this field (EP 2, 258–261). Furthermore, to guide and inform forest visitors more easily about existing offers was another aim seen by experts interviewed (EP 5, 319–324; EP 6, 35). But also, to achieve better funding was named a reason to use the term GCF (EP 2, 13–15; EP 9, 682–684).

For one expert with experience in GC, the definition and description of GCF were unclear, especially for the definition of the target group (EP 1, 56–59). The expert also stated, the goals of GCF as written on the website are not smart formulated and vaguer (EP 1, 166–167). Moreover, the expert questioned the combination of all pillars under GCF:

“when you look at GCF, you recognise the different pillars and institutions behind them do not fit together” (EP 1, 180–184).

The same expert stated there is no target group definition in GCF as it is also visible on the webpage of the former Federal Ministry responsible for forestry:

“At FP, for example, they defined pupils, children and adults as the target group. Who are pupils and adults? Compared to GC, where it is quite clearly defined. Meanwhile, people with mental illness can do certain things. These are other things that children can do. For example, I also need pretty other logistics for different groups for recreation activities in the forest. How do I get into the forest? Are the paths paved? Can I, if I think of a Vienna forest, go through there with a stroller or not? And these are things I have to take care of differently for different target groups. And these target groups are not defined” (EP 1, 192–201).

One expert said it is planned that the BMLRT would reflect the structure of GCF in the year 2019. However, the intention is not to change the content of the pillars. All four pillars will also

be coordinated in the Department III/3 of the Federal Ministry in the future because they are all important. They will maybe be only described again under the term they were known before (EP 8, 245-249). Further, the expert stated that the ministry representatives realised the development didn't turn out as planned. So they will discuss using the term GCF only for F&H in the future (EP 8, 186-190).

In 2014 the BFW was commissioned to develop further the topic of F&H, which was then named "Green Care Forest (Austrian Research Centre for Forests 2018a; EP 8, 184–185). The goal of the programme GCF at the BFW is to prevent, promote, and improve the health of a particular group. Therefore, they divided GCF into three parts "work", "education", and "health", with the main objective of health, as also reflected on their website (Austrian Research Centre for Forests 2018a). One interview partner refers to the definition of GC as a task to prevent, promote and improve the health of a particular group. Therefore, health is the overall objective in GCF and focused and worked on the most (EP 9, 521-527).

„...but the Federal Ministry describes the four pillars in the general area always Forest Pedagogics, Forest and Culture, Forest and Tourism and Forest and Health. So we are committed to all areas. But we are also involved in the F&H sector, where we are involved with green care in Forest and Health. Green care is the youngest baby for us. This area needs special attention, and that's why we devote ourselves to it in particular" (EP 10, 532–535).

The programme GCF at the BFW is operationally split into two parts. One part is GCF diversification, and the other one is GCF information. The reason for this is because there are two separate funded projects in the Austrian Rural Development Program 2014-2020. One is the project diversification, and the other is the education line. Experience and knowledge are created in the practical line in the pilot and diversification projects. Afterwards, the findings are used in the education line (EP 9, 295-300).

GCF has had a steering group since 2014. The goal is to coordinate the development in GCF with relevant stakeholders in the forest sector. Institutions like the Austrian Forestry Association, the Austrian Association for Landowner and the Austrian Forest Pedagogic Association participate in the meetings held twice a year. The chairman is the department head of the Department III/3 at the Federal Ministry responsible for forestry. The steering group is working on all four pillars of GCF (EP 9, 699-707).

There is also a platform meeting for F&H once a year. Representatives of all four pillars meet, exchange knowledge and share developments and projects in F&H. This platform was created after the first conference of F&H in Reichenau an der Rax and is open to all interested people in this area. The chairman is the ministerial employee responsible for the F&H topic at the Federal Ministry responsible for forestry. In comparison to the steering group, this platform has

many participants. In the beginning, this group was quite active but has been less active for some years due to a lack of time by the employees of the Federal Ministry (EP 9, 718-721).

This platform also serves as a space to share new projects and concepts in health-promoting and preventing activities connected to forests. The main question is, what is reputable, what methods stand behind an intervention and is there scientific proof for this method. Thus, the platform can be seen as a quality managing body. In the last years, the necessity of two parallel processes has been questioned (EP 8, 107-115).

“We are now considering how we can do this best and most efficiently. Namely, not that we have now four meetings a year, two from there and two there and both do but more and more the same ... And now we are again of the opinion that we should change something” (EP 8, 242–245).

As mentioned in the introduction, all forest and forest-political topics are discussed with all participating stakeholders in the forest dialogue. However, here, GCF and the forest and health topic is only a completely small subrange. Therefore, the members of the forest dialogue become acquainted with that subject only really slowly. So far, there was only information, and in the future, it is planned to discuss more content about the topic (EP 8, 414–422). Another expert stated:

“Because the forest dialogue itself is, so to speak, is the forest parliament ... It's a structured dialogue. I like to call it a forest parliament because it's kind of like a parliament because everybody who's in there can also speak, has a voice. It is structured and civilized and has the advantage that the decision-makers from different areas, who have a different perspective on the forest and forest use, can talk to each other and, thus, reduce the potential for conflict. The forest dialogue and the forest dialogue can also be a platform, or, so to speak, green care can also be hosted by the forest dialogue. The topic can, of course, be discussed there, but I would say that this has not yet been done very comprehensively” (EP 9, 783–810).

## **Legal framework**

In the forest law of 1975, the recreational functions are legally consolidated. They are building the cornerstone of all work done by public institutions like the Federal Ministry in charge of forest-related topics and the BFW (§6 Article 2d Austrian Federal Forest Act). Experts name liability the main obstacle in looking at the legal aspects of offers in the forest. Building recreational infrastructures such as toilets, playgrounds, or places to have a picnic legally required permission for a clear-cut (EP 5, 339–345).

Depending on the type of service offered, different laws must be observed. In addition to the Forest Act, especially the provisions on forest spatial planning (§6-7 Austrian Federal Forest Act), the right of access (§33-35 Austrian Federal Forest Act), the liability provisions (§36 Austrian Federal Forest Act) and the provisions on recreational forest (§176 Austrian Federal

Forest Act), several other areas of law are usually affected. In particular, the Commercial Code, the Water Law, Fisheries Law, Building Law, the respective Nature Conservation Laws, the Road Traffic Regulations, and the Animal Protection Law must be observed. If one decides to open the forest roads for mountain bikers or riders, these must be expressed dedicated for use by the general public using an appropriate marking. In this case, the forest owner or road maintainer is liable for accidents caused by gross negligence. Therefore, it is recommended for forest owners to take out liability insurance (Vacik et al. 2008).

Suppose there is a particular public interest in using the forest for recreational purposes, as in metropolitan areas or tourist regions. In that case, the Forest Act offers the possibility of designating it as a recreational forest. In such recreational forests, the authority must approve clearing for design measures and exceptions from the ban on felling unripe stands and the reforestation ban and the ban on fires in the forest if this increases the recreational effect and does not significantly restrict the other forest functions. Such design facilities include parking lots, playgrounds and campgrounds, seating areas, trails for hikers, cyclists and horseback riders, cabins, other structures for recreational traffic, animal enclosures, forest nature trails and sports facilities (§36 Article 1 a-b Austrian Federal Forest Act).

Spatial planning is an essential topic for GCF in forest law is also mentioned by experts interviewed (EP10, 26-39). This expert further explained that there was a working group of employees of the former BMLFUW trying to improve the practical use of this tool and make it more used altogether. They dealt with spatial planning and topics like forest pedagogics, F&C, F&T and F&H (EP10, 30-40). The special planning tool is called “Waldfachplan” (Forest Technical Plan) or short WAF and should help cope with the increasing challenges of issues with other sectors. Between 2002 and 2004, several examples were made, presented in a workshop and discussed. One example was a WAF for a forest operation in the Linz area in Upper Austria, offering cultural services at a selected historical location. (Federal Ministry for Sustainability and Tourism 2018d).

There is seen a need to make changes in the Austrian Federal Forest Act. However, such changes are a sensitive and challenging topic, experts stated.

„There are some points that should be changed the last time and were not changed. But it was a massive procedure and didn't lead to the goal, which was desired. If we want to do this in the future, it must be done with good preparations and coordination with all parties, like in the forest dialogue“ (EP 8, 411–414).

#### 4.7.2. Cooperation and networks

According to the interviewed experts, the actors of GC in the agricultural sector are the most important cooperation partners for the GCF programme (EP 8, pp. 197–215; EP10, 455-472).

“Green Care - Wo Menschen aufblühen” started in 2011 in the Chamber of Agriculture in Vienna. In 2014 the network "ARGE Green Care Österreich" was established to anchor the topic politically and strengthen cooperation between all relevant actors. In 2015 the association "Green Care Österreich", to which all nine Chambers of Agriculture in the federal states of Austria belong, was founded. This association supports farmers in diversification and cooperation with interested social insurance agencies, institutions and municipalities. (Ländliches Fortbildungsinstitut Niederösterreich 2021). The initiators of GC in the agricultural sector got in contact with the employees of the Department III/3 of the former BMLFUW at the conference of Reichenau. They planned to start their initiative and were interested in the Forest and Health activities (EP 8, 161–164). After the conference, it was decided to develop GCF independently but in close cooperation with the GC actors in agriculture. Experts stated the reason for this was that nearly every farm in Austria has its forest so that a fusion would be possible, but there was the question of how to work together then. Also, there are big forest companies who have not also an agricultural business. Therefore the representatives of the Department III/3 of the former BMLFUW wanted the forest sector to be represented by themselves (EP 8, 190-197)

Green Care is an initiative of the Viennese Chamber of Agriculture. Head of this chamber, Robert Fitzthum, had started GC. The association itself has initiated a working group where different stakeholders relevant for GC, like the Department III/3 of the BMLRT, the Chambers of Agriculture of all federal states and the BFW, as examples, come together. Projects were discussed there (EP10, 420-427).

Another important cooperation partner is the University College for Agricultural and Environmental Pedagogy. They are focusing on training and research on GC related topics. They also have a topic-related journal named “Green Care”, a master programme also named “Green Care”, and host their own Jour Fixe on GC (EP 9, 731-734).

The Chamber of Agriculture has its handbooks and works with Green Care's association to inform interested persons about GC. Advisers for GC are located in every federal state and inform interested farm owners and forestry companies also about social activities in forests. These coordinators are in intense contact with the programme GCF at the BFW and forward special requests. It is planned to intensify the cooperation, even more, when more GCF products are ready for the market (EP 9, 399-411).

At the moment, “Green Care Auszeithöfe”(Green Care Time-out farms) is the only GC product that could be available for the masses, as one expert interviewed stated. The expert further explains that the work of GCF is already very valuable in the case of “Green Care Auszeithöfe”. Possibilities for GC activities in the forests are described very well in the handbooks. Activities can be Shinrin Yoku, tree climbing, or other various products discussed and developed at BFW.

(EP 9, 433-450). It was a big goal that customers could get money from their insurance for using offers of an "Auszeithof" for recreation, which the association Green Care Österreich is successfully achieved (Green Care Österreich 2021). Therefore, the products must be clearly defined and scientifically proven to affect human health positively (EP 9, 433-450).

“It must be evidence-based, then there is the possibility for funding. This was the reason to invent the products, and the work already done is now very valuable because they can use these products when starting a new "Auszeithof" (EP10, 477-482).

The association Green Care listed farms in its portfolio of "green care" offers, which offer forest pedagogics. Many private or small forest owners are active in forest pedagogic, offering their services at these farms (EP 5, 255–260).

Aside from all the positive cooperation between GCF and colleges working on GC activities in agriculture, an expert also spoke about a complicated topic. A forest-related course with very questionable content was launched by a training institute of the Chamber of Agriculture. This expert sees it as problematic because it is funded partly by the Austrian Rural Development Program 2014-2020 and has esoteric/non scientifically proven content. In this regard, the expert argued to summon a meeting to discuss the issue together (EP 08 215-219). This expert further stated:

„We want to make sure that we can offer serious work in all we are doing” (EP 8, 224-226).

Networking between the employees of Department III/3 and colleges from the tourist sector is taking place more frequently as both of the same Federal Ministry, as an expert stated (EP 8, 381–382). In the medical sector, the Medical University of Vienna was, from the beginning on a partner of BFW. This cooperation is seen as a basic need for developing the GCF programme, an expert interviewed highlighted. (EP 9, 644-654). Furthermore, another expert also stated that there has constantly been exchanging and networking on a ministerial level with doctors and insurance institutions (EP 8, 381–382). However, the cooperation with the health sector there are also some difficulties:

“Whenever you want concrete cooperation, then it will take place at different scales ... For example, a ministerial official was there in Reichenau and gave a lecture. It is very important to us. The white sector, i.e. the medical profession, also carries out many projects, taking less account of the forest. And that's why we say that we don't want to dictate to the doctors what they do medically. But we have to point out that the forest belongs to someone, that there is a strict law that regulates this. And above all, if money is made with health activities in forests, you have to find a consensus with the owner ... They have to respect forest ownership” (EP 8, 394–404).



When looking at international cooperation, it must be highlighted that the BFW is part of the FOREST EUROPE Expert Group on Human Health and Well-being, which started in January 2018. The working group actively invited different people from different countries working in this field to participate. The expert group conducted workshops and networking with various players in the forest sector, the health sector, the social sector, and the working sector. They are working on publishing a policy advice document. The expert group is considered as one of the most important bodies in this subject area on an international level (EP 9, 211-234)

#### 4.7.3. Monetary support

The programme GCF at the BFW is funded by the Austrian Rural Development Programme (LE) 2014 – 2020 with two funding schemes described under Point 4.2.1. The project management position is also funded with these grants. In 2019, the GCF programme was at the end of its 3<sup>rd</sup> funding period and applying for the next funding period. The interviewed experts stated that they are sure the programme will receive funding for the next period (EP 8, pp. 158–161; EP 9, 135-142). Every year the BFW hands in a new GCF project. Sometimes the terms were longer than one year. The projects always had a central topic (EP10, 158-166).

All activities like the study from Cervinca et al. and the international conference in 2017 were funded by the LE programme for 2014 – 2020 (EP 8, 148-153). Furthermore, certificate courses at the Forest Training Centres for FP, F&C and F&H are also financed by this scheme and guided tours conducted by persons who successfully finished the training and are certified (EP 2, 176–177).

“So there might be other financing instruments as well. For us, this is one that works well, and, of course, it would be desirable to have direct basic funding for the long term. But, unfortunately, the current budgetary situation does not allow us long-term support, so we have to do it with the crutch of a funding project. That is quite simply the way it is, yes. But, of course, we would prefer it to be funded from the grassroots. Because then you would have a much higher level of continuity. A project funding period ends with the project duration” (EP 9, 883–889).

Before the foundation of the GCF programme, FP, F&C and F&H activities were also financed mainly by the LE 2014 – 20. For F&C projects, attempts were made in the beginning to use funding from LEADER, but it had no success (EP 2, 164–174). As described in section 4.2.1, initiating the GCF programme was also made to receive more funding from the EU because there is a focus in the funding programme on green care (EP 2, 13-15; EP 9, 682-684). This focus can also be found on the website of the Federal Ministry:

In the Rural Development Programme 2014-2020, the topic of "Green Care" can be found in many places. In particular, project type 16.9.1 Promotion of horizontal and vertical cooperation of agricultural and forestry actors for the creation and development of social services promotes the development,

implementation and quality assurance of social services in agriculture and forestry (Federal Ministry for Agriculture, Regions and Tourism 2021 - Translated by the author).

Although the BMLRT coordinates the GCF process, there is no budget for this topic in the responsible department (EP 8, 277–280). In hindsight to funding sources, experts suggested that the Federal Ministry of Education, Science and Research should prevent financially support for the GCF project, as FP is strongly involved in educating children (EP 1, 146–158; EP 3, 302–310). Also, one suggestion of an expert was, the health sector may pay for health services from the forest? (EP 1, 143–146).

#### 4.7.4. Information

This section describes the production or creation and the dissemination of knowledge as a resource for the policy programme GCF.

#### Creation of knowledge in GCF

Especially within the GCF programme at the BFW, knowledge was created in different forms like studies, various handbooks, congress proceedings and other information material (EP9, 295-300; Austrian Research Centre for Forests 2018b; Austrian Research Centre for Forests 2019b). For example, the study "Gesundheitswirkungen von Waldlandschaften" (On the health effect of forest landscapes), published in 2014 and the 3rd international scientific conference, "Landscape and Human Health", held in 2017, are described in section 4.6.

Table 3: Overview of handbooks created within Green Care Forest or in a working process (adopted from Brüstle et al. 2019)

| Working group                                    | Handbook original title  | Handbook title translated  | Publishing year | Author   |
|--|--|--|-----------------|--|
| Forest-kindergarten                              | Waldkindergärten in Österreich   | Forest-kindergarten in Austria   | 2015            | Dipl.-Päd. Katharina Bancalari, M.A.               |
| Equal opportunities through forest experiences   | Vielfalt leben und Teilhabe stärken ; Der Wald als Ort der Begegnung.          | Living diversity ; The forest as a meeting place                         | 2015            | Frances Blüml, M.A.,<br>Mag.a Doris Kammerer, B.A. |
| Aggression management through forest experiences | Gewaltprävention im Wald: Eine Spurensuche                                     | Violence prevention in the forest: a search for clues                    | 2015            | Dipl.-Päd. Katharina Bancalari, M.A                |
| No working group                                 | Lehrkraft Natur ; Naturerfahrungen als fixer Bestandteil des Schulunterrichts. | Teacher Nature ; Experiences in nature as a fixed part of school lessons | 2015            | Stefan Lirsch                                      |
| Forest geragogics                                | Den Wald wiederentdecken: Lernen und Bildung im Alter                          | Rediscover the forest: Learning and education in old age                 | 2018            | Mag.a Elisabeth Rigal, M.Ed.                       |

|                              |   |   |      |                      |
|------------------------------|---|---|------|----------------------|
| Addiction therapy in forests | (Co-)Therapeut Wald   | (Co-) Therapist forest  | 2021 | Stefan Lirsch        |
| Forest health trail          | Not finished yet  |   |      |                      |
| No working group             | Wald als integrativer Arbeitsplatz: Wie man Angebote für Soziale Waldarbeit in der Wald und Forstwirtschaft schafft | Forest as an inclusive workplace: How to create offers for social forest work in forestry and forest management | 2021 | Ohrfandl Manfred MSc |

In workshops on specialist topics, as shown in table 2, experts frequently met for a given period to work on an issue to develop a brochure on a high-quality standard. In addition to these brochures on specialist topics, there were more general brochures for GCF. For example, target groups in the education project of the BFW are primary practitioners and forest owners and health centres, touristic health companies. For some brochures, pilot projects were conducted and communicated by the multipliers, such as Stefan Lirsch (EP 9, 300-318).

### Dissemination of knowledge in GCF

About the need to communicate and inform people about the term green care and the GCF programme, an expert stated:

“We are in a phase where we must do intense public relations to explain what this term means. Also, we have to explain why it has to be in English. But now, more and more people are starting to get familiar with this term, start working and integrating, and bringing it further into their networks” (EP 4, 141-144).

To communicate and introduce the new topic of GCF to a broader audience, “Green Care Wald Praxistage” (Green Care Forest Days) are held on the two FASTs every year (EP 9, 313) as well as single events in connection with the topics of F&H and FP. Multipliers like Stefan Lirsch were invited to present his project on addiction therapy in forests first-hand on praxis days. Also, network events played a role in presenting and bringing the case to a broader audience (EP 9, 300-318).

As described in section 4.2.1, the GCF programme at the BFW has a strong focus on disseminating knowledge because the project is funded for this reason. The brochures and other information material shown in table 3 and some other brochures are freely available in German for download on the BFW website (Austrian Research Centre for Forests 2021).

Most of the activities described in chapters 4.1 to 4.6 were communication measures or accompanied by publications in different forms. They are too many to describe within the frame of this thesis. On a general level, Forest Pedagogics are seen as the Public Relations department of forestry (EP 3, 137-141). Also, projects in Forests and Culture aim to raise awareness about

cultural sites and their protection (EP 2, 150–158). The series of workshops, “Destination Wald” developed strategies for touristic offers in forests (Arnberger et al. 2016).

#### 4.7.5. Consensus

Experts interviewed see forestry as a very conservative sector (EP3, 89–91, EP 5, 84–88). Two experts interviewed stated, the welfare impact, recreational- and protection functions of forests are a by-product of the wood production referring to the wake theory (EP 2, 237–240; EP 6, 9–13). Nevertheless, it was stated that even in large companies, the acceptance of social topics in forests is slowly increasing, but there is still a lot of resistance:

“There is no question that there is resistance to all social issues in forestry, but I already mentioned that at the beginning, because many people in forestry fear that the classic economic use will be impaired because it will no longer be possible to cut down trees in the way that one is used to or that the economy requires. Moreover, our sub-sectors, such as hunting, are disturbed by the increasing visitor pressure. They are also an economic factor” (EP 8, p. 439–444).

Also, inside the Ministry, some employees were against promoting social activities in forests and tried to negatively influence the development of the GCF programme (EP 7, 216–228). In the forestry environment, the acceptance of touristic offers in forests is only growing slowly. Many actors fear that the traditional economy will be affected and unable to cut trees the way they are used to or the economy requires. Other sub-sectors, such as hunting, are disturbed by the increasing visitor pressure, which is also an economic factor (EP 8, 440–445).

At the beginning of FP, foresters, also forest directors, found the idea of teaching people in the forest silly. It took years to change many foresters minds (EP 5, 101–105; EP 3, 66–68). People are doing FP without a forest background working in this field. There is seen a danger that these people spread messages which are not in the interest of forester. Often, the management of forests is not mentioned by non-foresters conducting FP walks, but protecting plants and animals is highlighted (EP 2, 219–233). One expert interviewed sees offering guided FP tours for free by the ÖBF as a big mistake, suggesting to participants that guided walks are generally for free (EP 3, 227–230).

Another critical issue in communication is mountain biking on forest roads, as mentioned in section 4.2.1. Mountain biking can bring legal consequences for the forest owner in liability, for example, if an accident happens because of trees on forest roads. Although forest owners partly have liability insurance with tourist associations, they only protect some of the risks (EP 5, 295–307). Conflict situations arise most frequently where people with local knowledge know their ways in the forest. They do not need or are not looking for touristic offerings or visitor guidance. This circumstance is seen as a problem and tough to tackle in the future (EP 5, 325–333).

Another expert highlighted that the forestry sector is somewhat sensitized and rather cautious than enthusiastic about this topic (EP 8, 445–449).

#### 4.7.6. Personnel support

In general, there is a lack of personal resources within the GCF programme, as interviewed experts stated (EP 1, 99–103; EP 8, 348–359). All employees at the Federal Ministry responsible for forestry working on GCF doing this aside from their main duty for some hours a week. The expert argues the workload for the topic of GCF is growing all the time, and the topic of GCF is generally complex to develop. Also, the workload within the main duty is getting more. The expert stated that it is impossible to coordinate this upcoming and booming topic accordingly with these less personal resources. It was planned to develop the certification of projects operating within this topic, but it is not possible with the available resources (EP 8, 348–359). Also, meetings of working groups on F&H are reduced (EP 8, 334–336) as well as the opportunity to use international contacts to build up an international network is not used due to the lack of time (EP 8, 475–483).

“Of course, we are willing, as far as our limited resources allow, to cover or co-sponsor any of these interesting neighbourly or international topics or to support them. I think it is better to support them and to contribute as far as our resources allow” (EP 8, 481–483).

Aside from this lack of personal resources, experts state most people in GCF are highly motivated about the topic (EP 1, 99; EP 7, 207–215) and carry out activities in idealism (EP 2, 240–242). Especially in the programme F&C, some employees of the former BMLFUW dedicated lots of time to develop the programme and participate personally in meetings to be better informed about it in F&C (EP 7, 207–215). Alumni associations, working groups and networks developed in three of the four pillars are also a central personnel resource in GCF. Only in F&T, there is no such structured organization (EP8)

Experts state that there was strong support from the Section Head of the Directorate-General III - Forestry of the former BMLFUW managed to bring the "Green Care Forest" into reality:

So, for example, section head Mannsberger, responsible for this whole "green-care-forest", came to existence. I'll just say that now: If it hadn't been for him, the entire thing wouldn't have come about - the whole "green-care-forest" wouldn't have come about because he had a lot of resistance in his ranks. Resistance or passive resistance (EP 7, 203–207).

Experts also stated that the head of the BFW, Peter Mayer, is very passionate about GCF and interested in GCF development. He uses his position to communicate this topic in many statements (EP10, 810-812). At FAST Orth, Dr Jirikovsky enormously helped and supported the development of the certificate course F&C with his advising. The training course is offered

in his FAST ORT, and Dr Jirikovsky teaches and visits the classes more often and therefore helped a lot for F&C (EP 7, 198–203).

The experts reported many examples of dedication and volunteer work from people working in the field (EP3, 106–114; EP 5, 123–131). As an outstanding example, Dr Johann is mentioned by experts. She was, for example, in the team to develop the Green Care Forest certification course (EP5, 110–112). She also works in the course F&C without getting paid, where she teaches the first of four modules. She sees her benefit in getting to know all participants and projects and participating in almost all course modules ever held in F&C (EP 7, 253–258). Dr Johann did was also the president of the forest pedagogic association for some years (EP 5, 110–113).

#### 4.8. Pilot projects in “Forest and Health” in Austria

The GCF programme aims to create and share knowledge in different topic themes related to forests and health. One way the BFW is achieving this goal is by supporting the pilot projects (EP 9, 295–300). These projects have to fulfil three criteria; (i) the projects applicant has to be a forest owner, (ii) the project must have a health component, and (iii) a forest pedagogue has to be involved (Niederösterreichische Nachrichten 2018). In the following section, three pilot projects supported through the policy programme are described.

##### 4.8.1. Thermenhof Special Institute for Rehabilitation in Villach

The Thermenhof Special Institute for Rehabilitation (SKA) is located in Warmbad-Villach, Carinthia. Warmbad is a spa town with a thermal bath and several hotels, mainly spa hotels and a train station. The Thermenhof offers extensive physiotherapy treatment options with a professional interdisciplinary team of doctors, therapists, and medical masseurs. The institute focuses on treatments of the musculoskeletal system and conditions after joint replacement surgery, neurological neurosurgical disorders and conditions after trauma. They also offer programmes for health prevention for wear and loss of mobility of the spine and joints, muscle tension and weakness, circulatory disorders, obesity and circulatory weakness due to lack of movement and psychovegetative dysregulation like stress states, depression (Thermal-Heilbad Warmbad-Villach GmbH & CoKG 2020).

Before the start of the project in 2015, an employee of the SKA got to know Mr Zöscher, head of FAST Ossiach, because she did the training course there to become a forest pedagogue (PP2, pp. 3–5). On his initiative, Mr Zöscher contacted the person who became the project leader afterwards (PP2, 27–29). They discussed if forest therapy can be a possible supplementing treatment for the patients of SKA. Then, on a first forest pedagogics walk with patients of the

rehabilitation centre in late fall, the project leader was fascinated by the improvement of the condition of the patients. Following this first meeting, a concept for integrating these walks into the regular treatment programme was developed (PP2, 18–20).

First, it was very important to determine which type of patient is the best for this treatment. The result was that patients with psychological problems and also with pain syndromes were the two main groups. It was also crucial to mix the members of the group (PP2, 35–39). The second important thing to figure out was the length of the pedagogic walks. Regular “walks” take about 2 hours, but the length adjusts to the weather conditions and the patients, but they take place in every weather condition (PP2, 39–45). It is not mandatory for patients to do these walks. They choose an additive form of therapy like FP walks (PP2, 97–99). Three Persons now conduce the therapeutic forest pedagogic walks. They all completed the FP certificate course in FAST Ossiach, two of them are directly working at the FAST (PP2, 55–58). The project leader stated that for the patients of the rehabilitation centre, walking into the forest can have strong benefits, even if they pose a certain risk for injuries:

“Of course, with every form of therapy, there is a particular risk of injury. The patient must also be informed when this therapy is recommended to him about the treatment and therapy guidance. You can fall anywhere, that can be inside a rehab centre on a staircase or on a tile floor. The whole thing is, of course, also in a natural environment, I say, much more likely. But it is also a particular form of mindfulness training. Being mindful of oneself, of one's environment, being mindful of life, and one of the goals of rehabilitation everyday life. Daily life also means moving around safely in a natural environment (PP2, 114–120).

The project leader states they are using forest pedagogics and forest therapy as relaxation therapy. These activities strengthen positive emotions. Patients with long pain anamnesis often find a certain distance to their pain in the forest's quiet atmosphere, which is very valuable for the rehabilitation centre (PP2, 71–78).

The decision to bring these forest walks into life came from the project leader. SKA Warmbach is a private company, and therefore, they have short ways of decision-making. After deciding to try his therapy form, the board was informed, and then they soon got the leave to do it (PP2, 46–47). In the development and conduction, they had no other partners than the FAST Ossiach. Knowledge about the subject was gained by literature research but mainly by discussing the topic with experts at FAST Ossiach. The project leader also visited the FP congress in Vienna and two events at FAST Ossiach (PP2, 102–107). He also highlighted his lifelong experience working in this field and his connection to nature from his childhood (PP2, 81–87).

Asked, the project leader stated there were no hindering factors but a working process to improve the system. Today at SKA Warmbad, the therapeutic walks are an established form of therapy, and no one is questioning it (PP2, 169–176). On the contrary, there is still a big



enthusiasm about the walks, and more patients want to use this treatment opportunity. It is planned to expand the walk also for people, which have more serious psychological problems soon. They are currently working to develop this issue with a team of 4 psychologists (PP2, 138–150). The project leader stated that his institution is always looking for creative ideas to care for their patients (PP2, pp. 5–6).

Applying the “Triad of Actors” by Lukesch (2017), the trusted core of key actors is found to be relatively small. It consists only of the project leader and a member of the caretaker’s team at SKA. Also, the intermediary support structure was relatively small and consisted only of members of the FAST Ossiach, with the head of the training centre on the front line. Nevertheless, the connection and trust between the project case study and the actors of FAST Ossiach can be seen as quite strong. Finally, the public actors providing the shadow of hierarchy can be seen in the Federal Ministry of Agriculture, Regions and Tourism (BMLRT). Although the BMLRT was not directly involved in implementing this project, the general framework was provided through legislation and information.

The trusted core of key actors had enough financial resources to start developing the project independently. Also, the necessary internal processes within the institution were finished easily. They got support in knowledge transfer on how to conduce forest pedagogic walks from the FAST Ossiach and used their know-how and further research on the topic to develop a concept. Further, the Fast Ossiach helped to connect to the forest pedagogic network. Neither internal nor external factors were found to be hindering. Because it is a therapy form at the SKA in their treatment programme, they use it only for the patient who is on rehabilitation. Therefore, they do not have to earn an income from these walks. The project leader stated they only want to expand the project within the institution to other groups of patients, which can be referred to as long lastingness or sustainability. There is no interest to scale the project up, which would probably need more substantial involvement and more actors from the intermediary support structure.

On the other side, the project is used as a best practice example within the certificate course Green Care Forest, where the project leader is holding a lecture about the health benefits of forest walks. Also, an excursion to the site and a live show therapy walk is done in the certificate course.

#### 4.8.2. Forest health trail in Nature Park Geras

The municipality Geras with the nature park is located in the northern part of Lower Austria. The nature park, covering 140 hectares in Geras, was founded in 1967 as the third nature park



in Austria after Sparbach and Eibenstein-Grillenstein. The landscape consists of a mosaic of fields, ponds, mixed forests, hedges, meadows and fruit trees. There are different touristic attractions within the nature park, especially the petting zoo, the themed trails and the lookout hill. Outside the nature park, there are bathing and fishing ponds. Also, the monastery Geras with the herb garden and fasten courses is close by (Verein Naturpark Geras 2018).

The project idea came from Mr Riener, born in the "Waldviertel" where he lives and works as a forester and runs his own technical office (PP1, 9–13). He is convinced about the health benefits of forests from his own experience. However, he is sceptical because forest and health-related topics are often scribed with esoteric explanations (PP1, 13–29). In the past, Mr Riener was already interested in this topic. He even had a green care consultation for his property (PP1, 100–105).

Mr Riener was trying to improve the economic situation in the region (PP1, 42–48). He met Ms Hackl, who connected him to BFW, where she worked in the economic council. She told him about the start of new activities the BFW is carrying out in the field of forest and health (PP1, 30–35). Ms Hackl worked on promoting forest-related topics in the region of "Waldviertel". They met once and found out about their common interests. They wanted to create projects with economic benefits not only for voluntary workers. She eventually stepped out of the working process for working on other projects (PP1, 69–74).

“And perhaps what was interesting about the project was that it did not come from above, but from below. So it was not put on us, but we looked at what could be done. Then the nature park came into play because the infrastructure is there. I think to myself, one should use what is available because the pressure on the forest is getting higher and higher, no matter from which side. And I think if green care becomes an additional income, it is just more clever that I now take, for example, the nature park. Nature parks need a new identity. But, still, they have the infrastructure. And there was not only the forest but also the monastery Geras, then the pond landscape, which runs through” (PP1, 39–50).

After the first contact with the programme leader at BFW and the first project drafting, all involved persons met to figure out if it was possible to do this project or not (PP1, 48–55). Altogether, involved in the project are Arne Arnberger (University of Life Sciences Vienna), Margit Perzy (Nature Park Geras), Alexander Graffi (fasting classes Abbey Geras), Franziska Krainer (Green Care Wald, BFW), Wolfgang Riener (technical office for Forestry), prior Andreas Brandtner (Stift Geras), Philipp Markus (chairman des Nature Park Geras) und Hermine Hackl (Austrian Forest Wood Paper cooperation platform (FHP)) (Niederösterreichische Nachrichten 2018). The project application was submitted in February 2018 by BFW (PP1, 120–126).

The monastery was involved in the development phase already from the beginning. Mr Riener got the contact from the leader of the to fasten courses, who saw the benefits in the project (PP1,

81–85). The BFW is now supervising the project, and Mr Riener is the contractor. Mr Riener acts like an interface between the monastery, the nature park, the BFW and the University (PP1, 130–135). The funding for this project comes from the Austrian Rural Development Programmes 2014-2020. The scientifically study carried out by the University of Natural Ressources and Life Sciences Vienna is also paid through the project grants (PP1, 163–180).

The project aims to develop a theme path using existing infrastructure (PP1, 315–323). Activities of Forest and Tourism and Forest and Culture are also involved (EP 9, 28:45). It is planned to work only with healthy people (PP1, 139–150). Another aim of the project is to apply to the general praxis. Therefore, the health benefits of the recreation trail have to be proven and described (PP1, 187–200). The final result should be a handbook and the scientific data (PP1, 250–258). Visitors guidance is also essential, especially for mountain bikers (PP1, 387–390). Mr Riener also suggests involving the Association Green Care to develop a certification process for such trails (PP1, 227–229).

The project should benefit the whole region with the existing local businesses, hotels, and B&Bs involved. The benefit for the Nature Park Geras would be a higher admission from more visitors. One supporting factor of the project is that nature parks are allowed to charge fees for entrance, as written in Lower Austria's provincial nature protection law (§13 Article 2 NÖ Naturschutzgesetz 2000).

Reflecting on the development, Mr Riener stated the commonly most hindering factors, forest owners and financial resources, were not a big deal in this project. In Geras, everything in terms of resources, financially and information, was available. That everyone is supporting this project is seen as very special. The reason for this was the bottom-up approach, which is characterizing this project (PP1, 348–361).

“Yes, the source of income should be, on the one hand, that you go just with guided groups through the forest. Then you have some supervisor, so the supervisor gets the money. Certainly, the nature park profits through higher admissions than usual. Visitors may stay longer or maybe stay overnight or spend money. ... In the future, you can sell this product ... the concept development for future Green Care Forest projects” (PP1, 291–307).

Mr Riener highlighted the outcome of this project, and the accompanying study should last longer than just a few years. The benefits should unfold for the whole region and beyond (PP1, 424–431). Other municipalities or institutions should use this example to consider if they want to start a similar project and if it would be possible in their forests. The experts should be conducted to help to develop the projects in the other forests. With a certification given to companies, which do the work in the right way, it should be ensured to have high-quality standards and scientifically proven methods and settings. There have been no discussions about implementing the certificate so far (PP1, 209–229).

Looking at the project in the concept of “The Triad of Actors”, the core of key actors consists of Mr Riener, the project coordinator, the prior or other members of the abbey of Geras, the fasten trainer of the monastery and the chairman of the Nature Park Geras. This group is locally well connected and has a very positive attitude to the project. Although Ms Hackl helped to develop the project initially, she then left the organisation process. She should be considered for her information and network support as part of the intermediary support structure. Further, the members of BFW and the BOKU can be regarded as in this group. On the level of the shadow of hierarchy again, the BMLRT supports the project through the BFW. The regional law is also an essential factor considering it enables the earning of fees in the Nature Park Geras. This source of income has a strong impact because the project would not be possible in this way without it.

In this project case study, the BFW supported the whole project financially. As explained before, the BFW received funding for conducting pilot project studies in the area of GCF. They also provided their knowledge about forest health trails and initiated the scientific supervision and study conduction through a professor at BOKU. After implementing the forest health trail, a scaling up is already discussed. The BFW, especially with their connections to the initiative Green Care, is a strong partner to support and guide these efforts.

#### 4.8.3. Anton-Proksch Institute for addiction therapy (API) – Vienna

The API is one of the largest and most renowned addiction clinics in Europe. It is located in Kalksburg, southwest of Vienna, surrounded by the Vienna Woods. The main facility is a psychiatric hospital, but there are also outpatient facilities and counselling centres in Vienna and Lower Austria (Lirsch 2021). In 1956 the non-profit foundation was established as "Genesungsheim Kalksburg" under the then Minister of Social Affairs, Anton Proksch, and on the initiative of Univ. Prof. Hans Hoff and Dr Emil Tuchmann. In 1975, after the death of Anton Proksch, the institute was renamed the Anton Proksch Institute. In the following years, expansion and reconstruction of the premises and expansion of the bed capacity to currently 276 (API Betriebs gemeinnützige GmbH 2020).

Alcoholism was the first substance for addiction treatment. In the early 2000th, many doctors believed addiction to alcohol could not be cured. Over the years, many other addictions have emerged: drug addiction, nicotine addiction, shopping addiction, Internet addiction, computer addiction and gambling addiction. Around 10,000 care days are provided at the Anton Proksch Institute every year. In addition, low-threshold services are provided (API Betriebs gemeinnützige GmbH 2017).

In the run-up of the cooperation between BFW and API, BFW held an expert workshop on addiction prevention and addiction therapy. The BFW invited experts from forestry and addiction prevention and therapy. The aim was to determine how forest activities can be used in this subject area (EP 9, 269–274).

Out of this workshop, concrete projects have already been developed. One of these became a GCF project. In this project, the BFW cooperates with Stefan Lirsch, a certified forest pedagogue, systemic outdoor coach, seminar leader lecturer, and the Anton Proksch Institute for addiction therapy. Starting in spring 2018, Stefan Lirsch conducts guided forest therapeutic walks according to the developed concept (EP 9, 274–279).

With the development of the Orpheus Programme as part of the therapy at the Anton Proksch Institute, a paradigm shift in addiction treatment away from abstinence as the only goal to the goal of enabling a largely autonomous and joyfully experienced life was made (API Betriebs gemeinnützige GmbH 2017). The programme includes aspects of the nature experience, mindfulness and body experience modules, and hiking and culture. Situationally, activities that would be assigned to the areas of creativity and music are also incorporated. Actions that would be assigned to the areas of creativity and music are also incorporated. The 'Forest Hiking with the Healing Power of Nature' is affiliated with the API's physiotherapeutic department. The supervising physicians and therapists give the releases for all the walks and are therefore very important in the run-up to the forest walks (Lirsch 2021).

Forest hiking is offered twice a week. Patients who are in treatment for substance-related addiction and non-substance-related addictions can take part. The excursion lasts for two hours in the early evening (in winter in the dark) and three hours in the afternoon. Stefan Lirsch leads the hikes and is accompanied on a case-by-case basis by physiotherapists in training or by psychologists doing an internship at API (Lirsch 2021).

Participation in these therapy walks is voluntary and usually sought by the patients or recommended by their therapists. - The number of participants is limited to 15. Patients should be physically fit to go on two hours hikes. They are informed in advance about the requirements regarding fitness and condition and the duration of the walks. Also, therapists must take the patients' current medication regime and state of health into account (Lirsch 2021). The first of these hikes were in spring 2018, around the initiated workshop. It is a fixed component of the therapy efforts of the Anton Proksch Institute now (EP 9, 282–285).

After the successful start of the cooperation, the BFW now works on further concretizing what addiction therapy in the forest can be. The question is what is needed to conduct forest therapy walks and what shape the interaction with the hospital can have. This effort aims to create a product that can be transferred to other addiction facilities (EP 9, 285–290).

Aside from the practical insights from the conduction of forest therapy walks by Stefan Lirsch, a master thesis will also be written to establish a theoretical framework for this therapy application. The student, therefore, will investigate how this addiction therapy affects the test persons. This thesis is supervised by Dr Cervinka, who also conducted a previous study on the health benefits of forests (EP 9, 377–385).

In “The Triangle of Actors”, the core of key actors is the team of the API working on the guided forest therapy walks and Mr Lirsch conducting them. Both partners have strong knowledge of their field of expertise, which enabled them to start the project. Therefore, the BFW can again be considered as the intermediary support structure. On the level of the shadow of hierarchy furthermore, the BMLRT supports the project through the BFW.

In the project's initiation, the BFW provided support with networking and knowledge transfer in the form of different workshops. Following these workshops, there were no financial supports to the API. Similarly to the project case study with SKA, the API had enough own financial resources. After successfully starting the project, the BFW financed a publication about the project and information on how to conduct forest therapeutic activities accomplished from the knowledge gained through the project.

## 5. Discussion

### 5.1. Resources

Before discussing the results on the development of the policy programme Green Care Forest (GCF), the resources used within are discussed in this section. Knoepfel et al. (2010) pointed out the significant importance of analyzing policy resources in public policy analysis. The following section will discuss findings from interviews and literature regarding personal and financial resources, cooperation, consensus, and legal implications. When looking at personal resources, it was found that the Federal Ministry responsible for forestry (BMLFUW, renamed in BMNT after 2018, renamed in BMLRT after 2020) has only three employees coordinating the four pillars of GCF aside from their primary duties. At the BFW, there is only one full-time position funded through the EU funding programme for Rural Development and supported by colleagues aside from their primary responsibilities. The interviewed experts working in the GCF programme stated that the lack of personal resources was a significant problem for developing the four pillars. According to the experts, it is impossible to cover the topics adequately, meetings can't be held, international cooperation can't be fostered, and projects like certification of companies are not possible to start at all due to the lack of personal resources.

When looking at the financial resources, findings show that the budget of the policy programme comes mainly through the EU funding programme for Rural Development. These funds are used for all activities carried out by certified forest pedagogues and F&C mediators. Further, all conferences, workshops, pilot projects are financed under this scheme. However, at the Federal Ministry responsible for forestry, there are minimal financial resources from the department budget available for activities within GCF. At the BFW, there is no basic funding for the programme. Therefore, every year a new project is applied by the BFW within the programme of Rural Development to be able to finance the project coordinator and all other activities within GCF. This lack of resources limits continuous work on the topic, and on the other hand, there is no room for manoeuvre for activities not covered in the funding scheme.

When looking at the development of the social pillars and the policy programme GCF, this low level of personal and financial resources was compensated by strong voluntarism and idealism from various civil society actors and the third sector. These are the founded alumni associations and networks working in FP und F&C, foundations, interest groups and other non-profit organizations. Only in F&T, no network or association developed. All these actors contributed with a vast number of personnel resources in the form of volunteer work. Some individuals stand out here, like Dr Elisabeth Johann, who worked voluntarily on many certification courses and was consulted for the Federal Ministry and others at different times.

The cooperation with the players working on GC in the agricultural sector like the Austrian Chamber of Agriculture, the Association Green Care, and the University College for Agrarian and Environmental Pedagogy was stated to be the most crucial strengthening factor for the policy programme. The nationwide network of Green Care consultants of the Chamber of Agriculture was used to spread knowledge about forest and health activities and channel subject-specific questions to the BFW. In general, knowledge-sharing and planning are done in regularly held meetings. Representatives from the health sector were cooperative and supported the development of health-promoting activities from the beginning. However, they also follow their projects with often less attention to the forests and forest owners, a fact which was criticised by experts.

Consensus is another policy resource described by Knoepfel et al. (2010) and was very important for developing the case study. Many actors strongly supported the activities within GCF. On the other side, the criticism of certain players inside the Federal Ministry responsible for forestry and in practice can be seen as a major hindering factor for the formulation and implementation of the programme. Especially at the start of FP, many representatives from the field were not taking FP seriously. Furthermore, especially touristic activities are seen as competing with the economic interests of managing a forest. There is the fear that an increasing visitor pressure in the forest would make wood harvesting or hunting more difficult.

When looking at the legal implications as a resource of the policy programme, the legal right of everyone to enter forests for recreational purposes sets the frame for all activities within GCF. Therefore, forest owners must create a marketable product to earn an income from social activities in their forests. The liability of forest owners for accidents on forest roads were mentioned several times as a hindering factor. So, in addition to the greater difficulties in wood harvesting, also this liability is often used to argue against opening forest roads for mountain bikers. For other social activities in forests, however, these arguments only play a minor role. Making changes in forest law to improve the issues around this liability was stated to be very difficult.

Altogether, a lack of financial and personnel resources can be seen throughout the development of the programme GCF. Some of the missing workforces were compensated through voluntary work of alumni associations and networks, and others. The cooperation with the association Green Care Österreich was found to be the most important and fruitful one. Also, cooperation with the health and touristic sectors brought many advantages. On the other side, these sectors also focused on their own projects within the subject area with a limited interest for coordination. Idealism is a major supporting factor for the programme, while there was also strong resistance found within the Federal Ministry and in practice. In addition, the right of everybody to enter forests for recreational purposes in Austria and the liability for forest owners is found to be hindering factors.

## 5.2. Formulation of the Green Care Forest programme

The policy programme Green Care Forest (GCF), the case study in this thesis, builds upon the four programmes that promote social activities in forestry. These programmes existed before the implementation of GCF in 2014 and were then called the four pillars of GCF as following: Forest Pedagogics (FP), Forest and Culture (F&C), Forest and Tourism (F&T) and Forest and Health (F&H). This thesis aims to understand the development of the policy programme GCF in Austria. Therefore, the development of the four programmes, supporting social activities in forests and their unification under the umbrella of GCF, is described in detail in the results section. Further information about the motivation and intention of the relevant actors obtained through the interviews are also described, as they play an important role in the analysis of the policy programme (Kalof et al. 2010).

As described in the introduction, topics like nature tourism, recreation, education, and cultural activities have become more and more important over the last decades. Similarities but also differences were found by looking at the development of the four programmes. In all programmes, external knowledge from existing projects and literature like in FP or symposiums like in F&H or political conferences like in F&C or interest conflicts like in F&T were taken up by and worked on by employees of the Department III/3 of the former Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW). This phase is described in the result section as the latent phase.

Activities from all four topics were institutionalized to programmes within some years after the first activities to acquire knowledge or, in the case of F&C, working on developing the certificate course. Only the F&T programme stopped being active after the series of workshops “Destination Wald”. This process is described by Howaldt and Hochgerner (2018) and Oeij et al. (2019) as the implementing period in the social innovation process. In this study, no evidence was found that the four programmes were communicated to non-involved actors but were managed like programmes by the Federal Ministry responsible for forestry.

The first institutionalized social activities carried out by the BMLFUW in forests started in Austria in 1994 with the first FP course at Forest Training Centre (FAST) Ort. The training centres Ort and Ossiach were part of the BMLFUW until 2005. After Forest Youth Games (Waldjugendspiele) were organized in Upper Austria in 1984 and in Lower Austria in 1988, according to Voitleithner et al. (2002), the federal government actively began to develop social aspects of forestry.

Later in 2007, F&C as the second pillar started with the first certification course at FAST Ort. This course aims to develop projects to offer funded guided tours with cultural or historical topics in the context of forestry. An alumni association was created for both pillars to stay



further connected, network, promote, and develop these subject areas. A working series on F&T was started in 2007 to discuss and promote the touristic aspect of forests. In 2011 the first conference focusing on the health aspects of forests was conducted.

FP is the most institutionalized and vital pillar of GCF, with many activities carried out by 1000 certified forest pedagogues as of 2016 (Johann 2016). Forest pedagogic walks are funded for Kindergarten- and School groups and groups with mentally or physically disabled people. The BFW highlights the role of FP in carrying out health-promoting activities within GCF.

Cultural aspects of forestry were promoted and improved on a European level through the Ministerial Conference on the Protection of Forests in Europe (MCPFE – now FOREST EUROPE) in the year 2003 in Vienna. At this time, working groups were already focusing on cultural aspects of forests. The staff members of the former BMLFUW, together with an expert in forest history, developed a certification course on this topic. Although projects emerging from this course are described as innovative, there are only a few Alumni of this course. This topic can be seen as a niche even in a (forest-) culturally rich country like Austria.

The touristic pillar itself was promoted the least before and after the start of the GCF programme. However, a few activities and projects have been supported within this pillar. The significant potential of this pillar was highlighted many times in the expert interviews and also in literature, for instance, by Mayer (1990), Grieshofer et al. (2011) and Arnberger et al. (2016). This potential is also highlighted as experts interviewed stated, all other three pillars of GCF could have a touristic aspect but not necessarily must have one. However, conflicting interests within the forestry and hunting sector showed to be a major hindering factor for the development and upscaling of forest touristic offers. Two interviewed experts, one directly involved in the GCF programme, even stated that social activities in forests can only be a by-product of wood production, which refers to the wake theory. Glück (1982) showed that this claim or "theory" is low or not justified. The development of this programme probably has to be seen in a different light because it is unlikely that a certification course for touristic activities will be developed, in contrast to the cultural, pedagogical or health-related topics. This is in spite of the fact that, within the series of workshops, it was made clear by use of best practice examples that touristic offers in forests can be a vital source of income for forest owners.

A strong focus was found in promoting health aspects of forest from 2011 till 2014 within the Forest and Health pillar. There were even more activities carried out after the start of the GCF programme. This focus can be seen in a range of different activities like the commissioning of the scientific study by Cervinca et al. (2014), the international conference held in 2017, the support of various projects, the published information material, the involvement of the BFW in the FOREST EUROPE "Expert Group on Human Health and Well-being". Three initiatives

were supported within GCF to gain new insights and create knowledge about the health effects of forests and to use them as best practice examples.

In 2014 the policy programme GCF was implemented. The preceding formulation of the programme was done in close cooperation with the Viennese Chamber of Agriculture. The decision was made to develop the programme independently from the green care (CG) activities in agriculture. The Federal Ministry understands GCF as an umbrella policy programme to bundle all activities within the four programmes. In the same year, the Federal Ministry also implemented a contact point for GCF at the BFW (Schwarz 2014).

Concluding on the development of the four programmes, activities in FP, F&C and F&H were successfully implemented before the start of the policy programme GCF. Activities in F&T stopped temporarily in 2016 after the series of workshops. Activities in F&H under the term of GCF were strongly promoted at the BFW after 2014.

Besides the Federal Ministry responsible for forestry and the BFW implementing the programme GCF, many organisations and institutions are directly and indirectly involved in the programme. The most important partners are the actors in green care in agriculture like the Viennese Chamber of Agriculture, the association Green Care Österreich and the University College for Agricultural and Environmental Pedagogy. Also important are the ministry representatives in the health and tourist sector. Furthermore, alumni associations were founded in FP and F&C, aside from other associations cooperating with the initiative. Different stakeholders from the forestry sector are regularly invited to steering group meetings to coordinate the topic. In addition, various institutions and universities cooperate with or are commissioned to conduct studies and workshops for the programme GCF.

In the course of the interviews, two points were found to play an important role in the development of the case study and therefore are worthy to attain a special focus. On the one side, results from the interviews and the comparison of the websites showed that the BMLFUW and the BFW are using the term GCF to describe different things. On the other side, experts interviewed had different opinions on using the designation GCF for the programme. In the following, the evidence found will be laid out shortly, and the case study's implications will be discussed.

Looking at why GCF was chosen as the name for the policy programme, the following were stated as the main reasons: using an already established term to be better understandable for people not involved and to use synergies with the green care initiative in the agricultural sector. Both reasons named can be confirmed by other evidence found in the study. The connection to green care activities in agriculture can also be seen on the webpage of the Federal Ministry introducing GCF. On this website, the intensification of social activities in forestry is set as a

goal and functions as a platform with an open modular system to offer interested forest owners the opportunity to open their forests accordingly for those seeking relaxation.

The BFW understands the term GCF primarily for the health aspects of forests. This focus on the health topic can also be seen in different activities carried out like conducting an international conference on public health, the involvement in the FOREST EUROPE “Expert Group on Human Health and Well-being”, the newly developed certification course “Green Care Forest” and also on their website. Experts working within the programme GCF confirmed that BFW is focusing on F&H. They also stated that they were working on the other pillars, but because the health topic was the “youngest”, it needed the most attention.

When looking at the definition of green care, both meanings are covered because the term can be seen narrow for health-promoting activities with natural elements (Haubenhofner 2010) or wider containing also social and educational benefits (Hine et al. 2008). Further, the concept of GC is understood differently in each country in Europe. It also became visible through the interviews and information on the website of the Federal Ministry that green care activities in agriculture and forestry are strongly subsidised within the Austrian Rural Development Programme 2014-2020.

To unite all four programmes under one umbrella but not promote the term through PR measures internally and to the public can lead to limited acceptance by people involved in the four programmes. The concept of GCF was promoted to forest pedagogues at conferences and for all in forest-related magazines. Especially in the F&C programme, a strong identification with the term forest culture became visible.

The different use of the term GCF by the Federal Ministry responsible for forestry and the BFW can cause misunderstandings and confusion. One of the most relevant questions is whether the bundling of the four programmes is accepted and the actors involved can identify themselves with the term. As one interviewed expert working within the policy programme GCF stated, the Federal Ministry would evaluate the use of GCF after a certain period. Therefore, it seems this topic is still discussed internally.

### 5.3. Initiatives within Green Care Forest

This section focuses on answering the research questions related to the three project case studies (PCS) directly connected to the programme. As all three PCS have just started or were in implementation at the time of the interviews, no long-term experience was available about the upscaling of the projects.

In PCS 1, “Therapeutic walks at Special Institute for Rehabilitation Villach” (SKA), forest pedagogic walks are developed to be used within the treatment programme of the rehabilitation centre. Thus, the PCS was successfully implemented and will be expanded to a broader group of people. The FAST Ossiach was involved in initiating and developing the project. They provided knowledge about forest pedagogic activities, especially in the beginning. Since the start of the first walks, trainers of FAST Ossiach were conducting the therapeutic walks alternating with trained forest pedagogics working at the SKA. The SKA used their knowledge and experience to find out how to organise these walks.

In PCS 2, “Forest health trail at the Nature Park Geras”, a health trail was planned as an offer aiming to attract more visitors to the region. A cooperation between local actors like the monastery Geras, the Nature Park Geras, a fasting seminar trainer and touristic operations were planned. The project manager was found to be the initiator of the project and the driving force behind the assembly of all project partners. The BFW took over the role of the contracting authority and therefore funded the project and commissioned accompanying research done by the University of Natural Resources and Life Sciences, Vienna.

In PCS 3, “Addiction therapy at Anton Proksch Institute”, forest pedagogic walks are used in addiction therapy. The initiation came from a workshop the BFW held, and the walks are conducted by a well-known forest pedagogic expert, who has already published various handbooks on this topic. Similarly to PCS 1, the starting impulse was set by the BFW. Financial resources and the therapeutical knowledge to develop the therapy walks came from the Anton Proksch Institute. The expert in forest pedagogics was involved in creating the programme but is also conducting the walks.

All three PCS are found to be developed from a bottom-up approach. This is true, even if the BFW and the FAST Ossiach gave the initiating input in PCS 1 and 3. In all PCS, forest pedagogics plays a vital role in therapeutic purposes or strengthening the participants' health. The BFW has also used the information from these cases to create information material or share them in seminars and excursions. In PCS 2 and 3, further scientific research is conducted to develop a scientific basis for the health-promoting topics in forestry.

Regarding the development of PCS 1 and 3, there can be seen many similarities. Both projects were initiated through the input of the BFW or its training centre in Ossiach. Both institutions are already firmly established for many years. Financial instruments were not needed in the initial process neither in the conduction of the guided tours. Both institutions benefited strongly from the newly developed extensions of their offers. They can be denoted as sustainably, meaning the programmes will be long lasting, as described by Howaldt und Hochgerner (2018) and Oeij et al. (2019). The BFW provided knowledge in both cases and connected the project team of case 3 with the expert in FP, who developed the addiction treatment together with the

institute. The PCS 2 is the only project planning to expand to other places, which can be seen as scalability as introduced in literature by Howaldt und Hochgerner (2018) and Oeij et al. (2019). Reflecting on the definition of SI by Polman et al. (2017), used in this thesis, only the PCS 2 can strictly be considered a SI since civil society actors' involvement is missing because it is commercial companies that carry out the activities. However, in all three examples, health-oriented activities in forests have been developed in cooperation between forest and health-related actors and with support through the GCF programme. They are supporting both well-being of people as well as the creation of new jobs in rural areas.

To summarise, three projects were supported by the policy programme GCF through the BFW. These projects are developed in the Special Institute for Rehabilitation Villach (PSC1), in the Nature Park Geras (PSC2), and at the Anton Proksch Institute in Vienna (PSC3). For all PSCs, knowledge was provided, and networking activities were supported. However, financial support was only used for PSC2.

## 6. Conclusions and outlook

This thesis aims to describe and analyse the development of GCF in Austria. A case study approach was chosen to gain an in-depth understanding of the programme. Eleven qualitative semi-structured interviews with experts were conducted. The results showed that since the 1980<sup>th</sup> social activities in forests arose in Austria and have been actively promoted by institutional bodies. Four programmes developed parallel in this field with Forest Pedagogic as the first, followed by Forest and Culture, Forest and Tourism and finally Forest and Health. The policy programme Green Care Forest started in 2014 and mainly promoted the health aspects of forests but also forms an umbrella over all four pillars.

Knoefel et al. (2010) highlighted that actors, their resources, and the institutional context are crucial elements for policy analysis. Results from interviews showed the policy programme had a lack of basic budget and workforce. However, they managed to carry out a vast range of activities since the start. For this purpose, they mainly used the funding scheme of the European Rural Development Programme. Voluntary work and support of many civil society actors within the forestry sector showed to be significant supporting factors. Alumni associations from certification courses and working groups helped the programme generate knowledge and receive additional working resources. Considering this circumstance, a lot of work done would not be possible without the efforts of many volunteers. The cooperation with green care activities in the agricultural sector was found to be strongly advantageous for using a solid network and already established structures to share knowledge and reach a wider audience. Cooperation with the tourist and health sector turned out to be fruitful, but there were also constraints for deeper long-term collaboration. Strong resistance and rejection by various actors within forestry was a major hindering factor for the initiative, in particular with regard to promoting touristic activities in the forest. Nevertheless, various attempts with publications, seminars, workshops and within the Austrian forest dialogue were made to show the potential of these activities as a source of income for forest owners.

The term Green Care Forest is used in two different meanings within the policy programme. On the one side, the BFW focuses on health topics. On the other side, the definition is also used as an umbrella term for all four social pillars by the Federal Ministry responsible for forestry. Foremost the health pillar was developed after 2014.

The forest sector as a primary sector is considered to have a low average rate of innovation. Activities conducted within the policy programme can be regarded as innovative due to the high degree of novelty and their absence in the Austrian forestry sector before. As shown in literature, social innovation should not be driven by maximizing profits but must be economically successful to sustain over a more extended period. The programme managed to create a platform supporting companies, forest owners, and other private actors to diversify and

create an additional income in social forestry. Especially health-promoting activities are developed within the programme and can create new job opportunities. These activities can foster rural development and may help to prevent people from moving from rural areas to the city when there is no work available.

Three projects were analysed as pilot projects of the policy programme. The main goal of supporting these projects was to create knowledge and experience on health-related subjects. This knowledge was also expanded by assigning a scientific study, a scientific conference, and the active involvement in a European working group on forest and health. In addition, different measures like seminars, presentations, handbooks, and other publications and activities were conducted to communicate and promote the topic, share the knowledge, and give practical information.

To summarize, the activities carried out by the policy programme GCF followed international but foremost European policies and trends and successfully developed a broad spectrum of activities in social forestry. However, due to the short implementation period of the policy programme, further analysis of the programme's outcomes in some years would be important to gain better insight. Furthermore, the studied pilot projects have just started or been implemented at the time of the interviews. Therefore, further research should be done to analyse how the efforts of upscaling these initiatives worked out.

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