

expedition.nationalpark.2022 – Dialogue as a method for a transdisciplinary format

Monika Auinger^{a, *}, Michael Jungmeier^a and Kathrin Hilgarter^b

aCarinthia University of Applied Sciences, UNESCO Chair on Sustainable Management of Conservation Areas

Europastraße 4, 9524 Villach, Austria

bCarinthia University of Applied Sciences, Research group: Sustainable Innovation Research & Development

Europastraße 4, 9524 Villach, Austria

E-mail: m.auinger@fh-kaernten.at, m.jungmeier@fh-kaernten.at, k.hilgarter@fh-kaernten.at

In the unique ecosystem of the Hohe Tauern National Park (HTNP), balancing agricultural activities with conservation efforts presents a complex challenge. This study addresses the critical issue of communication between the national park and the agricultural sector, aiming to bridge the gap between these two vital stakeholders. Two primary research questions guide this inquiry: firstly, the evaluation of participants' perspectives on the developed transdisciplinary citizen science approach; secondly, the identification of specific aspects crucial to agriculture within the HTNP. These research questions employed a transdisciplinary citizen science format that took place for the first time in Mallnitz (Austria) in 2022. Local actors and researchers met for visits to ten agricultural hosts, engaging in discussions that were recorded and subsequently subjected to content analysis. The results indicated a high positive assessment of the transdisciplinary format. Key factors identified as pivotal in the agricultural context of the HTNP include grants, contracts, and notifications, appreciation and recognition, time constraints, the entrepreneurial spirit within the region, and the return of wolves. The study concludes that the transdisciplinary citizen science format is effective and adaptable for similar settings. Additionally, the findings serve as a foundational resource for the ongoing development of the national park and its management plans, providing invaluable insights for decision-makers and stakeholders involved in the conservation-agriculture interface.

*Austrian Citizen Science Conference 2023, ACSC2023
19 - 21 April 2023
Linz, Austria*

*Speaker

© Copyright owned by the author(s) under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0).

<https://pos.sissa.it/>

1. Introduction

Agriculture in Hohe Tauern National Park (HTNP) is characterised by small-scale family farms, many of which are part-time businesses. The progressive change in mountain agriculture starting in the 19th century has different social and economic backgrounds. Furthermore the change has a variety of consequences for the cooperation between agricultural stakeholders and national park management. Agriculture that conforms to national park standards has a significant impact on the ecological balance and biodiversity within the national park. Therefore, enhancing farmers' environmental awareness and fostering a collaborative approach between agricultural endeavours and conservation initiatives are imperative steps towards achieving harmonious coexistence and ensuring the long-term sustainability of these ecologically sensitive regions [2].

Ninety-eight percent of the area in the Carinthian part of HTNP is privately owned, the majority of which is made up of agricultural communities and individuals. This supports the importance and need of effective cooperation and communication with a new dialogue format that brings together local knowledge and the interests of the HTNP. Collaboration among various sectors and local actors can facilitate the optimal utilization of natural resources, aligning with environmental, social, and economic interests [3, 4]. Therefore, an innovative transdisciplinary citizen science approach was developed and applied.

The format addresses the following research questions: How do participants assess the citizen science approach of the expedition in the national park; which specific aspects are currently crucial in the context of agriculture within HTNP?

2. Method

An innovative transdisciplinary expedition in a dialogue format – called expedition.nationalpark.2022 – was designed to integrate the local perspectives with external scientific viewpoints, thereby adopting an approach involving citizen scientists.

2.1 expedition.nationalpark.2022 – the format

The three-day expedition took place in May 2022 in the small national park community of Mallnitz. It was a result of a long collaboration between the Carinthian part of HTNP and Carinthia University of Applied Sciences (CUAS).

The expedition was structured to encompass visits to ten distinct agricultural stations (hosts), selected by an expert panel comprised of representatives from CUAS and HTNP. The selection of hosts was made to ensure a diverse range of perspectives could be obtained. This encompassed insights from part-time and full-time farmers, as well as the recipients of agricultural products from the catering and hotel industry. The expedition team was led by a national park ranger and a researcher, moderating discussions and ensuring the integrity of the scientific process (recording of statements and documentation). Prior to the expedition, the participants were provided an informational package that was supplemented by oral briefings on site. The hosts were also prepared in advance through standardized telephone conversations regarding the participants and their objectives.

Each station visit commenced with an introductory session, followed by interactive dialogue. At the conclusion of each station visit (duration of 2 hours per station), participants and

hosts were encouraged to summarize salient points of significance. Subsequently, these statements were recorded, transcribed, organized with MAXQDA and analysed using content analysis by Mayring [5]. The CUAS scientific project team did the inductive development of categories for the data material in a research workshop. Furthermore, in November 2022, a final workshop was organized with all participants to discuss the results and to work out joint retrospectives, insights and outlooks.

2.2 Participants

A total of six participants aged between 23-62 years took part in the expedition, as seen in Table 1. The expedition team consisted of three CUAS scientists with diverse scientific backgrounds and three local actors from the HTNP region with diverse range of agricultural backgrounds including active or retired farmers and the chairperson of diverse agricultural interest groups. The expert panel (CUAS and HTNP) carefully selected participants based on (1) their connection to agriculture and (2) a commitment to active engage for a duration of three days.

Table 1: Characteristics of participants

	Scientists (n= 3)	Local Actors (n= 3)	Total (n = 6)
Age in years±SD	36,3±6,5	49,0±18,4	42,7±15,2
Sex			
male % (n)	33,33 (1)	100 (3)	66,67 (4)
female % (n)	66,67 (2)	0 (0)	33,33 (2)

3. Results

3.1 Assessment of the expedition.nationalpark.2022 format, participants' viewpoints

The results, accompanied by participants' statements, show that the participants' satisfaction with the innovative format of the expedition was high. The claim *"that one will experience something new"* (participant 2), as is hoped for in many large expedition adventures, seems to have been fulfilled. The format is an *"exciting development process"* (participant 1), which only grows by *"getting involved [...] in the group [...] just more and more with time"* (participant 1) [1].

Further, *"many different groups and different interests"* (participant 3) were represented at the expedition. The high diversity was mentioned as a success factor accompanying the event format. *"Because simply by putting together the people involved, there are quite a lot of different perspectives and ways of thinking"* (participant 4) [1].

3.2 Current vital aspects of agriculture in the context of HTNP

Five main topics emerged by participants' statements: (1) appreciation and recognition, (2) grants, contracts, and notifications, (3) time constraints, (4) entrepreneurial spirit in the region and (5) return of wolves. The following results can be cited for the example of topic 1 and 3:

(1) The results show that "trust" (participant 1) is crucial in the relationship between landowners and HTNP that "leads to appreciation" (participant 1). The participants mentioned the necessity for appreciation to be manifest not only in tangible value, but also in the form of social appreciation [1].

(3) New "technologies" (participant 5), "digitalisation" (participant 5) and better "planning" (participant 5) are cited as important approaches to solving time constraints. The participants sum up by critically questioning their "own requirements" (participant 5) and high personal expectations [1].

4. Conclusion

This paper has given an insight into a new transdisciplinary citizen science approach that focuses on the improvement of the communication structures between agricultural stakeholders and the management of HTNP. The study has shown that one of the biggest challenges within HTNP is to manage different expectations of nature conservation and land use. The findings indicate that employing an innovative expedition design within the realm of citizen science holds promise for incorporating diverse perspectives and fulfilling the satisfaction of participants. This potential success may serve as an impetus for embracing similar formats in similar settings.

Acknowledgments

The project expedition.nationalpark.2022 is funded by the Province of Carinthia and the European Union. We want to thank our partners in the management of HTNP for the successful and fruitful cooperation. We appreciate the region's readiness to explore and reflect upon its potentials and challenges, and to openly discuss sensitive issues.

References

- [1] M. Auinger, M. Jungmeier, K. Hilgarter, *expedition.nationalpark.2022 – Mallnitz: Landschaft im Wandel*. Verlag Heyn, Klagenfurt, 2023
- [2] JZ. Farkas, AD. Kovács, *Nature conservation versus agriculture in the light of socio-economic changes over the last half-century–Case study from a Hungarian national park*, Land Use Policy, 2021, (101:105131), doi:10.1016/j.landusepol.2020.105131
- [3] CA. Hossu, IC. Ioja, MR. Nita, T. Hartel, DL. Badiu, AM. Hersperger, *Need for a cross-sector approach in protected area management*, Land Use Policy, 2017, (69), 586–597, doi:10.1016/j.landusepol.2017.10.012
- [4] M. Pérez-Soba, J. Paterson, MJ. Metzger, M. Gramberger, J. Houtkamp, A. Jensen, et al., *Sketching sustainable land use in Europe by 2040: a multi-stakeholder participatory approach to elicit cross-sectoral visions*, Regional Environmental Change, 2018, (18),775–787, doi:10.1007/s10113-018-1297-7.
- [5] P. Mayring, *Qualitative Content Analysis*, Forum: Qualitative Social Research, 2000, (1)