

The link between protected areas and agrobiodiversity conservation – The case of traditional crops and their local varieties in National Park Hohe Tauern and adjacent areas in Eastern Tyrol

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Summary

According to the IUCN, protected areas should protect not only biological diversity but also associated cultural resources (biocultural diversity). One integral part of biocultural diversity is agro-biodiversity and the related local knowledge. In 2004 and 2005 structured and semi-structured interviews were carried out in Eastern Tyrol in the Nationalpark Hohe Tauern and adjacent communities with 39 persons, who still save local varieties of crops. From 18 traditional crop species with 81 accessions the broad bean (*Vicia faba*, with 22 accessions in Eastern Tyrol, 13 accessions in NP Hohe Tauern communities) and the turnip (*Brassica rapa* ssp. *rapa*, with 19 accessions in Eastern Tyrol, 7 accessions in NP Hohe Tauern) are most widely distributed. These crop species have been very important in the Alps for centuries. The survival of these species and the local varieties is closely related to local people's high appreciation of the specific taste for some dishes whereas the various uses and different stories belonging to the cultural context are in danger of disappearing. The promotion of the conservation of crop genetic diversity and the related local knowledge within existing protected areas could play an important role in conserving plant genetic diversity.

Keywords

agro-biodiversity, ethnobotany, local knowledge, crop genetic diversity, local varieties, memory banking

Duration of the project

12/2003-03/2006

Area of study

Eastern Tyrol: Nationalpark Hohe Tauern (and adjacent communities), Austria

Introduction

According to the IUCN, protected areas should protect not only biological diversity but also associated cultural resources (biocultural diversity). One integral part of biocultural diversity is agro-biodiversity (THRUPP 1998, COLLINS & QUALSET 1999) and the related local knowledge. A threatened global agro-biodiversity resource is the reservoir of genetic diversity found in cultivated crops. The FAO estimates that about 75% of the genetic diversity of crops has been lost in the last century. As claimed by the WWF (STOLTON et al. 2006), the role of protected areas in conserving crop genetic diversity could be greatly increased by better understanding of this issue within protected area organisations.

Methods

This paper is based on a research project (VOGL-LUKASSER et al. 2006a, VOGL-LUKASSER et al. 2006b) documenting this local knowledge, and arguing for the conservation of the germ plasma and the related local knowledge (memory banking, NAZAREA 1998).

In 2004 and 2005 structured and semi-structured interviews were carried out in Eastern Tyrol in the Nationalpark Hohe Tauern and adjacent Eastern-Tyrolean communities with 39 persons, who still save local varieties of crops. The interviews covered agronomy, processing and trade, as well as the cultural context of these crops. Additionally, participatory observation deepened a qualitative

understanding for the cultural and historical context in which the cultivation of traditional crops is embedded (BERNARD 2002, VOGL et al. 2004). Previous projects in the region (e.g. VOGL-LUKASSER et al. 2002, VOGL-LUKASSER et al. 2007) served as background for the study.

Where possible, local varieties were also sampled by the authors and stored by the "Abt. Landw. Versuchswesen, Boden- und Pflanzenschutz" of the government of Tyrol.

Results

From 18 traditional crop species with 81 accessions the broad bean (*Vicia faba*, with 22 accessions in Eastern Tyrol, 13 accessions in Eastern Tyrolean communities of the NP Hohe Tauern) and the turnip (*Brassica rapa* ssp. *rapa*, with 19 accessions in Eastern Tyrol, 7 accessions Eastern Tyrolean communities of the NP Hohe Tauern) are most widely distributed. These two crop species have been very important in the Alps for centuries and almost every farmer not only grew these species but propagated the seeds.

For the elderly generation, turnips (*Brassica rapa* ssp. *rapa*) were highly important as a seasonal vegetable and versatile utilized species with basic foodstuff character. In spite of the decrease of cultivation of turnips during recent decades, consumption of fermented turnip (*Rübenkraut*) is still widespread throughout the region, usually consumed during winter time. Some farmers have recognised the economic potential in commercializing *Rübenkraut*. These farmers still hold knowledge not only about cultivation, harvest and processing of turnips but also about propagation of seeds from these local varieties.

In the case of the broad bean (*Vicia faba*), mountain farmers appreciated this crop species because it provides secure harvest also at high altitudes in mountain areas. Various *old* uses and recipes show the wide range of applications for this species. Not only the fundamental contribution to every day live but also the important role in social events were remarkable. Bean festivities were held throughout the whole region. Some farmers in *Bobojach* (part of Virgen which is a community of the NP Hohe Tauern) reintroduced the *Pühnhohlgunggl* (*Pühnhohl* = legume of the bean; *Gunggl* = festivity) only a few years ago. At this festivity the green legumes of the beans are cooked in big outdoor steaming pots and served with wine complemented by music and dancing.

The survival of these species and local varieties is closely related to local people's high appreciation of the specific taste and the related dishes, whereas the various uses and different stories belonging to the cultural context are in danger of disappearing.

Conclusion

The promotion of the *in situ* conservation of agricultural genetic diversity and the related local knowledge within existing protected areas could play an important role in conserving crop genetic diversity, which represents a vital source of genes that can ensure future food security. Further steps are necessary recognising the biocultural heritage of traditional crops/varieties in the NP Hohe Tauern and other protected areas. By explicitly addressing the biocultural heritage of protected areas, protected area managers could improve the participation of local people in conservation efforts, raise the profile of the protected area and support also the social and economic benefits of protected areas.

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