

# Chapter 12

## Women as Drivers for a Sustainable and Socially Inclusive Development in Mountain Regions – The Case of the Austrian Alps

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# WOMEN AS DRIVERS FOR A SUSTAINABLE AND SOCIALLY INCLUSIVE DEVELOPMENT IN MOUNTAIN REGIONS - THE CASE OF THE AUSTRIAN ALPS

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## Introduction

To a large portion of the world's population, mountain regions provide indispensable goods and services like fresh water, hydropower, preservation of biodiversity including agro-biodiversity, disaster risk reduction, and space for recreation and tourism. Mountain regions cover 22% of the world's land surface and are home to more than 900 million people, representing 13% of the global population (FAO, 2015a). By providing key environmental services and amenities, mountain ecosystems play a decisive role in the world's development. The resilience of mountain regions, however, has declined due to the negative impacts of changes in land use and to climate change such as land and forest degradation, as well as the increasing number of natural disasters (FAO, 2015b). Furthermore, market integration, extended tourism activities, and changes in human lifestyle patterns and aspirations have accelerated these developments.

The need to preserve mountain environmental assets and to improve local livelihoods was clearly expressed in Chapter 13 of the United Nations Conference on Environment and Development's Agenda 21 in Rio de Janeiro (UN, 1992):

Mountain ecosystems are, however, rapidly changing. They are susceptible to accelerated soil erosion, landslides and rapid loss of habitat and genetic diversity. On the human side, there is widespread poverty among mountain inhabitants and loss of indigenous knowledge. As a result, most global mountain areas are experiencing environmental degradation. Hence, the proper management of mountain resources and socio-economic development of the people deserves immediate action.

The attention given by international forums to sustainable development of mountain regions has increased significantly since the 1990s. For instance, the Alpine Convention, an international treaty between Alpine countries and the European Union (EU), was founded in 1991 to support sustainable development and the protection of the Alps (Alpine Convention, 1991). This is beside other agreements like the Andean Community (1969), the Carpathian Convention (2003), or initiatives in the Balkans and Dinaric Arc and in the Caucasus Mountains (Church, 2010; Hugill, 2012). Many other international documents, like 'The Future We Want' (UN, 2012) or 'Agenda 2030 for Sustainable Development' (UN, 2015), state that sustainable mountain development has to be a global priority.

Besides the increasing natural hazards and disasters, additional risks like inequitable land rights, low accessibility, resource grabs, dire poverty, and starvation are affecting a vast extent of people and livelihoods in mountain regions (Wehrli, 2014). Almost 40% of the mountain population – urban and rural – in less developed countries (LDCs) are considered vulnerable to food insecurity. The numbers are even more shocking if only mountain people are regarded as those who live in rural areas. While the global average of people with food insecurity in LDCs is one in eight, almost half of those who live in rural mountain regions of LDCs are vulnerable to hunger and face poverty and malnutrition (FAO, 2015a).

Mountain regions must also be seen as a gendered space, which means that the living conditions, resources, power relations, and perspectives for a good livelihood are unequally distributed between men and women. A gender analysis in this context involves the critical examination of taken-for-granted assumptions about living conditions and development. Beside the given context that mountain regions are inaccessible, isolated, and remote – as many scholars stress in their research – a gender-analytical critique will challenge these assumptions and examine the manifold powerful discriminatory practices, discourses, and norms that work against women in particular (Verma, 2014). The structural discrimination of women in many mountain regions is caused by patriarchal societies, social and cultural norms, and difficult economic situations. Therefore, gender discrimination, gender exploitation, and disenfranchisement of women persist. Feminist research revealed that gender relations play a critical role in the management of natural resources, and that women tend to be systematically disadvantaged in terms of access to resources, decision-making, and ultimately, power relations (Molden et al, 2014), although they bear the burden of a substantial part of the productive work and most of the reproductive work.

Manifold legal, normative, and economic arguments underline the importance of gender issues and of women's involvement in the development of mountain regions (Oedl-



Wieser, 2015a). Firstly, it is simply a democratic principle that women who represent more than half of the rural population are represented adequately in the political decision-making bodies in the regions (descriptive representation). Gender equality is widely endorsed as a central policy goal by governments and international organisations across the world. It is increasingly framed as central to the realisation of modernisation and economic efficiency (Squires, 2007). Secondly, from a feminist perspective, it is necessary that the needs and interests of women find their expression in development programmes and measures (substantive representation). There is often great scepticism of stakeholders regarding the possibility and necessity of linking gender equality issues to measures and projects in mountain development processes. The missing gender awareness and gender competence as well as individual and institutional resistance may prevent an effective implementation of gender equality. Thirdly, it is a far-reaching loss for mountain development discourses and processes if the manifold potential, knowledge, and expertise of women are not utilised. Fourthly, enhancing the discourse about gender equality in mountain regions can raise the people's awareness of women's potentials and problems and can help transform conservative views in gender role models.

A study by Food and Agriculture Organization (2011) revealed that if women in agriculture would have the same amount of land and same access to productive resources as men have, they could increase yields on their farms by 20%–30% and the production gains of this magnitude could reduce the number of hungry people in the world by 12%–17%. If women control additional income, they spend more of it on food, health, education, and clothing for their children than men do. This has positive implications for immediate well-being as well as long-lasting human capital formation and economic growth.

The relevance of rural women in the reproductive and productive sphere of agriculture, their knowledge of the value and use of local plant and animal resources for nutrition, and their role in preserving agro-biodiversity have been highlighted and appreciated in many international documents like CEDAW Article 14, Agenda 21, Rio+20, and Agenda 2030 (UN, 1979, 1992, 2012, 2015).

Despite the acknowledgment of women's contribution to agricultural production, climate change adaptation, and ensuring sustainable livelihoods and environments in mountain regions, there are hardly cross-references made in international documents between women's agenda and mountain regions development. This can be demonstrated very well when looking at the Rio+20 document-outcome entitled 'The future we want' (UN, 2012). The mountain issue is treated in paragraphs 210–212 and the issues of gender equality and women's empowerment are discussed in paragraphs 236–244, but there is almost no linkage between these issues.

Regarding the decisive role of women in mountain regions, it seems curious that there is no reference to the critical importance of this inter-relationship. In this context, Verma et al. (2014) stress a bigger problem: the gender blindness of most research on natural resource management, sustainable mountain development, and gender relations in decision-making bodies. From a feminist point of view, it is necessary to highlight the needs and achievements of mountain women so that these are reflected and integrated in public policy and in decision-making agendas (Zimmermann, 2002; Schmitt, 2014; Anand and Josse, 2002; Oedl-Wieser, 2014).

On account of the glaring disadvantages of women living and working in mountain regions and their valuable knowledge and agency, this paper outlines their role as drivers for sustainable and social inclusive development in mountain regions. After an introduction, the relevance of mountain farming will be discussed in general to address the negative impact of climate change on men and women in mountain regions. This will be followed by highlighting the decisive contribution of women in mountain farming in the Austrian Alps in the field of pluriactivity and (social) innovations. The conclusion emphasises both the vital role that women are playing in the economic, social, and ecological sphere of mountain regions and the need for more appreciation of their manifold activities and efforts for a sustainable and social inclusive mountain development.

## Negative Impact of Climate Change on Mountain Farming

Over the centuries, mountain people have developed unique, resilient, and sustainable production systems adapted to their local environments, which favour the production of niche and mountain-specific products and services (FAO, 2015a, b). Mountain regions and their population are disproportionately affected by climate change and its various impacts on nature and socio-economic development which are increasing natural disasters, food and energy crises, water scarcity and desertification, as well as loss of biodiversity, degradation of ecosystems, out-migration, and the growth of urban areas (FAO, 2011). Furthermore, human pressure is constantly rising in mountain regions all over the world through changes in land use, intensification of agricultural production, and growing conflicts of interest within industry, tourism, transport infrastructure, settlements, and ecosystems (Euromontana, 2016; Oedl-Wieser and Schmitt, 2017).

For instance, the European Alpine region is expected to be considerably affected by global warming in the 21st century. This refers not only to rising temperatures (+2°C), but also to changes in the seasonal cycle of precipitation, global radiation, and humidity, to changes in temperature and precipitation extremes, and closely related impacts like floods, droughts, snow cover (drastically decreased below 1,500 m–2,000 m),

and natural hazards such as floods, debris flows, landslides, and rockfalls associated, amongst others, with glacier and permafrost retreat. This change in climatic parameters and related quantities will have a considerable impact on ecosystems, agricultural production, and Alpine societies, and will challenge their resilience (Gobiet et al., 2014).

Through the provision of positive externalities, mountain farming contributes to maintaining settlement structure and shaping cultural landscapes in areas which otherwise would lose significant parts of their development potential (Dax, 2009). However, mountain farming has also negative externalities like land-use change, increased concentration of milk production in the mountain valleys, abandonment of alpine pastures, and afforestation which are caused by intensification of agricultural production and increased competition (Oedl-Wieser and Schmitt, 2017). Mountain farming is largely family farming which encompasses all the activities within the realms of agriculture, forestry, fisheries, pastoralism, and aquaculture that are predominantly reliant on family labour. All over the world, mountain regions with their dispersed patches of usable land at different altitudes with different climates and with often highly fragmented landscapes as well as narrow limits for mechanisation are most efficiently and effectively managed by family farms (FAO, 2013; Hovorka and Dax, 2009).

While mountain farms in LDCs are producing mainly for family consumption, mountain farms in Europe are increasingly determined by policies that emphasise, to a larger extent, the role of landscape preservation. Furthermore, agriculture is often not the only economic activity anymore because the family is performing a wide range of activities on and off their farms that go far beyond food provision (Dax, 2009). As most of agricultural production in mountain regions in LDCs is subsistence production, it plays a key role in ensuring household food security and avoiding malnutrition and starvation.

Worldwide, the demand for high-quality traditional food and crafts produced in mountain areas such as coffee, cheese, herbs, and spices as well as handicrafts and medicines, is on the rise. Small-scale mountain agriculture cannot compete with lowland production, but it has the potential to tap into niche markets such as organic, fair trade, or high-end quality ones, and fetch premium prices (FAO, 2015). The contribution of family farming to sustainable development in mountains thus differs a great deal from continent to continent, from region to region, but commonalities can be seen in that family farms in mountains help to shape mountain landscapes and provide ecosystem services which are vital for development far beyond mountain areas (Hurni et al., 2014; FAO, 2013).



## Women and their Role in Ensuring Sustainable Livelihoods in Mountain Regions

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All over the world, scholars and stakeholders in politics do not give enough attention to the production of food crops for domestic consumption, which is essential for household food security and environmental protection. The main focus is often on the intensive farming sector and export-oriented crops. In spite of this, analyses reveal that small-scale farmers, particularly women, play a key role in promoting sustainable methods of farming based on traditional knowledge and practices. Women often have knowledge about the value and use of local plant and animal resources for nutrition. They try to find strategies to adapt to the impact of climate change in their roles as plant gatherers, home gardeners, herbalists, informal plant breeders, and seed custodians. In many cases, they experiment with and acclimatise indigenous species and thus often become experts in plant genetic resources (IAASTD, 2009).

In general, the gendered division of labour in agriculture influences the way resources are used and where the benefits of these resources flow. Men's and women's different roles in family, on the farm, and in the community in terms of labour, property rights, and decision-making processes generate different knowledge and skills in relation to agriculture, biodiversity, and ecosystems. Besides caring for the family, women farmers perform tasks such as planting, transplanting, hand weeding, harvesting, picking fruits and vegetables, small livestock rearing, and postharvest operations such as threshing, seed selection, and storage. On the other hand, mechanised work such as land preparation, irrigation, mechanical harvesting, and marketing is generally a male task. This may increase women's and girls' manual and time burden, which tends to keep girls out of school, and holds their productivity below their potential (IAASTD, 2009).

It must be taken into consideration that the status of farm women in mountain regions varies enormously, even within a region (Anand and Josse, 2002). In many contexts, cultural and legal conditions are hindering women from strengthening their agency like patrilineal inheritance systems, restrictions for women to own property, or women's ability to move freely, which also limit their chances to survive natural disasters. Although awareness of mountain farming and the difficult living and production conditions have been growing in international development discourse, the problems seem to get worse in view of global economic and social change. Even in the most remote places, these changes have eroded traditional mountain livelihoods, changed gender roles, led to a loss of crucial local knowledge, and driven many mountain inhabitants to migrate to lowland areas and urban centres in search of employment and income (Wehrli, 2014).



The growing out-migration of men and young adults has increased the number of female-headed households in many mountain regions. It has also shifted the mean ages of rural populations upwards, resulting in considerable shrinkages in rural labour force. Extended workload, lack of knowledge about agricultural production schemes, and increasing responsibilities are in many cases causing an overburdening of mountain women, which leads to negative effects in food security and service provision (IAASTD, 2009; Anand and Josse, 2002; Molden et al., 2014). Considering the manifold challenges of farming and good livelihoods in mountain regions, it seems that sustainable and social inclusive mountain development issues do not receive the attention and priority they deserve in international discourse. To address the current challenges, it needs to support the economic, ecological, social, and cultural aspects of mountain environment and society.

Despite some progress made in national and international policies since the first World Conference on Women in 1975, intensified efforts and actions are necessary to implement gender equality as integral in agricultural policies and practices as well as mountain development processes. Therefore, it is necessary to look at women's access to education, information, and technology, and to enable improvement of women's access to ownership and control of economic and natural resources. Analyses and experiences show that enhancing the role of women in adaptation and disasters risk reduction will lead to more resilient mountain regions (Verma et al., 2014; StartClim, 2013). It is decisive that adaptation programmes in food security and managing natural resources are gender-sensitive and responsive to the different and multiple roles women and men play in various spheres of natural resource management, as well as their households, communities, livelihoods, and customary and statutory institutions and relations at local, national, regional, and global levels (Mountain Partnership s.a.).

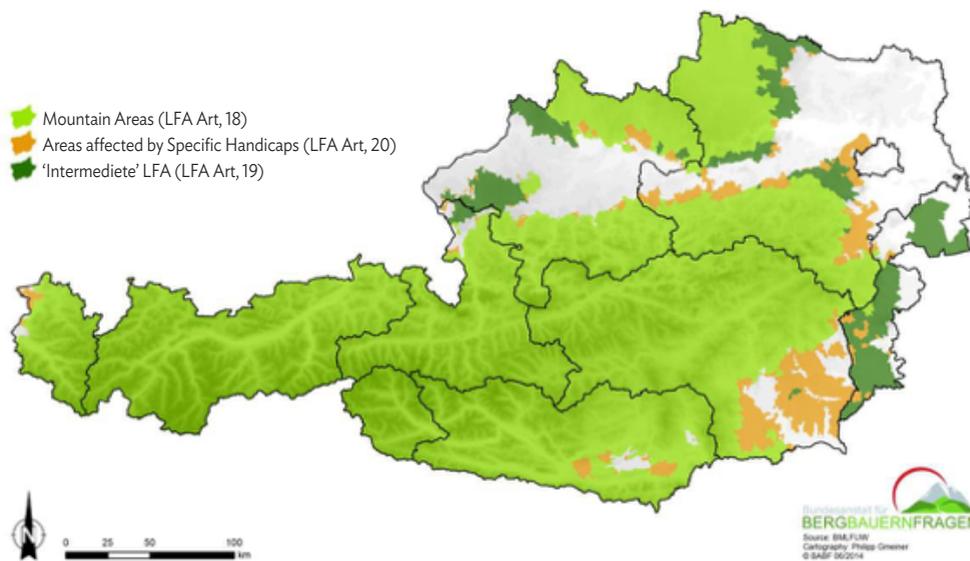
## **Women's Role in Agriculture in Mountainous Areas – The Case of the Austrian Alps**

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The Alps are a coherent mountain region covering 190,568 sq km across eight European countries, with a population of 14 million people. This mountain range disposes of rich heritage of cultures, traditions, place-based know-how, and shows manifold economic activities. The Alps provide goods and services like water, hydroelectricity, cultural landscape, agricultural products, handicrafts, recreation sites, and are a hotspot of biodiversity, with many endemic species (Mountain Partnership, 2012). Mountain farming plays an important role in maintaining attractive landscapes, although agricultural production is often very challenging through small-scaled structures, natural obstacles, less possibilities of mechanisation, poor accessibility, and limited production alternatives.

Austria is characterised by a high proportion of less-favoured regions mostly classified as mountain regions. The mountain regions comprise 70% of the Austrian territory (see Figure 1) and 58% of the utilised agricultural area. The area of permanent settlement in the mountain regions is also very limited. Mountain farms are characterised rather by a small-scaled structure, with a high proportion of part-time farming and are operated primarily by family labour input. In terms of local food production, environmental impacts, and threats of land abandonment and natural hazards, multifunctional mountain farming has been discussed as a subject of major national concern since the 1970s (Dax, 2009). Since that time, mountain farming support was conceived as one of the main instruments of structural policy in Austria aimed at the prevention of land abandonment, to preservation of the farming population and maintenance of cultural landscapes. Multifunctional mountain farming is also an important basis for tourism since many regions in the Alps are winter tourism hot spots (Hovorka and Dax, 2009).

**Figure 1: Mountain Areas in Austria**



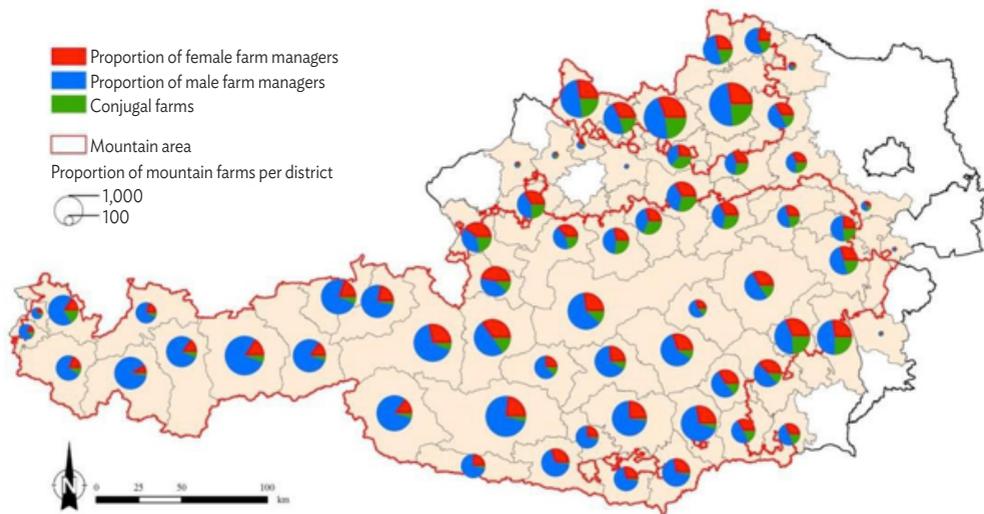
Source: BNLFW.

Farming in the Austrian Alps has a long tradition and there exists a lot of tacit knowledge of processing milk and meat, especially on alpine pastures. Therefore, the management of alpine pastures, which represent extremely sensitive ecosystems, is of great importance in the multifunctional context. This is not only relevant for tourism development but also significant from the point of view of society as a whole as maintaining biodiversity, protection against natural hazard, issues of nature protection, and general environmental performance are the main aspects of social demand (Groier, 2011; Oedl-Wieser, 2007). Despite these manifold effects for society, one has to consider that there are

many threats against mountain farming caused by winter tourism, urbanisation trends in mountain valleys, and, often, unlimited infrastructural developments.

Mountain farming is by its nature multifunctional. The concept of multifunctionality recognises agriculture as an activity producing not only commodities like food, feed, timber, agro-fuels, medicinal, or ornamental plants, but also non-commodity outputs such as environmental services, landscape amenities, and cultural heritage (IAASTD, 2009). Through the provision of positive externalities, mountain farming contributes to maintaining settlement structure and shaping the cultural landscapes in areas which otherwise would lose significant parts of their development potentials. Thus, the support for mountain farming is core for the positive direct and indirect effects in safeguarding sensitive ecosystems and maintaining multifunctional landscapes in mountain regions and prevention against threats of land abandonment and marginalisation processes.

**Figure 2: Farm Management in Mountain Areas in Austria, by Gender and Conjugal Farms**



Source: BMLFUW, 2016.

The mountain regions in Austria are characterised by high environmental quality, large forests, and environment-friendly agriculture; 24% of the mountain farms are organic farms (BABF, 2016). Many initiatives have been established in the last 20 years which combine organic production and regional marketing like *Bio vom Berg* (Organic productions from the mountains) in Tyrol or *Zurück zum Ursprung* (Back to the origins) in Styria. Most of the farms in Austrian mountain regions are pluriactive, meaning that in addition to agricultural activities, off-farm work, and other activities such as food processing and marketing, agri-tourism (85% of the agritourist farms are located in mountain regions),

farm pedagogics, green care, and machinery ring services, handicrafts, and energy generation are carried out by family farm household members.

In particular, these activities are oriented towards an increased value added through the strategy of high-quality mountain products. In times of diversification and tertiarisation, women are often the engine for the development of new, innovative, and sustainable modes of production and activities on farms (Oedl-Wieser and Wiesinger, 2010; Schmitt, 2010). In Austria, 30% of mountain farms are managed by female farmers, as shown in Figure 2 (BMLFUW, 2016).

Farm women's contribution is essential both for the agricultural sector and for the development of rural regions in general, and particularly for mountain regions. On the one hand, farm women are involved in all spheres of work on the farm: productive and reproductive (housework, child care, and elderly care) and, on the other hand, are contributing to family income as well as to civil society and social life in rural areas through their manifold activities. Despite this important contribution of women, it is astonishing how underestimated and weakly appreciated this involvement is in the agricultural decision-making bodies and in the political sphere in general (Oedl-Wieser, 2014). Furthermore, farm women and women in mountain regions possess much knowledge about traditional food processing and cultivation of old local seeds of cereals and vegetables (Oedl-Wieser and Schmitt, 2017; Oedl-Wieser, 2015b).

The prevailing responsibility of women in Austria for private unpaid care and household work (traditional gender roles are still widespread) makes them very influential players in the food system both as care suppliers and consumers. They have to decide every day which kind of food to buy and to cook. Analyses show that women are more aware about carbon footprints, the impacts of global food chains, or animal welfare issues than men, and that they have more sustainable dietary habits. Although women's food provisioning endorses their subordinate gender role, it also tightens family ties and maintains cultural traditions that are at the heart of many women's identity (Allen and Sachs, 2007; Oedl-Wieser and Wiesinger, 2010).

Considering the role of women as producers of food in mountain regions, one can say that they possess rich traditional knowledge about the processing of high-quality food products, and that women are often the driving force for a sustainable or organic way of production. Local food in mountain regions is very often related to specific and unique raw material characteristics as well as traditional and locally adapted technologies of production and processing (Schermer, 2010). In Austria, on 41% of farms involved in professional direct marketing, the farm woman is the responsible person for this branch. The increasing consumers' demand for regionally produced food meets with alternative



marketing networks like farm shops, farmer markets, direct delivery, or mail order schemes (Blasi et al., 2015; Kupiec-Teahana et al., 2010).

Farm women are often regarded to be more able to bring in new incentives to the agricultural system as they have a propensity for innovation and are successful in quickly adapting their offer to the market demand (Zirham and Palomba, 2016; Farnworth and Hutchings, 2009; Oedl-Wieser and Wiesinger, 2010). Farm women are often combining their on- and off-farm expertise to develop new activities on the farm. The following examples from mountain regions in Austria show that women have followed innovative ways in establishing new branches on the farms and are revitalising old knowledge and contributing to biodiversity in their mountain region.

## Examples for Diversification

### Case: 'School on the Mountain – Kalchkendlalm' (Rauris, Salzburg)

The Kalchkendlalm is located in Rauris Valley in the Pongau district of Salzburg and is an old cultural site. Some parts of the building are more than 400 years old. In 1996, the old buildings on the Alpine pasture were restored and the female farmers offered bread baking and milk processing courses. Furthermore, this alpine hut is the venue for reading events and writing courses with authors as well as for seminars and symposia. Many courses are visited by school classes from the region. The aim of these activities is to revive the culture of the farmers and farm women of the region and make it understandable and tangible for the visitors<sup>1</sup>.

### Case: 'Good fruits – fruit gardens' (Absam, Heiligkreuz, and Raitis in Tyrol)

The fruit gardens in Absam, Heiligkreuz, and Raitis lie in Tyrol about 900 m above sea level and are cultivated organically. Some trees in the orchards are nearly 100 years old. A short time ago, the fruit gardens were taken over by a woman who now processes the fruits to products such as juices, jams, or chutneys, which she sells in a local shop for organic products which she co-founded with other farmers. In the medium term, both the fruit gardens and the shop will be managed according to the concept of community-supported agriculture. In general, in the case of community-supported agriculture, several private households partly bear the costs of a farm, for which they receive products from the farm all over the year or products for a lower price<sup>2</sup>.

<sup>1</sup> (<http://www.schule-am-berg.at/>)

<sup>2</sup> (<http://www.gutefruecht.at/>)

## Examples for Preserving Biodiversity

### Case: ‘Lungauer Arche’ (Lungau, Salzburg)

The association Lungauer Arche was founded in 2010 by a group of female farmers in the district of Lungau, together with farmers who were interested in local varieties of crops, vegetables, and herbs. They wanted to preserve and share the traditional knowledge in the mountain region. Within this association, different activities were established: Herbal Region Lungau, Slow Food Lungau Travel, preservation of the traditional and local breed Lungauer Winter Rye, etc. Female farm women offer herbal walking tours and courses on milk processing on an alpine pasture and bread baking<sup>3</sup>.

### Case: ‘Alchemilla herb women’ (Großes Walsertal, Vorarlberg)

The ‘Alchemilla herb women’ is a group located in the Biosphere Reserve Großes Walsertal which aims to bring to the fore the hidden knowledge of farmers and farm women about alpine herbs. Over the past centuries, through sustainable agricultural practices and careful treatment, a big variety of herbs have developed in the alpine valley Großes Walsertal. The Alchemilla herb women are processing herbs to products like tea, sweets, herbal syrup, and body care products. They want to share their knowledge about the alpine herbs with other people and make it tangible for visitors. Therefore, they offer different herb walking tours in the Biosphere Reserve Großes Walsertal<sup>4</sup>.

### Case: ‘Male and female mountain farmers are observing biodiversity’

The project *Schau ma auf der Alm* (Mountain farmers are observing biodiversity) started in 2014 and currently has 45 participants. During the vegetation period, the male and female mountain farmers document the development of selected indicator species, learn more about the relationships between land-use management and biodiversity, and thus become experts in their own alpine meadows and pastures. The main goal of this educational measure is to strengthen the awareness and understanding of biodiversity in alpine pastures. They are also guided to share their acquired knowledge to interested visitors in a comprehensible and memorable way. The purpose is to promote awareness of the peculiarity of the mountain landscape and the importance of alpine farming<sup>5</sup>.

<sup>3</sup> (<http://www.tauernroggen.at/de/home.html>)

<sup>4</sup> (<http://www.grosseswalsertal.at/Alchemilla/>)

<sup>5</sup> (<http://alm.biodiversitaetsmonitoring.at/>)

## Case: 'Preservation and breeding of old farm animals in the mountain area' – Pfauenziege (Rauris Salzburg)

For many centuries, farmers and farm women have produced a big variety of breeds of farm animals in mountain regions through continuous selection. Considering the natural and climatic conditions carefully, races adapted for the mountains like the Pfauenziege (peacock goat) were bred. However, structural change and intensification processes in agriculture have led to a massive loss of racial diversity. For more than 20 years now, a female breeder from Rauris in Salzburg has been making great efforts for the conservation and breeding of peacock goats. As good feed converters with modest feed requirements, this breed offers the best prerequisites for landscape care in the mountain regions. Because of its pronounced maternal instincts, it is also very well suited for mother goat keeping. However, structural changes and intensification processes in agriculture have led to a massive decline in the stock. The female breeder has set herself the goal of preserving and breeding peacock goats, searching all over Austria for phenotypically similar peacock goats to re-establish a purebred stock<sup>6</sup>.

These examples indicate that farm women in mountain regions are contributing in various ways to agro-biodiversity, producer–consumer alliances, civil engagement, and maintenance of traditional agricultural techniques in the Alps. They are drivers for sustainable and social inclusive forms of agriculture in the ecologically very sensitive mountain regions, and provide social spaces for exchange of (old) knowledge and experiences.

## Conclusions

Women living in mountain regions of the world are facing structural discrimination caused by patriarchal traditions, customary laws, and strongly gendered social organisation. They mostly lack control over productive resources and are exposed to unfavourable conditions for agricultural production and difficult economic situations. Considering the many challenges of farming and good livelihoods in mountain regions, it seems that sustainable and social inclusive mountain development issues do not receive the attention and priority it deserves in the international discourse. Apart from gendered structural inequalities, vulnerability, and invisibility of women, it must be stressed that women in mountain regions are not only passive victims but also own quite a lot of valuable knowledge and agency.

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<sup>6</sup> (<http://www.arche-austria.at/index.php?id=111>)

Gender analysis is a valuable tool for visualising the disadvantaged situation but also the potentials of women in mountain regions. Scholars should pay more attention to women's role in sustainable mountain farming, to their contribution to rural food supply chains, and to their part in climate change adaptation as well as disaster management. A sustainable and social inclusive mountain development is only possible through the utilisation of far-reaching productive and social competences as well as valuable knowledge of mountain women. Further research is urgently needed in mountain regions all over the world to explore the specific cultural and environmental characteristics and analyse gender roles and gender relations, which are often inequitable and detrimental to women.

A more dynamic development of mountain regions can be fostered by acknowledging, appreciating, and understanding the vital role of women in the economic, social, and ecological sphere. It is necessary to take a look at their resilience, strength, and power which are an enormous potential for mountain regions. Experiences have shown that efforts of policy interventions often do not address the local realities of women and men and are therefore inappropriate in improving their situation. If sustainable and social inclusive mountain development should be intensified through policy intervention, it needs to identify innovative strategies which build on women's and men's experiences and knowledge. Furthermore, it is important to find a common language and an approach to promote awareness and action for gender equality in mountain regions.

After decades of limited progress towards a higher appreciation of the role of women in mountain regions, it is necessary to push initiatives to support committed actors and women networks. Learning more of the status and the role of mountain women in different countries and regions is decisive in furthering support for women as potential agents of change and letting their strengths, vulnerability, and progress be seen by the world. Several factors are required to ensure that women will be an integral part of sustainable mountain and social inclusive development in the future: more mountain-specific and local research through gender lens, tailored trainings, and awareness raising for women's own potentials; support to women's access and control of resources; assistance with entrepreneurship; information and raising awareness of the rights of women; and finally, networking amongst mountain women all over the world. Furthermore, funding initiatives should be provided by transnational (UN organisations, the EU), national, and regional authorities. Civil society organisations that are active on mountain regions (e.g. CIPRA, CONDENSAN) should also pay greater attention to women's issues in mountain regions. As often experienced, transformation in gender power relations in mountain regions is a rather difficult task because gender equality processes are inherently political and demanding. Due to these circumstances, it is necessary that mountain women's issues and needs are reflected and integrated to a larger extent in research, public policy, and worldwide decision-making agendas. Since the turn of the century, there were several

conferences on women's issues in mountain regions like the Bhutan Conferences (2002, 2012),<sup>7</sup> Utah Conferences (2007, 2011, 2015),<sup>8</sup> and an Alpine Convention Conference (2017)<sup>9</sup> organised under the Austrian presidency. In the adopted declarations of these conferences, the status quo and the urgent need to improve the situation of women in mountain regions all over the world are clearly expressed. However, it needs the strong commitment of transnational, national, and regional authorities and organisations to enhance the situation of mountain women and the livelihood of their families.

## References

- Allen, P. and C. Sachs (2007), 'Women and food chains: The gendered politics of food', *International Journal of Sociology of Food and Agriculture*, 15(1), pp.1–23.
- Alpine Convention Alpenkonvention (1991), *Alpine Convention. The Framework Convention. Salzburg*. <http://www.alpconv.org/en/convention/framework/default.html>
- Anand, A. and O. Josse (2002), 'Celebrating Mountain Women: Moving Mountains, Moving Women', *Mountain Research and Development*, 22(3), pp.233–35.
- Blasi, E., C. Cicatiello, B. Pancino, and S. Franco (2015), 'Alternative food chains as a way to embed mountain agriculture in the urban market: the case of Trentino', *Agricultural and Food Economics*, 3(3).
- Bundesanstalt für Bergbauernfragen (2016), 'Datenpool Biologischer Landbau', Wien.
- Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft (2016), *Grüner Bericht 2016*. Wien.
- Church, J.M. (2010), 'Environmental Regionalism: The Challenge of the Alpine Convention and the "Strange Case" of the Andean Community', *Working Paper No. 47*, Cambridge, MA: Harvard University, Center for International Development.
- Dax, T. (2009), 'Recognising the Amenities of Mountain Agriculture in Europe', *Mountain Forum Bulletin*, 9(1), pp.3–5.

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<sup>7</sup> <http://www.icimod.org/bhutan+10/>

<sup>8</sup> <http://www.womenofthemountains.org/>

<sup>9</sup> <http://www.fao.org/mountain-partnership/news/news-detail/en/c/882852/>

Euromontana (2016), *Bragança Declaration 'Face the challenge of climate change: adaptation for future generations'*. [http://www.euromontana.org/events/x\\_euro\\_mountain\\_convention\\_braganca/](http://www.euromontana.org/events/x_euro_mountain_convention_braganca/)

Farnworth, C. and J. Hutchings (2009), *Organic Agriculture and Women's Empowerment Studies*. Bonn: IFOAM.

Food and Agriculture Organization (2011), *The State of Food and Agriculture 2010–2011. Women in Agriculture – Closing the Gender Gap for Development'*, Rome. <http://www.fao.org/docrep/013/i2050e/i2050e00.htm>

Food and Agriculture Organization (2013), *'Mountain Farming Is Family Farming. A contribution from mountain areas to the International Year of Family Farming'*, Rome.

Food and Agriculture Organization (2015a). *Mapping the Vulnerability of Mountain Peoples to Food Security*, Rome. [www.fao.org/3/a-i5175e.pdf](http://www.fao.org/3/a-i5175e.pdf)

Food and Agriculture Organization (2015b), *The Impact of Disasters on Agriculture and Food Security*, Rome. [www.fao.org/3/a-i5128e.pdf](http://www.fao.org/3/a-i5128e.pdf)

Gobiet, A., S. Kotlarski, M. Beniston, G. Heinrich, J. Rajczak, and M. Stoffel (2014), '21st century climate change in the European Alps – A review', *Science of the Total Environment*, 493.

Groier, M. (2010), *Almstatistik 2009. Zahlen und Fakten zur Österreichischen Almwirtschaft*.

Facts & Feature 43. Vienna: Bundesanstalt für Bergbauernfragen.

Hovorka, G. and T. Dax (2009), 'Mountain Farming Support in Austria', *Mountain Forum Bulletin*, 9(1), pp.26–27.

Hugill, B. (ed.) (2012), *Sustainable Mountain Development in Central, Eastern and South Eastern Europe: From Rio 1992 to Rio 2012 and Beyond*. Rome: Mountain Partnership.

Hurni, H., D. Molden, S. Wymann von Dach, and A.B. Zimmermann (2014), 'Focus Issue: Family Farming in Mountains – Institutional and Organisational Arrangements in the Context of Globalization', *Mountain Research and Development*, 34(4), pp.313–14.



- International Assessment of Agricultural Knowledge, Science and Technology for Development (2009), 'Agriculture at a crossroads. Synthesis Report', Washington.
- Kupiec-Teahana, B., C. Lamprinopoulou-Kranisa, C. Inglisb, P. Leata, and C. Revoredo-Gihaa (2010), 'Short supply chains for local food in mountain areas', in I. Darnhofer, and M. Grötzer (eds.), *Building Sustainable Rural Futures*. Vienna: University of Natural Resources and Applied Life Sciences, pp.1599–606.
- Molden, D., R. Verma, and E. Sharma (2014), 'Gender Equality as a Key Strategy for Achieving Equitable and Sustainable Development in Mountains: The Case of the Hindu Kush– Himalayas', *Mountain Research and Development*, 34(3), pp.297–300.
- Mountain Partnership (2012), *Why the Alps Matter*. <http://www.mountainpartnership.org/publications/publication-detail/en/c/149128/>
- Mountain Partnership (s.a.), 'Why mountains matter for climate change, adaptation and disaster risk reduction. A call for action on the sustainable development Goals (SDGs).'
- Oedl-Wieser, T. (2007), 'Female entrepreneurship in the alpine region of Pinzau-Pongau (Austria)', in C. Marchesoni and A. Gretter (eds.), *The Other Driving Force of the Economy. The Role of Women in Development Across the Alpine Region [Report No. 40]*. Trento: Centro di Ecologia Alpina, pp.45–64.
- Oedl-Wieser, T. (2015a), 'Framing Gender Equality in the Regional Development Discourse – only Rhetoric Modernisation? Austrian Experiences', in K. Wiest (ed.), *Women and Migration in Rural Europe: Labour Markets, Representations and Policies*. London: Palgrave, pp.230–50.
- Oedl-Wieser, T. and G. Wiesinger (2010), *Landwirtschaftliche Betriebsleiterinnen in Österreich. Eine explorative Studie zur Identitätsbildung [Forschungsbericht 62]*. Wien: Bundesanstalt für Bergbauernfragen.
- Oedl-Wieser, T. (2014), *Women in Austrian Agriculture [Fact Sheet]*. Wien: Bundesanstalt für Bergbauernfragen.
- Oedl-Wieser, T. (2015b), Gender, Landwirtschaft und Klima. Präsentation bei der Tagung Klima braucht Wandel: Potenziale der Genderforschung nutzen – Fachtagung des Projektes 'Kompetenznetzwerk Chancengerechtigkeit im Klimawandel' ' 1. März 2016 in Berlin, Deutschland.



Oedl-Wieser, T. and M. Schmitt (2017), *Frauen in der österreichischen Berglandwirtschaft. [Fact Sheet 15]*. Wien: Bundesanstalt für Bergbauernfragen.

Schermer, M. (2010), Alpine ländliche Räume und ihre (Markt-)Potenziale. *Der Alm- und Bergbauer* 12/10.

Schmitt, M. (2010), 'Women – indispensable actors in sustainable development of alpine agriculture', in A. Borsdorf, G. Grabherr, K. Heinrich, B. Scott, and J. Stötter (eds.), *Challenges for Mountain Research – Tackling Complexity*. Wien: Böhlau, pp. 128–35.

Schmitt, M. (2014), 'Gender Awareness in European Alpine Protected-Area Management. Achievements, Shortcomings, and the Way Forward', *Mountain Research and Development*, 34(3), pp.291–96.

Squires, J. (2007), *The New Politics of Gender Equality*. Basingstoke: Palgrave Macmillan.

StartClim (2013), 'GIAKlim – Gender Impact Assessment im Kontext der Klimawandelanpassung und Naturgefahren', Wien.

United Nations (1979), *Convention on the Elimination of All Forms of Discrimination Against Women. Adopted and opened for signature, ratification and accession by General Assembly resolution 34/180 of 18 December 1979*. <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CEDAW.aspx>.

United Nations (1992), *Earth Summit Agenda 21: The United Nations Programme of Action from Rio*. New York, NY: United Nations. <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>

United Nations (2012), 'The Future We Want', Resolution Adopted by the General Assembly on 27 July 2012 (A/RES/66/288). New York, NY.

United Nations (2015), 'Transforming our world: the 2030 Agenda for Sustainable Development', A/RES/70/1 Resolution adopted by the General Assembly on 25 September 2015. New York, NY.

Verma, R. (2014), 'Business as Unusual: The Potential for Gender Transformative Change in Development and Mountain Contexts', *Mountain Research and Development*, 34(3), pp.188– 96.

- Verma, R., D. Molden, H. Hurni, A.B. Zimmermann, and S. Wymann von Dach (2014), 'Editorial: Gender and Sustainable Development in Mountains–Transformative Innovations, Tenacious Resistances', *Mountain Research and Development*, 34(3), pp.185–87.
- Wehrli, A. (2014), 'Why Mountains Matter for Sustainable Development', *Mountain Research and Development*, 34(4), pp.405–09.
- Zimmermann, A.B. (2002), 'Celebrating Mountain Women: A Move to Empower Women in Mountain Regions', *Mountain Research and Development*, 22(4), 400–01.
- Zirham, M. and R. Palomba (2016), 'Female Agriculture in the Short Food Supply Chain: A New Path Towards the Sustainability Empowerment', *Agriculture and Agricultural Science Procedia*, 8, pp.372–77.