



Female mountain farmers in Austria & sustainable development – an analysis of their role and environmental attitude

Authors:

Theresa Imre, University of Economics and Business Vienna

Pauline Vernimb, University of Economics and Business Vienna

Zuzana Vesela, University of Economics, Prague | VŠE

Agency: UNEP – United Nations Environment Program

Mentor: Eleonora Musco, EURAC Research Representing Office in Vienna Vienna Programme Office Secretariat of the Carpathian Convention, UNEP (E0482)

Counsel: Orsolya Sziebig

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1 Introduction

Mountain regions are important ecosystems that are especially vulnerable to the impacts of climate change. However, despite their ecological importance mountain regions have not been on top of the agenda for sustainable development. Likewise, mountain people rank among the most deprived populations globally despite their crucial role for the socio-ecological balance of these sensitive ecosystems that to a high degree influence the sustainability of lowland areas. Especially women play an essential role in the preservation, conservation and sustainable development but suffer greatly from gender inequality and are thereby hindered to contribute in their full potential. Often they are deprived of fundamental rights such as health and education, tenure rights of access to finance. The UN devoted one of their Sustainable Development Goals to the advancement of gender inequality and considers it as “vital to achieving the 2030 Agenda on Sustainable Development” (UNDP, 2016, p. 4).

Furthermore, women of these regions have largely been neglected and there is a lack of data as well as academic literature on this issue. With our research we want to contribute filling this research gap and provide relevant data and information to develop policies to promote gender inequality and sustainable development of mountain regions. The issue also ranks high on the UNEP agenda which can be underlined by the recent Alpine and Carpathian Convention. Furthermore, UNEP supported the organization of a conference on the role of women in mountain regions that took place in Alpbach/Tyrol in 2017. The aim is to serve especially the UNEP in the advancement of SGD 5 in their regional focus of the Alps but also to help other agencies that have a stronger focus in less developed countries or the Global South in promoting and advancing this issue.

Due to the fact that the Global South is more affected by the impacts of climate change and gender inequality is a more pressing challenge than in the Western hemisphere, most academic research focuses on this region of the world. Thus, a lack of research can be identified on the Global North. Therefore we focused on Austria in our research, which as a member of the European Union, values gender equality as one of its fundamental principles. There is information on the situation of women in Austria regarding gender equality and research can also be obtained on the situation of female farmers (Mayr et al., 2017). However, there is a lack of information on female mountain farmers that we aim to provide with our research. We conducted five problem-centered interviews with female mountain farmers and two expert interviews to discuss our findings.

The remainder of this paper is structured as follows: Section 2 provides an overview over the current state of literature, Section 3 describes the methodology before Section 4 continues with a detailed account of each of the female mountain farmers interviews. In section 5 and 6 respectively the findings obtained from these interviews are synthesised together with the expert interviews and analysed: Section 5 focuses on the role and importance of women in sustainable farming in the mountains and Section 6 analyses their experiences with gender division. Finally, Section 7 provides policy recommendations aimed at maximising the possible contributions of female mountain farmers by providing a gender inclusive environment in which they can do so.

2 Literature review

The world is currently facing a multitude of global challenges: climate change, increasing natural disasters, loss of biodiversity, food and energy crises, growing inequality, overall ecosystem deterioration, increasing water scarcity and desertification, political instability, migration and financial crises. These challenges cannot be regarded separately but as a complex nexus of mutually dependent determinants. It is important to note that most of these challenges disproportionately affect mountain regions – especially in developing countries. It poses them at risk in their special and decisive role as ecosystems, for example in „providing freshwater to at least half of the world’s people” (FAO, 2011, p.3). Generally, mountain people are considered a highly deprived population and specifically among rural areas, their resources are closely linked to sustainable development of lowland areas.

In this regard, women are essential actors in protecting and strengthening the environment and play key roles regarding the socio-economic development of mountain regions. They can be considered primary managers of mountain resources in terms of agriculture, animal husbandry but also small scale economic activities (FAO, 2015). Furthermore, women are guardians of biodiversity, local culture and traditions. The UNDP furthermore states “Women’s activities in food production, community management, natural-resource and biodiversity management, education of children and family care place them at the centre of development. They are the collectors of fuel and water for their families, and users of energy to prepare food and care for the sick. In developing countries, they engage substantially in agricultural production, both paid and unpaid. [...] Thus, recognizing and supporting the activities and needs of women is essential for socio-economic development.” (UNDP, 2011) Despite the important role of women in this regard, especially mountainous women are often invisible or their voices go unheard and they are often deprived of their fundamental rights. Therefore, UN Environment has identified women as one particular group of mountain region inhabitants especially exposed to the socio-ecological crisis. They are more vulnerable and disproportionately affected by the environmental consequences of climate change and natural resource degradation (Denton, 2002).

Furthermore, women suffer from gender inequality as they are most of the time economically dependent, only have limited access to education and health care, are deprived of equal property rights and ownership and are inadequately represented in policy- and decision-making (UN Women Watch, 2009). However, despite their ecological importance mountain regions have not

been on top of the agenda for sustainable development, neither have mountainous women. There is a lack of up-to-date data and academic literature on this topic. Furthermore, there is a need for adequate policy measures that integrate and directly address women, “not only for the wellbeing of individuals, families and rural communities, but also for overall economic productivity, given women’s large presence in the agricultural workforce worldwide” (UN Women, 2013).

Previous research has mainly focused on the situation of the Global South (e.g. Norlha, 2017) since this region of the world is more prone to impacts of climate change (Field et al., 2014; Mendelsohn et al., 2006) and issues of gender equality can be considered even more pressing than in the Global North (e.g. Jayachandran, 2015; Rendall, 2013; UNDP, 2016). Therefore, the awareness on the connection between climate change and gender inequality in developed and industrialized countries is lacking, which results in a lack of literature.

Although there is manifold research on the issue of gender equality in developed countries, it mainly focuses on labor market participation, remuneration or gender mainstreaming. These issues are of fundamental importance without a doubt, however they bear the risk of failing to address issues of women living in rural or mountainous regions. Furthermore, there is rarely a link established to the issue of climate change despite the fact that mountainous ecosystems are so vulnerable to climate change induced impacts. Our aim is to shed light on both of these phenomena with focus on Austria. There are available sources on the Alpine region (e.g. Schmitt, 2014; Unbehaun et al., 2014) and the situation of female farmers in general (Mayr et al., 2017). A recent report indicated that the share of female-led agricultural farms with 33% is quite high in European comparison (Ministry for a livable Austria, 2017). However, information and up-to-date academic literature on female mountain farmers is relatively scarce (see also Oedl-Wieser & Schmitt, 2017). Very little information is available on their daily lives, their routines, and the division on work on the farms as well as their attitudes towards sustainable consumption or production. With our research we want to contribute filling this research gap and provide relevant information that can be used for designing adequate policies that promote the sustainable development of mountain regions.

3 Methods

The motivation for this study was to examine the gender roles on Austrian mountain farms and the attitudes of female mountain farmers towards the environment. For this purpose, the study is structured around the the following research questions:

1. What are the daily routines on mountain farms and how is the division of work organised?
2. What attitude do female mountain farmers have towards the environment in terms of sustainable production and consumption?
3. What implications can be drawn from these findings for the sustainable development of mountain regions?

This section provides an overview on the choice of methods to conduct this research. The study utilized qualitative research methods to gain an in-depth understanding of the dimensions of gender inequality and sustainable environmental development of mountain regions. Interviews were hereby considered the most appropriate way to explore the research questions. In total five qualitative interviews were conducted to obtain in-depth and rich data and insights into the daily lives and realities of female mountain farmers. Subsequently, two expert interviews were conducted in order to explore and reflect the findings generated from the qualitative interviews and discuss policy proposals. For our research aim and topic, a qualitative research approach was most suitable to investigate the individual realities of life and to gain a better understanding of the variety of perspectives in this unknown field. In the scope of this research and due to time and financial constraints, the interviews were conducted over the phone.

3.1 Problem-centered Interviews

Among the various possible forms, we found problem-centered interviews (PCI) as most suitable since this approach allows combining elements from narrative and topical interviews (Witzel, 2000). On the one hand, PCI thus allows emphasising individual's perspectives and experiences and on the other hand it builds on the existing knowledge from the literature review (Scheibelhofer, 2008). There are inherent limitations to this approach that concern a lack of comparability across interviews since the outcomes are so special and exceptional as a result of the narrative interview technique. Furthermore, the topical interview approach risks to impose researchers own ideas. In terms of the latter risk, interview techniques are of paramount importance and the interviewer attempted to be as unobtrusive as possible, using open-ended questions and prompts.

We followed a progression of seven stages as proposed by Kvale & Brinkmann (2015). We started with thematizing, so formulating the purpose and conception, then developed a study design before we conducted the interviews. Afterwards followed a period of structuring the information from the interviews, analysis and verification before the final report was compiled.

The questionnaire was first developed in German and informed by the literature review, based on a research guide by the FAO (Pavanello et al., 2015) as well as another guideline for qualitative interviews from the Austrian Federal Institute for mountain farmers (Bundesanstalt für Bergbauernfragen, 2015). The interview guideline broadly covered two topics: on the one hand biographical elements and social structures as well as daily routines and the division of work on the farm and on the other hand questions regarding environmental knowledge and the attitude towards the sustainable production and consumption. The full interview guideline can be found in the Annex.

Regarding the selection of the interviewees the following criteria had to be fulfilled: they had to be female, working and/or living on a mountain farm as classified by the Austrian cadaster scheme (Tamme et al., 2002). Building on the contacts of one of the authors, a snowball system was set in place to find potential interviewees, thereby we asked first interviewees if they knew people who matched the required profile, which resulted in a few more interviews.

The interviewees were mainly contacted by E-mail. In the end, we managed to conduct five phone interviews that mostly lasted for one hour. The interviewees were between 33 and 53 years old, all growing up on a farm or having a close connection to farm work since they were born. Interviewee's profiles will not be developed further here, but elaborated on in more detail in the analysis section. After all interviews were conducted, they were paraphrased and collected in an excel file. Already during the interview, interesting quotes and insights were highlighted. The collected data was then analysed and interpreted by all authors individually to identify valuable insights, which were then cross-checked between the authors. This provided the basis for the expert interviews.

3.2 Expert interviews

In addition to the problem-centered interviews, we conducted two expert interviews. We decided on confronting experts with our findings to establish a link to existing knowledge on the topic and furthermore benefit from the expert's special knowledge and experiences resulting from his/her responsibilities of his/her specific functional status within an organization (Bogner, Littig, & Menz, 2005). Moreover, we wanted to derive insights and inspiration for possible policy recommendations. Regarding the limits to this approach, it has to be taken into consideration that the obtained knowledge is not neutral and information might only be illustrative or anecdotal (ibid). The selected experts had to have a close connection to the topic in the sense of conducting research in this field or holding a position in an organization closely related to our research field. In the end, we managed to conduct an interview with Elisabeth Senn, the president of the Slow Food Movement from Tirol and a Swiss expert who preferred to stay anonymous.

Regarding the expert interview guideline some questions from the PCIs were maintained in order to cover the two dimensions of gender inequality and environmental sustainability. In addition, some questions addressed the findings from the PICs but also going beyond targeting structural and institutional settings as well as policy recommendations were added (see Annex). The data analysis of the expert interviews was conducted similarly to the approach of the PCIs.

4 Results

To maximize the benefits of the problem-centered interviews (PCI), which allow the interviewees to express individual experiences and perspectives, this section will describe the five PCIs in significant detail. This will allow preserving findings, especially regarding the general management of the described mountain farms, which may otherwise be lost due to the narrower analytical focus in Sections 5 and 6.

4.1 Problem-centered Interview A¹ - Anna

The first interviewee, Anna, is 37 years old and represents a more traditional model of an Austrian mountain female farmer. She runs her farm together with her husband as a part-time job: her husband, active in local political circles, has a full time job while she works on the farm, takes care of their children and manages the several rooms on the farm, which they let to tourists. Anna grew up on a farm and obtained knowledge of farming mainly from her parents. She stressed the unique dedication and work ethic that is acquired when growing up on the farm. Originally, Anna planned to leave the farming life after her studies and become a travel agent. After her marriage however, she followed him to the farm they now run together (interestingly, the same patterned occurred in the case of her three sisters). Their farm consists of 32-35 milk cows and 80 breeding cows. They live in a small village of approximately 2800 people in a very mountainous region of Austria.

In terms of work distribution on the farm, Anna stressed the natural division of labor caused by the difficult terrain: the heavy labor at the farm is still done by her husband, as there are limitations to what a woman can physically do. On their farm, the role division therefore is as follows: her husband, who works full-time outside of the farm, spends 1.5 hour every morning milking the cows and then leaves to work. Anna is in charge of the less heavy labor around the animals, organization of the farm and running the tourism business. She is also mostly responsible for bringing up the children. Her daily routine consists largely of tending the animals, taking care of the farm and the guests, who usually stay for one week. Due to her husband's long working hours and his own farm commitments, Anna also carries out the majority of housework. They do not hire outside help, however her husband's sister helps especially with cleaning the guest rooms. Their four daughters help as well. Anna concluded that she would welcome more help.

Their farm focuses largely on milk production – they sell the milk from their 32-35 milk cows to Tirol Milch (a large milk company, which collects milk from smaller farms on daily basis). Anna also produces a lot of food directly for their own household and their guests. This constitutes a major addition to their income.

¹ To protect the identity of the interviewees, alternative names arranged in alphabetical order are used: Anna (for farm no. 1), Beatrice (for farm no. 2), Cecilia (farm no. 3), Diana (farm no. 4) and Esther (farm no. 5).

In terms of production the milk farm is conventional (as opposed to an organic one). This is mainly due to costs - her husband perceives organic fodder for the cattle to be too expensive, otherwise the farm is effectively organic. Anna perceives the movement towards organic food as very important, however for now they agreed that the cost would be prohibitive. On the consumption side however, she buys exclusively organic food for her own family, heavily supplemented by their own production.

The fairly traditional division of gender roles is also reflected in the decision process in the family. While Anna's husband discusses most of the decisions regarding the farm with her, it is mostly his word that is final. She however also points out that some decisions are naturally based on the role distribution, therefore in certain areas, which are mainly in her purview, he must accept her decisions and vice versa. Nevertheless, Anna feels she does not have a very large influence in this regard but remains convinced her husband might adopt her view over time. She considers herself to be a conservative farmer and feels overall more comfortable with this traditional division of gender roles. She also believes that more women may return to this is a model; despite the criticism she sometimes faces from her friends who do not support such a traditional division of roles.

Anna herself considers her workload as very intense and highlights the impossibility of taking a break such as a holiday as the farm and the animals depend on her and her husband's continual everyday care. She hopes that in the future the work on the farm may be taken over by someone else, which would allow this occasional break, as they are "just in the process of transformation". Anna also perceives her husband's workload as too heavy and time-consuming and would prefer more time to be spent with the family. She would like to have more help from him with raising their daughters. Despite her heavy workload of running the farm, she feels her own work is sometimes unrecognized, she cites she is sometimes confronted "with the question of what else she does besides taking care of her children", a question she finds "irritating and annoying".

Partially thanks to her husband's political engagement, the family is well integrated in the local community, which Anna stresses to be very strong in the mountains. She is, along with her daughters, a keen member of the local interest associations (legal entities in Austria which unite local community members around common activities). These associations often reflect a more traditional division of roles and often separate men and women (as also indicated in the expert interview with Elisabeth Senn, see further below). As such, Anna is a model example of the more traditional Austrian female farmer - looking after the farm and the family (along with a side tourist business), while her husband helps with the more physically strenuous tasks around the animals and has his own full-time job away from the farm.

4.2 Problem-centered Interview B - Beatrice

Beatrice runs a farm with her husband following a similar pattern as Anna - while she manages the farm with the help of her son; her husband has a full time job as a construction manager. She points out that without his independent income, it would be impossible to maintain the farm. She is 50 years old now and has been running her farm for 28 years. Together with her husband they made a conscious decision that she becomes farm owner when they got married. She had grown up on a farm herself and in addition to the knowledge that she gained from her parents she also obtained higher education in agriculture. Today she gains a lot from communicating with other farmers and small mountain farm associations (offering classes about direct marketing or production collaboration for example).

On the farm, they have 27 milk cows and 33 breeding cows as well as 100 chickens. They also have fields, where they grow grass used as fodder for their cows (traditional Alpine model - few farms in the region grow wheat). Beatrice's farm is in the fore-Alpen region, in a small town of 1300 inhabitants. The area is not too steep and rather industrial. The level of industrialization in the area is rising still - many fields are being turned into industrial sites or apartments. There is little tourism and people who have a farming background are highly sought after due to their work dedication and diligence, according to Beatrice. Especially women from the region have often given up farming and gone into regular employment. One of the key reasons for this is the low pension farmers receive in Austria, causing many people to leave farms to ensure they have sufficient number of "pension years".

At the moment there are about 40 farms in the area, but Beatrice points out there used to be more when she was a child. In fact, she observes: "Among all the farmers there is a massive reduction of farms; within the last few years 50% of farms closed down". This is partially due to the lack of tourists: the farms must work very well in order to stay in business as they cannot subsidize their business model by renting rooms to tourists (as was the case in Interview A). Those that did survive had to "go big". In general, small farms struggle significantly more in terms of complying with standardization brought on by the EU. Bigger farms get more funding from the EU and benefit from economies of scale (e.g. every farm needs a tractor but for a small farm this is a much bigger investment). However, these bigger farms are often in valleys - farms in the mountain areas are determined by the height and steepness of the terrain and are therefore limited in their growth. Beatrice considers her own farm as a very small and unconventional one: she approximates that one person is capable of taking care of circa 30 cows.

Beatrice stresses that the life of a farmer is highly taxing. There is no buffer zone for a change in the circumstances: simple developments such as an arrival of a child or farmers growing old can mean a farm goes out of business. Paradoxically this is even more the case with large farms; time is the most valuable resource and it is stretched to its maximum. In her work as a volunteer in cattle breeding association Beatrice has noted many psychological problems among the farmer from growth-focused farms. The pressure on them is much higher than on small-farm owners and many of them suffer from burnout. She points out that while farming has always been a very demanding job, the growth paradigm is making it even more stressful.

On the other hand once a farm closes down, it is very difficult to restart. Many young couples would like to take up farming however this requires a lot of capital, especially due to the machinery needed.

Beatrice lives on the farm with her husband, one of her three adult sons, his wife and their one grandchild. She anticipates her son will eventually take over the farm, for now they run it together while his wife is employed full-time as a teacher.

They have a well divided system in terms of role distribution: Beatrice gets up at 5:30, makes breakfast and works in the stables every morning and evening for 1.5 hours. Apart from this she takes care of the food production and the farm management. Her son feeds the animal, takes care of the manure and maintains the machines – essentially all of the heavier labor. He also takes care of the fields, mainly due to the steepness that requires more strength. Her daughter in law does the cooking for the whole family (they work as a small community even though they have separate apartments).

In terms of domestic chores Beatrice's husband shares the duties fully as does her son - she considers their family as a “fully emancipated one” and has aimed to bring up her sons in this spirit. Their domestic roles in the family are not gender specific; similarly, Beatrice and her husband were both equally responsible for bringing up their three sons. All decisions are taken together as a family.

They are not a wealthy farm and sometimes struggle financially; Beatrice stresses that full-time working husbands often subsidize women-led farms. Even when they originally decided as a family to avoid EU funds to maximize their own independence, they found out this was not realistic.

In terms of production Beatrice produces milk, eggs, vegetables and meat. The milk is sold to a local milk collector and the meat to a slaughter house - due to very strict EU hygiene standards she cannot slaughter them herself directly on the farm. She would also like to produce cheese and meat but the required certificates are far too complex, preventing her from being able to sell the goods directly. It is also due to issues with certification that the farm is not organic, despite fulfilling all the criteria. Specifically, due to their fields and stables being divided by a road they could not obtain the appropriate certificate.

In terms of principles however, the environmental concerns are very important to Beatrice and she champions the principle of “circular economy”, where everything that is produced is used and given back to the nature. She would like to strengthen small farms to avoid the industrialization of the entire food sector. Apart from the concerns for the wellbeing of the environment and the farmers themselves she also points out the distortion of food prices that is caused by multinational food corporations, which make the business of small farmers even more strained. To this end she believes information must be spread about the real value of food, to take a step back from the unsustainable growth-focused strategy.

On the consumption side Beatrice's family mainly consumes their own products, very occasionally she buys from the supermarket and aims to get other goods from other farmers in the area (the local farmers essentially function as a small cooperative). This allows for a vivid relationship with other farms in the area; for Beatrice this is crucial - the farmers are united, support each other, share knowledge and create a sustainable community. To her this is the important benefit of smaller farms: they maintain the culture, local traditions and system of circular, sustainable economy.

4.3 Problem-centered Interview C - Cecilia

Cecilia has married into an already functioning farm, which was managed by her husband and his brother. She is 55 years old and while she had grown up in a very traditional conservative family at a farm with five siblings, she spent 20 years in Vienna, Frankfurt and Berlin as dancer and kindergarten teacher before she became a farmer herself. Before Cecilia joined the farm, the two brothers ran it as a part-time project and worked full-time on the side. Now they are all dedicated to farming full-time. They live on the farm together and have adopted a daughter, who is seven. In the future she may take over the farm, should she wish to (something that Cecilia's husband hopes for as he would like to keep the farm in the family). The farm consists of six mother cows, 12 calves per year, one goat and one cat. They sell both milk and the calves. In addition, they also grow vegetables. The farm has been fully organic for six years now and is certified as such. It is located in a mildly mountainous area - the terrain is not too steep. They also rent a small apartment for four people at the farm for tourists.

Cecilia perceives much of the farming business as “the men's world” due to legal structures which tend to preserve the male-dominant structures (the farm is owned by the two brothers) - “if you get married into something you do not get a right automatically”. While she found this upsetting when she first married into the farm, now she considers it an advantage as it allows her to spend more time focusing on her own esoteric interests. The roles at the farm are very clearly distributed: in terms of work at the farm, she takes care chiefly of the vegetable garden and the rented apartment. She is also in charge of all the social connections at the farm. Occasionally she lets out the cows and helps with the hay work but the main load of the farm work is split between her husband and his brother. Her husband is in charge of all administration at the farm such as the certificates etc.

Cecilia fulfills the traditionally more feminine roles: she does the cooking, conserves the vegetables she grows, takes care of the daughter and plays with her and helps her with homework. She seems largely content with this distribution as it allows her to focus on things which are important to her including two hours of meditation every day. The traditional model is also reflected in the decision-making, where men exclusively take the decisions (although at times they are open to her input e.g. they do not put away the horns of the cows). On the contrary, she makes decisions related to the house.

For Cecilia mountain farming is an excellent way of staying in touch with nature - much like Beatrice, she is against the constant tendency towards industrialization and mechanization. She believes living in harmony with nature can be therapeutic, which is quite important to them as her husband's brother struggles with a mental illness and is currently in hospital with it. As Beatrice, Cecilia too mentions the big pressure on farmers and feels that it is important that people stop being afraid of talking about these uncomfortable issues.

Cecilia likes working with her hands and she cares a lot about treating the land right. To this end, she takes care to ensure the animals enjoy a full life before they are slaughtered. They keep the calves with their mothers while drinking to provide natural environment for them and ensure they have plenty of room to run around. All calf rearing is organic. They keep the horns on the cattle too. As Beatrice, Cecilia too mentioned the importance of circular economy. "Do not take more from the land than you need and give everything back." When tending the land, they try to use as little fertilizer as possible (in some cases, it is not possible to do everything organically especially due to the mountain soil). Beatrice says it is always about finding a balance between economic and natural sustainability but stresses the importance of working with nature, not against it.

The family consumes most of the food produced by the farm (meat and vegetables) themselves. Cecilia makes bread at home as well as speck from their own meat. The farm is quite self-dependent and has little extra costs. She occasionally buys things at the local supermarket (not always organic), but 50% of the food they cannot produce themselves she buys from other local farmers, especially wheat for the bread.

While Cecilia is not at all active in the traditional local structures such as local interest associations (frequented by Anna), she is very involved in the "alternative" community and has gained much of her knowledge about plants and sustainability from those sources. She also gained knowledge about farming from her parents. She however also stressed that she has a wider, outside view: her mother had led (rather unusually) her daughters to learn something outside of farm life. Thanks to this, Cecilia also has a degree in psychology and has "seen the world" rather than only knowing a life on a farm. Going back to a farm was a choice to be with her husband and get closer to nature. In the future, she would like to do even more herself, without machines - her focus is not on selling the products of her work but on the value of the labor itself.

4.4 Problem-centered Interview D - Diane

Diane is running a sheep farm of about 10 hectares (and a small forest) that she has taken over from her parents in 2009. While they ran it together as more of a hobby and worked full-time besides the farm, she has turned it into a full-time occupation, increasing the size of the farm from five to about 70 sheep. Four family generations now live on the farm together - Diane's grandmother, her parents, Diane, her husband and their two children. She is 33 years old. After finishing high school, Diane studied health management and tourism, worked abroad for a few years and then came back to the family farm. Her husband now works part-time in a bank but they are considering him leaving his job and working on the farming full time as well.

The farm² is focused on sheep cheese production and has recently acquired pigs as well. It has been fully organic for 30 years (including the cheese production) - Diane's parents were pioneers in this regard. However, Diane also points out that when her parents took over the farm 30 years ago, there were significantly less regulations of sheep milk production. The growing amount of regulations caused their hobby to get progressively more expensive to the point where they would either have to close down the farm or turn it into a full-time occupation. As their number of sheep subsequently grew to 70 and the cheese production took off, the demand increased to such an extent that Diane decided to focus on cheese production. They gave up their own sheep and entered into cooperation with another organic farm 20 km away, which keeps the sheep and stocks Diane with sheep milk. The relationship is based on trust rather than a contract and it has worked very well. Diane now runs a small shop at their own farm selling their products and also sells the cheese to restaurants, hotels and special shops. They never do any advertising; they successfully rely on word of mouth recommendations.

It is mainly Diane's family working on the farm (she has three siblings who sometimes help); occasionally they hire people to help out over the spring or summer when the cheese production is at its peak but try to avoid it if possible. The roles on the farm are relatively clearly divided. Diane herself is responsible for the cheese production and the administrative tasks. Her retired mother occasionally helps with the cheese production and takes care of her vegetable garden (for home consumption). Diane's retired father works outside at their grasslands. Diane sometimes helps her father outside and her younger sister also comes and helps where needed, however she also works at her boyfriend's farm - confirming the opinions of Beatrice and Cecilia that many young couples are interested in farming. The women in the family are also responsible for the rest of the traditionally female work - Diane and her mother do all the cooking and childcare. In terms of decision-making however all of the important decisions are taken as a family.

The organic aspect of the production is very important to Diane. Like the other interviewees, Diane talked about the importance of circular production: they are aware of every step of the production and nothing is wasted. To get milk, they need sheep with lambs, so they also raise the lambs, which are then slaughtered and sold as meat (this process is now carried out at the partnered farm). They get milk every two days. Now Diane also has pigs that are fed with all the waste left from cheese making. They also put a lot of thought into conserving and packaging their cheese: only cheese cream is sold in plastic (as glass would be too heavy and expensive), everything else is sold in paper wrapping. Diane points out that she educated herself not only in the matters related to farming but also to the environmental aspects of production. She then spreads this knowledge and educates her customers on the topic of sustainability.

² Diane hesitated to call their farm a mountain farm exactly as they are not located in a steep enough area to officially qualify for the classification. Nevertheless, many of the points she made ran along the same lines as those made by her colleagues from farms positioned higher in the mountains.

On the consumption side, much like the other farms, they produce a lot themselves (dairy products, vegetables and meat from the lambs and pigs). They also buy steak meat from another befriended farm. For other goods such as rice, noodles or lentils the family buys from organic whole-sellers. When Diane does go to a supermarket occasionally, she aims to buy regional rather than imported food.

Diane acquired the knowledge she needs mostly from her parents and autodidactic. Her parents gained the knowledge of how to care for sheep from the sellers and then taught themselves how to make sheep cheese over the years. They continue to share experiences with other farmers, as they are member of several interest associations, such as Austrian Association of Mountain Organic Farmers and Mountain Farmers Milk Production Association. In the future, Diane is not sure who will succeed her in running the farm - rather as they are still at the beginning of developing the potential of the farm themselves they are considering her husband joining her full-time. However, as she herself spent some years working outside the farming industry she would not want to force or impose anything on her children, it will be their own decision.

4.5 Problem-centered Interview E - Esther

Esther runs a small full-time farm with her husband, high up in a steep area of Alps. They have five to six mother cows, five breeding chickens, three beehives and grow lots of vegetables and herbs in their greenhouse. They also own a small forest. Esther's aims to live from subsistence farming (they produce and consume everything) - they are almost autonomous and while they make little money, they only need it to buy things such as insurance. They are also a part of a local exchange trade system that is based on an alternative local currency, allowing them to trade regional goods. Esther is 44 and has taken over the farm in 2006. She now lives on her farm with her husband and their three children (aged 23, 21 and 13). Her parents have their own house on the property and help with running the farm. She grew up on the farm (owned by her grandparents and then parents) and while she did not anticipate taking over as her two other siblings studied agricultural school and she did not, in the end they went into different professions so she took over the farm.

In the household, most roles are shared - in general Esther's husband takes care of the animals and the stable-work while Esther focuses on the gardening. Their farm is a full-time occupation for both of them. In terms of housework and upbringing of the children however, they share all the work and do all cooking together. There is no gender-specific role division. Esther's parents also help with both the farm and the kids. Similarly, all the decisions are taken as a family; Esther and her husband also consult their decisions with their children. They expect that in the future one of them will take over the farm - their oldest son completed agriculture school. However, it will be entirely their decision - she does not mind should they wish to do something different. The farm occasionally welcomes external help in the summer but they cannot really afford it - workers have to work for food and accommodation.

Her grandparents, who focused on milk production, originally owned the farm. Once her parents took over they aimed to turn the farm organic and after about 15 years they achieved this fully - they reduced the number of milk cows and ensured they were fed only organic fodder. Eventually they changed towards the subsistent farming model. As Esther was a child during that time it inspired her to the idea of responsibility to the soil and the importance of caring for the environment. Since then she feels very strongly about organic production. For certain period, Esther even had the Demeter certification, which focuses on holistic farming. However, the conditions were very specific and strict especially in the area of animal husbandry, which Esther gradually moves away from since having become vegan as well as prescribed manner of fruit processing which became simply too complicated. The farm however keeps the general organic certification.

Esther does not directly sell their products in a conventional manner however they are a part of a local exchange scheme allowing them to trade with other local people through an alternative currency based e.g. on “how many hours it took to produce this item”. In this exchange system, the alternative currency exists solely on the accounts of the members. Esther considers this a different kind of production, based on a fairer compensation for work, more personal contact and one that promotes regional economic development. To improve the diversity of such a trading model, awareness needs to be raised about this kind of trade and subsistent farming. Their progressively growing focus on plants however limits their ability of collaboration with other farms (in the Alps, animal husbandry tends to be the main focus). As a result of this she does not perceive herself as a traditional mountain farmer.

In terms of consumption, Esther only buys what they cannot produce themselves on the farm - wheat, chocolate, coffee and certain types of oil. She only buys organic products and generally aims to buy predominantly from people she knows directly at the market, products such as cheese etc. Esther feels very strongly about organic production and consumption for both health and ethical reasons. While most of her knowledge about farming comes from her parents (and she does not have formal education in this field), Esther attended many courses and speeches on the topic, especially through different interest associations and the local exchange scheme. Her farm is also a part of La Via Campesina, international farmers' movement of small and middle scale producers championing food sovereignty of small farmers and other goals such as stopping violence against women. Nevertheless, Esther wishes there would be more awareness on holistic farming and more information would be available closer to her.

5 The Role and Importance of Women in Sustainable Farming in the Mountains

The qualitative interviews revealed the vital influence women have on sustainable farming in the mountain areas, especially on small family farms, which often promote local, environmentally friendly organic production. Their importance can be seen as a continuation of the tradition and knowledge preservation, management of the farms (especially family farms), dedication to circular production and facilitation of the local economy through support of consumption of local organic products. Our interviews also revealed consideration for issues which are not often discussed in connection to farming - the psychological pressure of growth focused approaches to farming or the lack of understanding of true value of food amongst the public.

All of the interviewed women obtained knowledge from their parents as a main source of their farm know-how - they have all, in fact, grown up on a farm. This shows small family farms (which tend to be often ran by women, while their husbands work full-time elsewhere), where the children observe their parents and often help out act as unique knowledge and tradition preservation units. In addition, they naturally integrate future generations in the local farming community as well as the local interest associations, which most of our interviewees mentioned as another potential source of knowledge. However, our interviews and statistics reveal a tendency amongst young mountain farmers of moving to cities - indeed all of the farmers we questioned either planned to move away from the farm or did for a period of time. On the contrary young people from the cities often wish to start a farm but lack the knowledge and capital necessary to do so.

Children that grow up on a farm are more likely to come back to farming life in the future (despite originally moving away from the farm) and often taking over a farm of their parents. This is not surprising - both the farmers themselves and an expert we consulted, Elisabeth Senn, confirm it is very difficult for young people to reopen farms that once had been shut down. The investment needed is very high and as we have seen from our research the gain is mostly not monetary. The value is difficult to quantify (sustainability, food autonomy, local development, knowledge and culture preservation) and therefore the significantly high capital requirements are very difficult to fulfill (more difficult to get a bank loan, make a viable business plan etc.). This leads to a rapid decline in the number of farms in Austria in general, supported by the responses we gathered as well as Austrian statistics (below). The presence of women at the farm, who raise a family therefore has a startling impact not only on the presence but also on the future.



The decreasing number of farms must be understood in the context of the hard work required in running a farm. It is far from a 9-5 job; most of the women farmers interviewed get up before six and work until the evening. All women mentioned the dedication and hard work mountain farming requires - they highlighted especially the impossibility of a holiday and the lack of a buffer: everyone working on the farm is needed and most small farms cannot afford to hire external help. Most also talked about the difficulties related to certification, which is very strict and does not seem to differentiate between very small family farms and larger farms. For the small farms however this creates an extra barrier of bureaucracy, which often prevents them from successfully selling their products or consumes valuable time and resources by administrative tasks. The solution tends to be to either “go big” or shut down the farm, however this is a step away from sustainable, traditional family businesses.

The key outcome of our research was the dedication women mountain farmers bring to the principle of circular production and economy. All the women farmers we talked to highlighted the importance of reutilizing waste, taking only so much as they need and focusing on the principle of balance as opposed to profit. In their interpretation circular economy is not about organic production as a luxury (as it is often perceived in the cities), rather it is about minimizing waste and ensuring sustainability on the land that is often maintained in the same family for several generations. Elisabeth Senn also points out the idea of circular production is more inclusive than the organic label - there are many instances in the mountains where the organic certificate is impossible to obtain. For small farms at high elevation this is often due to inability to ensure organic fodder, as they cannot observe what the cows eat on the fields. For larger farms, starting at certain size it may be impossible to avoid some chemical treatment. In the mountain regions in general, the soil quality is poorer and often needs fertilizing. While some of our interviewees maintain their organic certification (and recognize it as desirable), some have been unable to receive it or consider it too costly, despite being effectively organic.

The role of women is unique in the area of circular economy as they are often both in the role of the producer and the consumer. Our interviews reveal dedication to consuming organic goods as well as producing them (once again defeating any concept of selling organic food as a luxury).

In this way they stimulate the local economy either through farm partnerships, local markets or even local-currency exchanges. This is an important trend against supermarkets, which often defeat small local producers not only by lower prices but also by decreasing the demand. Interestingly even the women farmers who do not possess organic certification at their farms confirmed they buy organic food for their own consumption, demonstrating the importance of knowledge about the true quality and value of food.

The true value of food was a key concern for the female farmers we interviewed: the economies of scale of large farms and imported food have skewed the public understanding of how much food is and should be worth. Elisabeth Senn confirms this by illustrating only 10% of people's income tends to be spent on food in Austria in comparison to about 30% in France for example. People have also disassociated the price of food from the amount of work it takes to produce it, a problem that is in particular targeted by the local exchanges systems where trade can be done on the basis of hours worked for the product. From the production perspective, the problem with pricing was also revealed by the admission (Interview B - Beatrice), that they could not run the farm without EU funds. The people today are not ready to pay the full price for how much their food actually costs when produced in a sustainable way locally.

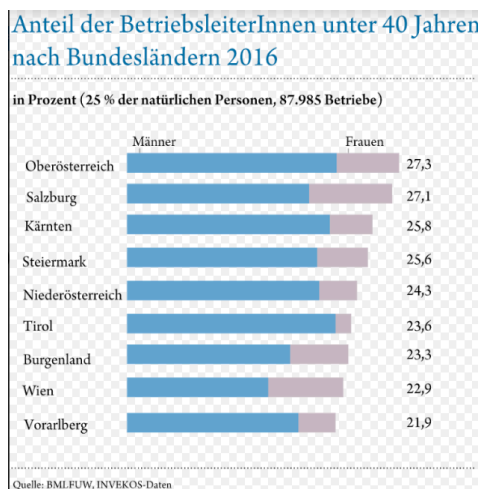
The financial pressure is logically linked to the wellbeing of the mountain farmers themselves, an issue rarely discussed. While there seems to be a general understanding that farming is hard work, our research suggests that many farmers (both male and female) suffer from psychological problems due to the constant pressure. It does not seem to be size-related: while the women farmers have agreed many issues they struggle with as small farms are not as difficult for larger farms (certification, technology, organic fodder etc.), the pressure remains. Losing any laborer (due to childbirth or age for example) can completely upset the balance of the farm and lead to its closure. There is no buffer zone, in terms of capital, labor of time and also no respite - the animal husbandry focused mountain farms require work around the clock, all year round.

Despite these problems, especially the detailed description of circular production demonstrates the importance and value of small mountain farms. Without them, traditional knowledge would quickly thin out and be replaced by more industrial approaches, which often drain the soil. To keep these farms open and slow down the decline of their numbers, the presence of women is vital as they often manage the farms and raise the next generation of farmers.

6 Experiences of Women Mountain Farmer with Gender Division

Although our in-depth study focuses on women farmers, it is important to stress they are very much a minority, especially in the mountain areas of Austria. As stated in the literature overview in Section 2, significantly more studies exist focusing on mountain women in the developing countries. This may create a false inference that in the developed countries, amongst which Austria certainly belongs, with history and dedication to gender equality the imbalance between men and women farmers has disappeared. This is not the case, as demonstrated by the statistics (shown below). Especially in mountain areas of Austria, farms managed by women are a very small minority.

While the previous section analyzed the unique role women play and what they bring to mountain farming, this section will detail more the experiences of inequality which were faced by our interviewees in terms of management, role distribution and decision-making.



Both experts we consulted agree the low percentage of women-managed farms is to a large extent due to remnants of the past ownership laws - historically women were not allowed to own or inherit farms; these were always given to the eldest son. In Austria (and in Switzerland), women therefore could not be members of and vote in the Chamber of Agriculture, which unites the Austrian farmers. Elisabeth Senn claims that while today the ownership laws have changed, women are still a minority in the Chamber. In fact, this year's resolution of the Alpine Convention was that in the future there should be at least 30% of women in the Chamber, a figure that is still well below a truly equal distribution. This directive is now at the individual States level but has not yet been implemented. This imbalance was implied also in our findings - despite the fact all the women worked full-time as female mountain farmers, in two cases (interviews A and C) the farm was owned and decisions predominantly made by their husbands.

The survey of daily routines reveals a level of natural distribution in farm management. Especially in steeper mountain areas, where more physical strength is required, the role distribution is natural: the strength requiring field work and animal husbandry tends to be done by men, while women often take care of the plants, food production, administration and distribution of produced goods. In case there are additional tourist activities, it tends to be undertaken by women as well. Our findings showed that in addition to these tasks, women who run their farms tend to also carry out domestic labor.

More often than not, women are also in charge of bringing up the children, cooking and maintaining the house, a circumstance reinforced by fact their husbands often work away from home during the day while the women are present at the farm. This means women whose main form of income comes from the farm are therefore also more economically dependent on the survival of these small farms than men. This issue gets progressively more important as they get older - the pension for farmers are very small and it is crucial for them to be able to subsidize their pension with self-produced food.

Similarly, while some of the women farmers we have interviewed cited their husbands as main decision-makers (especially when the woman has married into an already running farm), none of them have said they made decisions without their husbands. This was the case even when the husbands were otherwise employed and the farm had been taken over from the woman's parents. Mostly they decide as a family. This is influential as it still sets a precedent for the future generation of farmers who gained their knowledge mostly from their parents. Elisabeth Senn points out the role distribution and the general position of women in the mountain farming community is supported also intrinsically through gender-dividing interest associations in Austria, which tend to be very traditional.

7 Policy Recommendations

Although the main focus of this paper was to describe the current experiences of women mountain farmers, the common findings also suggest areas of improvement. The general findings (confirmed by both experts) centered around the vital importance of small farms for women, which then in turn contribute heavily to supporting sustainable food production in Austria. On the production side, the problem lies mainly in the strict standardization required for subsidies and certification, which limit them in achieving their potential. On the consumption side, a big obstacle lies in the general misconception about the true value of food that can translate into lower demand. The common view expressed by the female farmers and experts is that the situation of women should be improved mainly by fostering an environment where they can maximize their impact rather than specific women-centered policies.

The demonstrated value of small farms should be translated into policies incentivizing small sustainable farming – ideally through limiting the cost and labor-intense paperwork and standardization requirements. Elisabeth Senn also points out that the burden of these requirements can be elevated by more support for the bureaucratic aspects of farming (both for general subsidies and for organic certification), which should be available locally. As our findings have demonstrated the authorities should limit their incentives towards ever growing farms such as the Chamber's “grow or fade away” campaign. The growth paradigm stifles sustainability, pushes farms towards industrial farming and creates a highly stressful, psychologically harmful environment.

To stimulate demand for products of sustainable farming and support general awareness of the value and importance of locally produced food, public institutions (schools, hospitals etc.) should source their food from regional food producers as opposed to focusing exclusively on the price. This would stimulate regional commerce, create more demand and at the same time provide higher quality food to a wide scale of people on daily basis. To this end, Elisabeth Senn points out that the situation has improved (a recent ruling changed the decisive factor in Austrian public cantinas from price to quality).

Finally, all the interviewed women farmers have agreed it is not only norms but also the general understanding of the importance of sustainably produced food (and its cost) which has to be transformed to stimulate small farms. This can be done both centrally and locally, through public education. In order for small farms to prosper the demand must be long-term, wide-ranging and not artificially elevated only by subsidies.

Overall the main aim of our policy recommendations therefore gears towards creating a more supportive environment for such small farms, which are conducive both to ecological diversified and sustainable food production as well as to job-security of women in the mountain regions.

8 Conclusion

Little attention has been directed at women farmers in the mountains all over the world. Even less attention has been directed at women farmers' conditions in the developed part of the world or any kind of appreciation for women's unique contribution to this particular environment. Yet it is in the interest of the central governments and people outside of mountains that the traditions, which according to our findings rely increasingly on women and their dedication to the mountain farming, are maintained. They preserve culture, are sustainable, do not exploit the environment and prevent cities from being overcrowded. This paper is a depth study into the gender and sustainability related issues experienced by Austrian female mountain farmers.

The general trend points towards small mountain farms closing down, mainly due to food price distortion, uniquely demanding nature of the job and difficulties with standardization related strict conditions required to obtain organic food certificates. Our findings show the invaluable contribution of women due to their role in knowledge preservation. However, despite their high commitment to sustainable circular production and consumption and importance for bringing up future generations of farmers, the statistics still demonstrate considerable gender imbalances. In addition, women are often more dependent on the continuous functioning of small sustainable farms meaning that the closing down of small farms disproportionately impacts their job security.

Small sustainable farms in turn increase food self-sustainability by providing local-specific solution adapted to the climate conditions (which cannot be done by big farms, who are very dependent on global markets). Smaller farms are also less dependent on the large market and have more bio-diversity, creating more resilient local systems. Despite this, they face constant risk of closing down: there is no buffer zone and it seems there are few governmental incentives directly focused on smaller farms. To this end we propose policies, which would support small sustainable farms by both easing the bureaucratic obstacles at the production level and stimulating directly and indirectly consumption of local sustainable food on the demand level. This would in turn improve the situation of women mountain farmers and hopefully allow more women to become or stay farmers.

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