Chapter 8
What, How, and Why? Collecting Traditional Knowledge on Forest Uses in Switzerland

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8.1 Introduction

During the nineteenth and twentieth centuries, forest use and management in Switzerland underwent radical changes (Bürgi 1999). Before this period, traditional forest uses, such as woodland pasturing, wood hay and litter collection and even crop production on temporary fields in the forest were a common practice throughout the country. In the late nineteenth and early twentieth century, these non-timber forest uses have been increasingly abandoned and/or banned from the forests. This development has been paralleled by an increasing interest in wood as an industrial good and the introduction of the science of forestry together with the implementation of forest laws. Furthermore, agricultural modernization and a rapidly growing infrastructure after the Second World War facilitated importing resources from abroad and consequently took pressure from the forests to supply resources for the local demand. Lately, uses, such as woodland pasturing and litter collection, have gained attention from various scientific disciplines due to their importance for cultural history, ecosystem development and carbon sequestration in forests (Perruchoud et al. 1999; Gimmi, Bürgi and Stuber 2008).

To assess the characteristics, extent and the intensity of mainly agricultural uses of forests in Switzerland, an extensive literature review has been conducted (Stuber and Bürgi 2001; 2002; Bürgi and Stuber 2003). This literature review illustrates the diversity and variability of human impacts on forest ecosystems and implies a massive change in forest uses especially after the Second World War.

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I. D. Rotherham (ed.), *Cultural Severance and the Environment*, Environmental History 2, DOI: 10.1007/978-94-007-6159-9_8,
© Springer Science+Business Media Dordrecht 2013

However, literature and archival material show specific limitations as main sources for reconstructing forest uses, as not all activities are adequately represented in written over-delivery. One reason for that is the social context of many non-timber forest uses, which often have not been conducted by forestry officials, but by the local population, especially women and children. These parts of society are often not adequately reflected in written sources and so are activities, which do not lead to marketable goods, but serve self-supply. Thus, the knowledge remained just with the people who performed theses uses and has rarely been documented otherwise. Under these circumstances, conducting oral history interviews is most suitable to complement written and other archival sources in order to get a more complete picture of former forest uses and to document the connected traditional knowledge (Roth and Bürgi 2006; Gimmi and Bürgi 2007). As many practices have been abandoned in the last 50–70 years, now is the last chance to collect and document the connected traditional knowledge, which otherwise will be permanently lost and deleted from the collective memory.

To gain a more complete picture of traditional forest uses in Switzerland, a project "Hüeterbueb und Heitisträhl" (i.e. "Shepherd boy and blueberry comb") has recently been finished and its results published together with the release of a documentary movie (Stuber and Bürgi 2011, www.youtube.com/watch?v=rr3WYXJ-pQ8). The results are based on 56 oral history interviews conducted in five study regions across Switzerland (Fig. 8.1). The regions were chosen based

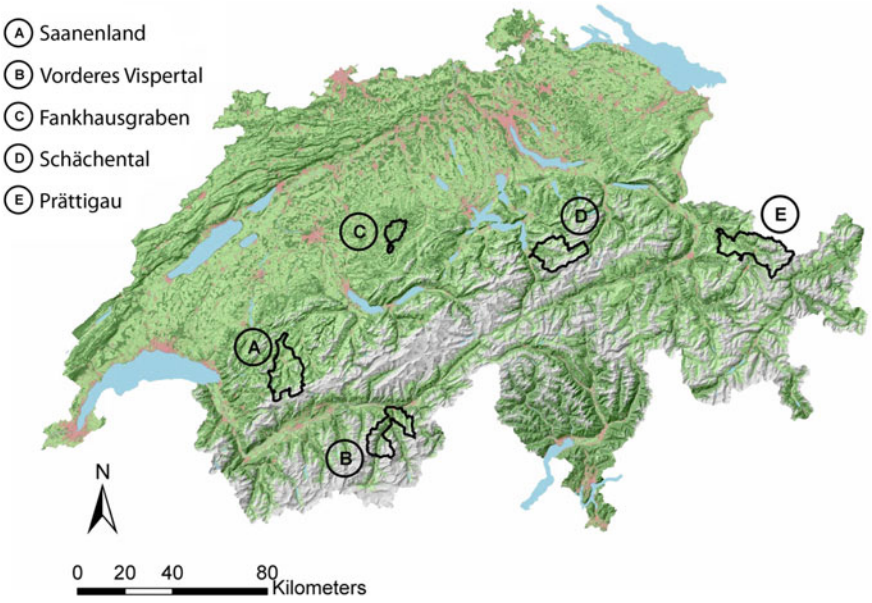

Fig. 8.1 Location of the five study areas of the overall project. This paper reports of the results from the region "C Fankhausgraben" (*Data* Arealstatistik 1992/97, BFS GEOSTAT; swisstopo (DV033492.2); DHM25 © 1994 Bundesamt für Landestopographie)

on the literature review mentioned above, i.e., in regions, where we knew that such practices might have been performed up to the second half of the twentieth century. In this chapter, we report on the results from one of the study regions, i.e. the Fankhausgraben.

By preserving the traditional knowledge on forest uses, this study aims at: (a) preventing the loss of cultural heritage, (b) documenting the human impact on forest ecosystems, (c) assessing the regional variability in forest use, and (d) contributing to the understanding of the human impact on forest ecosystems.

8.2 Study Area

The region Fankhausgraben is located in the Emmental, a hilly area of the Canton Bern in central Switzerland. The Fankhausgraben ranges from 792 to 1250 masl and it is part of the municipality of Trub, which covers an area of 6,201 ha. This municipality today is still dominated by agriculture and includes about 1,450 inhabitants and 140 working farms. The number of inhabitants has declined since the beginning of the twentieth century, when 2,606 people lived in Trub. Worldwide, about 50,000 people trace their roots back to Trub (www.trub.ch), illustrating a long history of emigration due to difficult economic conditions and limited availability of employment. The region belongs to the German speaking part of Switzerland, in which various regional dialects persist.

A core feature of the landscape in Fankhausgraben is the topography, consisting of steep, often wooded ravines cutting into soft rolling hills of which the flatter part is mostly grassland. The farms are surrounded by their farmland and therefore distributed throughout the landscape, leading to a dispersed settlement pattern ("Streusiedlung") (Fig. 8.2).

8.3 Materials and Methods

In the Fankhausgraben, a total of eleven interviews were conducted in January and February 2008. The interviewees include three women and eight men, who were 60–85 years old and long-term inhabitants of the area. The same interviewer (Susan Lock) conducted all interviews. She used an interview guideline, addressing the diversity forest uses, the context in which they were performed, the specific practice, and its temporal and spatial development. Towards the end of the interview, historical photographs displaying different forest uses were shown to the respondents. This semi-structured method assures enough freedom for the interviewees to tell their own stories based on their recollection, but at the same time guarantees that a core set of forest uses are discussed in all interviews. The list of forest uses addressed was compiled based on the literature study mentioned and a pre-test. The interviews lasted 60–120 min and were tape-recorded. For the

Fig. 8.2 Single farmes dispersed throughout the landscape, which is characterized by a pattern of forests along the ravines and on steeper slopes and pasture and meadows on slopes suitable for farming (*Source* Hof Wüthrich, Fankhaus. Reproduced from Uetz, 1948)

analysis they were transcribed into standard German, only special terms or names related to forest uses were put in quotations marks and remained in the regional dialect. The interviewees agreed that a picture, their age and address were published in a monograph (Stuber and Bürgi 2011). For the present paper, all information taken from the oral history interviews are referenced as "(interview XY)", with XY standing for the respective informant.

We aimed at collecting information on forest uses, which the individual interviewees performed themselves. At the same time, we aimed at drawing a complete picture of the forest uses performed generally in an area. Therefore, the questionnaire also included questions regarding different actor groups, i.e. uses which have been performed by other members of the interviewee's family or which the interviewee just had heard of. For the data analysis, we compiled a new, specific list of forty-four different forest uses mentioned in the interviews in Fankhausgraben.

Every single forest use was defined by three terms, which name the relevant activity (e.g. mowing, collecting, hunting), a resulting product (i.e. leaves, berries, fuelwood), and the connected use of this product (e.g. fodder, fertilizer, tools). This approach enables to distinguish between, for example, leaves being collected

as bedding for the cattle ("Streuelaub", i.e. raking/leaves/litter) from leaves being collected as stuffing for mattresses ("Bettlaub", i.e. raking/leaves/mattresses).

For all 44 forest use categories, we counted how many times they were mentioned and specified the user group (numbers range from one to eleven, i.e. the total number of interviews conducted). All uses were classified according to prevalence and specialization to develop a region-specific profile of forest uses. For prevalence, uses, which were mentioned by just one to three people, were subsequently called "rare". Uses mentioned four to eight times, where called "known", and uses called nine to eleven times, were called "common". We then calculated a weighted count, in which counts of own performance were multiplied by three, counts for uses performed by the family by two, and counts of uses heard of were not multiplied (numbers range from one to thirty-three). The ratio between the weighted number of counts and the simple number of counts was taken as a measure for degree of specialization. If the ratio for a certain forest use was three, i.e. all people mentioning the use did also perform it themselves, this use fell in the category of "no specialization". If the ratio was between 1.5 and 2.9, an "average specialization" was stated. A ratio below 1.5 was interpreted as "highly specialized or abandoned", as theses uses were nearly always reported as "heard of", i.e. no direct experience was recorded.

Generally, reports on forest uses, which are classified as "rare", respectively as "highly specialized or abandoned", have anecdotal character and might not have been collected and reported with the same consistency as uses listed in the categories "common" and "known" regarding prevalence and "no specialization" and "average specialization". Information on most widespread and known forest uses is much more likely to be representative for the study area.

8.4 Results and Discussion

For Fankhausgraben, collecting firewood (i.e. logging/wood/fuel in Table 8.1, Fig. 8.3), using needles and leaves for cattle bedding in the stables (pollarding/needles/litter and raking/leaves/litter), collecting bark for leather tanning (logging/bark/tanning), and collecting mushrooms for food (collecting/mushrooms/food), were forest uses, which almost all people knew and performed themselves (Table 8.1). Whereas some of these uses are widespread and do not require additional explanations, the specific use of needles for cattle bedding seems to be a local specialty, as it has been reported in no other case study region assessed in Stuber and Bürgi (2011) (data not shown). For this use, the needles were not raked together as reported otherwise, but cut from the branches, i.e. pollarded from trees that had been felled. The branches were then bundled together and used as firewood. As trees standing in open spaces provide more branches with needles, they were especially sought after. This left the open areas open, which an interviewee recalls as being beneficial also for the capercaillie (*Tetra urogallus*) (interview MH). The resulting manure from needle litter was kept on a separate pile and then mostly used to fertilize

Table 8.1 Forest uses in the Fankhausgraben, Switzerland, based on 11 oral history interviews.

	Common	Known	Rare
No specialization	collecting/mushrooms/food logging/bark/tanning logging/wood/fuel pollarding/needles/litter raking/leaves/litter	collecting/moss/div. logging/wood/pulp & construction mowing/fern/litter mowing/sedges/litter	collecting/clematis/smoking collecting/lichen/div. collecting/lycopod/div. collecting/resin/chewing gum collecting/snails/food logging/bark/fuel removing ant hill/needles/fertilizer removing ant hill/resin/fumigation
Average specialization	collecting/berries/food collecting/cones/fuel collecting/herbs/medicine collecting/resin/pig slaughtering logging/wood/tools etc.	mowing/sedges/mattresses	collecting/forest earth/fertilizer collecting/juniper/fumigation collecting/juniper/schnapps collecting/resin/medicine mowing/fern/pillows raking/leaves/fodder
High specialization or abandoned	logging/wood/shingles	clearing/wood & food & pastureland/div. logging/ash/cleaning logging/wood/fencing pasturing/grass & leaves/fodder cattle	hunting/venison/food mowing/sedges/fodder pasturing/grass & leaves/fodder goats pollarding/brushes/litter pollarding/leaves/fodder

The forest uses are defined by three terms, addressing the related activity, resulting products, andtheir use. The criteria for classifying the uses according to specialization and prevalence are explained in the text

potato plots. The manure had to be ploughed into the soil and it was said to have a positive effect on soil structure, as it brought air into the otherwise heavy loamy soils. There even is a saying that manure from the forest makes the soil "proud", i.e. productive ("Mist von Holz macht Boden stolz") (interview LZ).

The interviews do not only provide information about the specific regional practices, but also about their temporal development. For example, the widespread use of pollard needles for bedding was said to be abandoned in the course of increasing availability of straw in the 1950s and 1960s, which was bought and transported to the Fankhausgraben from grain producing areas, i.e. the lowlands. Apart from financial considerations and transport facilities, new hygienic requirements for milk production and the increasing shortage of workforce, were reported to be additional triggers for the abandonment of pollarding needles for litter. Leave litter collection lasted for longer, but ended, when stables became

Fig. 8.3 Not surprisingly, collection of firewood has been reported as an important forest use also for the study area Fankhausgraben. Smaller branches and twigs traditionally were bundled into so-called "Wedelen" (*Source* Clemens Schildknecht. Reproduced from "Schweizer Familien Wochenblatt", Nr. 9, February 26, 1949, page 21)

equipped by automatic dung cleaning machines, as these mechanisms are chocked by the leaves all the time.

Also common, in the sense that almost all interviewees mentioned the use, is the recollection of using wood for the production of shingles (logging/wood/shingles in Table 8.1). However, only very few people actively performed the use, i.e. it has been classified as highly specialized. Shingle making was almost a professional activity in a sense that only a few farmers learned the skills which were often passed along from father to son (Fig. 8.4). Thus, the classification procedure applied seems to capture the traits of this forest related activity correctly. In other parts of Switzerland, charcoal making has been classified similarly

Fig. 8.4 Production of shingles, Trachselwald (Oberemmental) (Source: Ernst Brunner, Schweizerisches Institut für Volkskunde, Basel [Serie LY No 63])

as a highly specialized forest use, but charcoal making has not been reported on in Fankhausgraben.

Comparing the results from Fankhausgraben with the results from the other study regions (overall results published in Stuber and Bürgi (2011)), reveals that the use of pollarded needles for bedding is not the only specialty of Fankhausgraben. The use of bark from spruce for tanning (Fig. 8.5) also has been named in all interviews in this study region, but by none in any of the other areas, despite the use of oak bark for tanning is known from other areas of Switzerland (Bürgi and Stuber 2003). This lack of information from other study regions is because they are all located outside of the oak growing area. Spruce seems to have been a core resource in Fankhausgraben, since using its needles, bark and timber all rank very high among the common uses reported. This example illustrates how information on the ecological characteristics and constraints of a region has to be taken into account in interpreting the findings from local studies on forest use.

The comparison with forest uses reported in other study areas reveals also that some otherwise widespread forest uses seem to have been underrepresented in Fankhausgraben—at least during the period captured with the oral history interviews. For example, woodland pasturing, one of the most widespread and known forest uses in other parts of Switzerland (Stuber and Bürgi 2001), seems to be not very widespread in the Fankhausgraben (Table 8.1). The interviews reveal that woodland pasturing has been abandoned due to the steep terrain (interview FB), but also due to the influence of foresters, which did not want any more goats grazing in the forest (interview MH). These statements are supported by statistical data that reveal a decline in numbers of goats in the late nineteenth and early

Fig. 8.5 Rüsten der Baumrinde, bei Eggiwil (Oberemmental) (*Source* Ernst Brunner, Schweizerisches Institut für Volkskunde, Basel [Serie HZ No 19])

twentieth centuries, from a peak of 919 in 1866 to just 205 in 1939 (Bernhist 1994–2006).

The long list of forest uses classified as rare (Table 8.1), regardless if they are reported as conducted by the interviewee him- or herself (i.e. "no specialization) or just heard of ("high specialization or abandoned"), are harder to interpret. Whereas some of them might actually have been rare, others might just not have received appropriate attention during the interviews. Still, it is unlikely that common uses remained unnoticed to an extent that they finally ended up in this category of rare forest uses. Thus, this list of rare uses has at least anecdotal character and illustrates the wealth of traditional knowledge on forest uses.

Such detailed and systematic studies of forest uses inevitably lead to problems in defining "traditional forest uses", as obviously not all forest uses were performed continuously. For example, the use of pollarded leaves for fodder (pollarding/leaves/fodder) has been reported only for 1947, when extremely dry weather conditions caused a shortage of grass. Where did the knowledge to use this resource come from all of a sudden? Similarly, during times of shortage, also leaves were raked as fodder for goats (pasturing/grass & leaves/fodder for goats), but also this use was classified as rare (interview CW). Of course, such practices might have been more common earlier or always been restricted to times of scarcity. However, it might also be possible that they were adopted from other areas or added to the regional set of forest use as an innovation. Some for example, may have been promoted by the agricultural extension service. This example raises the question, how long and frequent a certain use has to be performed to become a local "traditional" forest use.

8.5 Conclusions

Our study reveals a great diversity of forest uses. Classifying all information on forest uses by activity/product/use worked well. The procedure does not only provide valuable insights in the characteristics of a forest use, but is also a first step to interpret the use in the socio–economic context of a given region. In addition, the classification system developed addressing various degrees of specialization and prevalence (Table 8.1) seems to be a good way to separate common and rare forest uses and thus structuring the information collected from the oral history interviews. Of course, the interviews provide a wide range of additional information on specific uses, which cannot be depicted easily and which in itself refer to again a much greater wealth of experiences and traditional knowledge.

Developing regional forest use profiles as proposed in this chapter illustrate the important role of forests as a core provider of various resources for the local population. The regionally distinct profiles can be interpreted in their regional natural, economic, political and cultural context. This analysis will help generating hypotheses regarding the human-nature interaction in (pre-) alpine environments. Furthermore, if we will be able to determine general spatio-temporal pattern of

forest uses, we might attempt to assess the ecological impact of humans on forest ecosystems regionally (Wohlgemuth et al. 2002; Bürgi and Gimmi 2007) but even outside the study regions, i.e. by extrapolating the findings to areas which are similar in relevant context.

Studies as the one presented here help to preserve knowledge and values attached to woodland landscapes and to understand long-term developments in the relationship between societies and forests. As such, they promote the dissemination of valuable knowledge of wooded landscapes and provide the bases for the development of management schemes for sustainable future forests. At the same time, they challenge simplistic views on so-called "traditional" forest uses by revealing a wealth of temporal and spatial dynamics and variability in how the local population used the resources provided by forest ecosystems.

Acknowledgments This research was generously funded by the Bristol-Foundation.

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