

Chapter 8

Forests and Decentralization in Switzerland: A Sampling

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INTRODUCTION

Switzerland has a long experience with decentralization and federalism. During the mid 19th century, large-scale clear-cutting of Alpine forests started in connection with high demand for timber from colonial countries and industrialization in Switzerland. The disastrous floods occurring simultaneously were linked to this clear-cutting. In response, the newly constituted Swiss Confederation passed a forestry law in 1876. Brief case studies of four sites in the Bernese Oberland illustrate the development of the interplay among government stakeholders at the national, cantonal and community levels, and between public and private forest owners. Stable relationships between public and private forest owners and the cantonal forest service emerge as a precondition for long-term forest management; but at the same time, changing conditions of the socio-economic context constantly make it essential to seek a new equilibrium among the three levels of government, as well as among the public and private forest owners and civil society.

DECENTRALIZED FOREST MANAGEMENT AND CONSERVATION IN SWITZERLAND

Switzerland comprises 26 cantons and about 3000 political communes. The country grew out of treaties between valleys, townships and other geographical units and was finally organized in its current form in 1848, when the constitution of the Swiss Confederation was enacted. Forest resources management and conservation have since been shared by the national (federal) level in Berne, the regional (cantonal) level and the local (commune and community) level, the latter being the main forest owners in Switzerland. Several elements characterize decentralized forest management and conservation in Switzerland:

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- the importance of capacities as well as decision-making power and accountability at the local level;
- strong guiding provisions at the federal and cantonal level and the subsidiarity principle;
- the development of a ‘cooperative federalism’, in which all three levels – local, cantonal and federal – have clear responsibilities;
- the length of time required to develop cooperative federalism;
- the need to build institutional capacity from the federal to the local levels, which historically was strengthened by financial contributions from the federal to the cantonal forest agencies;
- the principle of ‘coupled contributions’, by which the costs for providing environmental services such as protective functions are shared among all three levels;
- the positive relations between local political decision-making and centralized technical guidance and funding at cantonal and federal levels;
- the need for stable relationships between public and private forest owners and the cantonal forest service as a precondition to achieving long-term forest management goals;
- the constant need to seek a new equilibrium among the three levels of government, as well as among the public and private forest owners and civil society, especially under the current economic pressure of globalization and the related cross-sectoral influences.

One rationale for conducting the Interlaken workshop on Decentralization, Federal Systems of Forestry and National Forest Programmes in April 2004 was to facilitate an exchange of experience between countries that have long been decentralized, such as Switzerland, and newly decentralizing countries, such as Indonesia – the two hosts of the workshop. Switzerland’s long experience with decentralization and federalism was presented to workshop participants through a background document (von Arb and Zimmerman, 2004) and four field excursions to illustrate the variation that characterizes the Swiss governance landscape. In Switzerland, as elsewhere, decentralization and centralization are two sides of the same coin. It is the way in which these two features of any governance system interact that ultimately determines how forests are being conserved, managed and used.

HISTORICAL OVERVIEW

During the mid 19th century, the already-fragile ecological balance from centuries-long overuse and overgrazing in upstream forests collapsed when extensive flooding affected the Bernese Oberland and most other parts of Switzerland. Large-scale clear-cutting of Alpine forests during the early 19th century had accelerated the disasters.

One main reason for deforestation in the Bernese Oberland was a fundamental change in the governance system in the 1830s. For many

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centuries, the powerful city of Berne had held sovereign rights to forests in the Oberland, while the local communities only had use rights. However, prior to the creation of the confederation, the canton began to hand over forest property rights to the communes and, subsequently, also to farmers. This liberalizing process coincided with powerful market forces generated by the high timber demand of a growing economy in Switzerland and Europe – the main driving force for extensive clear-cuts. The colonial powers, particularly France and Holland, were important in generating demand. Hence, the gates to timber export were opened wide; but both legal provisions to protect the forests and a forest service of competent specialists were lacking. By the mid 1850s, in some parts of Switzerland forest cover was less than 10 per cent, compared with almost 30 per cent today.

The disastrous floods, which even affected cities in the river valleys and lowlands, triggered the federal government's involvement in the forest sector, eventually leading to the enactment of the first Federal Forestry Law of 1876. The new law, written in a highly political climate, had to accommodate the legitimate interests of the self-governing Alpine cantons. The solution was a federal legal framework that included three important overarching regulations:

- 1 Forests could no longer be reduced in size.
- 2 Cut areas had to be replanted within three years after harvesting.
- 3 Owners of public forests, such as the community-level governments, were required to develop forest management plans that specified proposed uses of the resource.

In order to assist forest owners and to help enforce these rigid provisions, the federal government provided compensation as an incentive for the reforestation of protective forests. The federal law also obligated the cantons to employ trained foresters. Thus, foresters' roles expanded not only to enforcing forest legislation, but also to acting as forest management consultants to local forest owners. This approach allowed foresters to take fully into account the cultural and biological diversity of different geographical areas.

The cantonal forest laws had to comply with the federal law where it specifically addresses the particular needs of a canton. The innermost legislative layer included locally established regulations to address the design of transparent community institutions for making management decisions, distributing benefits, resolving conflicts and defending community interests against the selfish desires of outside forces and local elites.

Local capacities and local-level decision-making power and accountability, combined with the strong guiding provisions at the federal and cantonal level, have proven critical in preventing deforestation and further forest degradation. Moreover, well into the 1970s, sustainable forest management and timber production provided a significant stimulus to local

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economies and also satisfied national and international demand for products and services.

Since the enactment of this first federal forest legislation, the repartition of rights, responsibilities and duties has had to be renegotiated through several revisions of the law. Federalism in Switzerland is an ongoing process of repeatedly finding a new equilibrium among the central state, its member cantons and public and private forest owners. Globalization is increasing the pace of this process. Moreover, the principles of the 1992 Rio Earth Summit also broadened the scope of forest policy in Switzerland towards better incorporating concerns for biodiversity and forest environmental services provided by forests. Addressing forest issues as a dimension of managing global public goods is a new concept in forest management that still needs to be properly introduced at decentralized levels.

ISSUES IN A FEDERAL SYSTEM: FOUR EXAMPLES

The total forested area of Switzerland in 2000 was about 1.1 million hectares (ha), of which approximately 70 per cent is owned by communes and communities. The forested area of the canton of Bern is 176,000ha, of which 51 per cent is private forest, mostly owned by smallholders with less than 5ha of forest. This is far above the national average of 27 per cent private forests. Although the Bernese Oberland (the area around Interlaken) is dominated by communal forests, private ownership is characteristic of the foothills region of the Emmental and the central plateau (Mittelland) of the canton. This is a result of the reconstitution of forest ownership that took place during the 1840s (Küchli and Stuber, 2004). In addition to geographical and ecological differences, the diversity of landscapes also translates into socio-economic, cultural and political diversity.

Using four sites in the Bernese Oberland as examples, we discuss issues of decentralization in the forest sector. The four sites were visited during the Interlaken workshop to give participants a direct understanding of decentralized forest management in Switzerland. The cases emphasize interfaces among government stakeholders at national, cantonal and community levels, and between public and private forest owners. Each demonstrates the interplay of local and regional factors in relation to the Bernese Oberland and national issues previously discussed.

Site 1: Rugen-Mürren –from government to governance

Rugen and Mürren provide an historical overview of the development of forests and forestry at the local level, starting during the 19th century. A variety of closely related processes over the past 200 years, both within and outside the forestry sector, shaped the nature of forestry, including the development of energy sources as a major driving force.

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Decentralization of forest ownership and capture of resource access by the elite

The decentralization process and reconstitution of forest ownership that began during the 1840s initially had disastrous impacts. The period prior to the passing of the Federal Forestry Law of 1876 was the most difficult in the history of forestry in the Alpine regions. In social terms, it was marked by a seizure of the resource by the rural elite and the exclusion of the economically and socially disadvantaged segments of the population. In ecological terms, it was characterized by the clear-cutting of large tracts of Alpine forests. Economically, it meant resource depletion in the short term. After a transitional period of some 20 years, however, the clarification of forest ownership rights provided an important foundation for sustainable forest management. The focus was on multifunctional timber production and environmental protection, a characteristic of the management of Swiss forests over the past 120 years.

Involvement of the federal government

Events such as the flood disasters during the middle of the 19th century stimulated the involvement of the federal government in the forestry sector, leading to the enactment of the 1876 law prohibiting reduction of forest area and requiring replanting and forest management plans. Even the owners of private forests could not sell wood that had not been marked by the forestry service.

The law made only modest provisions for support, however. Subsidies were provided as an incentive for reforestation of areas with protective functions. But just ten years after the introduction of the Federal Forestry Law, a parliamentary commission concluded that it had not led to the progress desired because federal subsidies were too low, particularly for afforestation. Moreover, Alpine cantons were not in a position to develop the required forestry expertise on their own. As a result, the introduction of sustainable forest management in communally owned forests and effective control of timber harvesting in private forests were long delayed.

In 1902 the federal law was revised to include more effective financing measures. The main aim was still to protect people and property from natural disasters. But it was now easier to pursue ecological and economic aims as well. The principle of combining protective and productive functions in the same area was born.

Respect for local autonomy as a basis for close-to-nature forest management

Swiss forest history is marked by latent local resistance to intervention by the canton, and cantonal resistance to intervention by the federal government. Yet, this resistance helped to maintain motivation and initiative at the local

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level. In general, local knowledge about sound management approaches in local forests was thus preserved. The remarkable diversity of Swiss forests and the approach of close-to-nature forest management are not least the result of this phenomenon, which could be called 'silvicultural federalism'. Decentralized forest management, however, is not a guarantee for close-to-nature silviculture. There are still many traces today of inadequate silvicultural provisions during the past, such as single-species plantations of Norway spruce (*Picea abies*) that were introduced some 130 years ago in mixed hardwood ecosystems.

Capacity-building, local people and the forest service

Jeremias Gotthelf, a popular writer of the Emmental Valley during the 19th century, once remarked that a forest warden knew approximately as much about silviculture as a hen knows about playing the violin. Karl Kasthofer, the first forester of the Interlaken region appointed in 1806, waged a long struggle on behalf of the education and training of foresters. Already in 1818, he maintained that 'what applies to the lowland forests of Germany cannot be applied to Swiss Alpine forests'. He therefore committed himself to the development of a Swiss forestry curriculum and academic training in forestry. In the view of Kasthofer, indigenous knowledge was to be a part of this curriculum. He urged: 'We should provide training to our own people ... but also listen to their opinions and take account of their observations.' In 1855 the Federal Institute of Technology in Zurich added professional training in forestry to its curriculum.

It took a long time for the people of Switzerland to cease regarding foresters only as police and to see them as professional advisers. Even though Swiss communes maintained their efforts to remain autonomous, foresters began to play an important role in many; the optimal management of community forests is not possible without professional advice. Foresters usually had to live and work for decades in the same district, where they often played a prominent role in local politics. They also had to understand people as well as trees, and they needed salaries that would at least support a middle-class lifestyle.

Incentives from the lowlands and socio-economic change

The fate of forests and forest management in the Bernese Oberland has always been influenced by demands originating in urban areas of the lowlands. For centuries, these demands were mainly for timber and fuelwood. Only after the disastrous floods during the 19th century did urban society in the lowlands commit itself to the preservation of Alpine forests. The financial incentives of the confederation, as provided by the Federal Forestry Law, enabled the cantons to operate more efficient forest services and to undertake torrent control and afforestation in catchment areas. During the 1960s, when the Alps became a recreation area for mass tourism,

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resources were again made available for a new generation of technical measures and afforestation to ensure better protection against avalanches and rock fall. Favourable changes in the socio-economic context played an important role in promoting and accelerating sustainable forest management. This is one of the central lessons learned from nearly 200 years of Alpine forest history in Switzerland.

Cooperative federalism: From government to governance

During the course of the 20th century, the federal government has continually increased incentives, especially for the preservation of forests, primarily through subsidies. This mechanism requires intensive cooperation among the confederation, cantons and communes. Together with financial incentives, the regulative instruments concerning forest preservation (for example, the ban on deforestation and clear-cutting) and the detailed prescriptions concerning cantonal and communal forestry organization have led to the development of considerable institutional capacity at all three levels. The top-down government approach of the 1876 Federal Forestry Law has gradually been refined into a governance approach, with close cooperation among government and civil society.

New phase of decentralization: Retransferring responsibility to lower levels

Several factors external to the field of forestry have influenced forest policy during recent years, most prominently the declining economic viability of forest enterprises because of low timber prices and the diminishing of public funds for forest development activities. These factors have led to a discussion of the distribution of forestry-related tasks between the state and the private sector, as well as among the three levels within the confederation. In Switzerland, this discussion is currently under way within the participatory process of the Swiss National Forest Programme, in which all important stakeholders are taking part, among them representatives of cantons and communes. The results so far suggest that political responsibility for forests will be partly retransferred from the federal level to the cantonal and commune levels. This does not exclude the confederation's role in retaining its commitments to certain partial tasks, like the maintenance of protected forests or the preservation of biodiversity.

Contemporary problems and solutions in mountain forests

The protective function against natural hazards (avalanches, rock fall, erosion, floods and landslides) is predominant in multifunctional forests and is critical for the survival of the population. Ever-increasing mobility has further heightened the need for the permanent provision of protective functions. Yet, forests as a living protective structure need constant care to guarantee the maintenance of all their functions. Steadily rising costs

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(particularly wages) and falling incomes from wood sales have led to a shortage in forest funds. Public money is needed to fill this deficit. There is a certain contradiction here: on the one hand, the confederation and cantons (the 'public') expect forest owners to perform more services; on the other hand, the financing and actual provision of these services are being left to the regional or local level. In terms of governance this means that the vertical line – confederation–canton–commune – is being weakened and must be replaced by cross-sectoral partnerships at regional or local level. This includes cooperation among forest owners, regional cooperation among communities, associations of communes, and regional policy and cross-sectoral cooperation.

Local forest owners must now make use of all possible measures for erosion and landslide control, for forest protection and for bark beetle control; they must focus on areas where public interests predominate, undertaking the absolute minimum and exploiting all possible ways of generating income to finance forest enterprises, so that they can continue to maintain ecosystem functions. In some areas, management needs to be discontinued (for example, tending and weeding of natural regeneration). Income-generating opportunities include outdoor events, adventure, and camps for apprentices and managers. Financing by sponsors is a new option that is being considered by forest owners.

Site 2: Brienz – cooperative federalism to fight natural hazards

The site of Brienz helps us to understand the interface between the national and the cantonal levels. In a mountain country, protective forests are of paramount public importance. The protective function is generally of regional, rather than only local, interest since mountain forests regulate water and sedimentation further downstream. Hence, all three levels – communal, cantonal and federal – are involved in managing mountain forests sustainably.

The Brienz Torrents (*Brienzer Wildbäche*) geographically belong to the eastern Bernese Oberland and are in the territory of the communes of Brienz, Schwanden and Hofstetten. *Brienz Torrents* is, in fact, a generic term for six torrents and their catchment basins on the steep southern slopes between the Brienz Lake (altitude 564m) and the crest of the Brienzer Rothorn Mountain at an altitude of 2350m.

The area is renowned for its natural catastrophes, some of them with disastrous results for the local population. The topography, geology and climate in the region create conditions for torrents, debris flow, over-bank sedimentation, avalanches, rock fall, rock avalanches, landslides and erosion. In some places, these processes coincide and influence each other. Avalanches can, for instance, transport logs and rock material into the torrent channels, thus blocking them in places and causing further problems.

160 *The Politics of Decentralization**Historical antecedents*

During the Middle Ages, large areas of forest were cleared in the catchment basins of the Brienz Torrents to create alpine meadows and hay fields. The conifer belt (spruce) between 1500m and 1800m altitude was particularly affected. The timberline was pushed down from nearly 2000m to 1400m–1600m in altitude. The absence of forests had a detrimental effect on runoff and on the bed load regime. The consequences were soon felt – the torrents caused destruction in the valley.

The torrents present the most significant danger for the valley. In 1499 the village of Kienholz was destroyed. In 1797, simultaneous overflowing of three torrents destroyed 37 houses. The most recent catastrophe occurred in 1896, when enormous depositions (120m wide at the front and 2.5m to 4m high) blocked the main road, the railway line and large areas of cultivated land.

Forward-looking inhabitants of the village of Hofstetten recognized the correlation at an early date: in 1599 they planned a prohibition of forest utilization on the mountain. There was, however, strong opposition to this ban, and the clearing of forestland was again permitted by a ‘high public court of arbitration’. Following disastrous floods during the first half of the 19th century, the federal council charged experts with an inquiry on mountain forests; the results of their investigations gave no pleasing picture of the situation. Consequently, the federal council urged the cantons to adapt their laws to stop forest destruction. When this advice was not sufficiently heeded, legal provisions were made at the national level. Article 24 of the Swiss Constitution of 1874 gave the confederation the superintendence over the hydraulic engineering and forest police in the high mountains.

Public interest in protection measures

The potential danger of the Brienz Torrents and the damage that they could inflict created the need for protection measures to reduce the high risks. The local population alone would not have been capable of carrying out and financing extensive hydraulic engineering works and forestry protection measures after the catastrophic flood of 1896. The wave of sympathy generated throughout Switzerland paved the way for a federal relief programme. A parliamentary motion to urge the inhabitants of the village of Schwanden to emigrate by giving them financial aid was rejected by the federal assembly. A clear majority favoured enabling the inhabitants of Schwanden to remain on their native soil, and the federal assembly granted maximum financial contributions for protective structures in the torrents.

Despite the generous level of federal aid, the communes still did not have the financial means to carry out major works. The canton of Berne then stepped in, buying the entire area destined for afforestation, and the cantonal council gave the cantonal government the right to expropriate community lands to simplify negotiations with landowners. The canton subsequently

purchased large parts (690ha) of the upper catchment basins of the Brienz Torrents and became the director of works for the forestry projects. The superior public interests of the confederation and the canton involved protection of both inhabited areas (housing development policy) and transportation network (roads and railway lines).

Site 3: Boltigen – local organizations and the cantonal forest service

The commune of Boltigen illustrates the interface between the commune and the cantonal level and the functioning of the forest community of Adlemsried – one of several forest communities within Boltigen. The political and administrative processes within the community of Adlemsried still follow traditional forms of democracy.

Between 1870 and 1999, the population of Boltigen shrank from approximately 2000 people to 1500 because of emigration to urban areas and smaller families. Most people work in agriculture, with about 40 per cent also having another income source. Whereas in 1980 only 30 per cent of the people worked outside the commune, by 1990, 54 per cent did. The commune covers 7701ha, of which 2000ha (or 27 per cent) is forest, with an additional 5000ha in meadow and pasture. Sixty-seven per cent of the forest is community owned and 33 per cent is private.

The commune of Boltigen comprises eight traditional communities, which date back to the 14th century. During the 16th century, these developed from co-operatives into political administrative structures. Adlemsried, one such traditional community, has a history of self-sufficiency because of its geographic isolation. The community has two parts: the *Bäuert*, or territorial administrative body, historically responsible for political and forestry aspects, and the commons (*Allmend-Gemeinde*), which is responsible for managing common pastures. Both parts are built on a longstanding historical democratic foundation. Today, however, these communities have lost their political importance and focus now on forest and commons management, whereas other responsibilities, especially social ones, have been transferred to the modern political commune of Boltigen.

The community is composed of homeowners with a documented house right or, more literally, a ‘fireplace right’. If a house is sold, the former owner loses rights and membership in the community. These rights traditionally include the following:

- the right to graze sheep and goats on the commons;
- the right to graze cows during the summer season on community pasture land (one third cow per house right; cow rights may be leased or transformed into the right to a piece of arable land);
- community forest rights (an annual lot of firewood, including fencing wood and timber for the repair of buildings); and
- the right to vote in the general assembly.

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The community members also have duties:

- statutory (unpaid) labour for maintaining roads and paths and clearing after timber harvesting;
- compliance with the decisions of the general assembly; and
- a share in the administrative costs of the community.

The community's forest, which covers 214ha, is locally divided into forest for commercial timber use, protected non-commercial forest and protected forest on steep slopes. The latest management plan was written in 1982 and was provisionally extended, unchanged, in 1992. It allows for an annual allowable cut of 500 cubic metres.

One of the most dramatic events during recent years was the Lothar storm of December 1999, when one quarter of the timber stock was destroyed. Although timber prices have been very low, there has been a substantial effort to harvest these fallen trees to forestall an infestation of bark beetle in the remaining stands, particularly in the protective forest area. House-right holders' statutory labour was used in this effort, as well as contributions from a contractor, a civil protection service and the women from an ice hockey team. A total of 16ha of seriously damaged forest were converted to forest reserve status, which the community will not harvest for at least 50 years.

Forest management is under the control of an executive commission, two members of which are in charge of routine matters; but important decisions are taken by the general assembly. Forest workers are employed by the timber buyer or the community and are paid by the cubic metre. The forest ranger, who is partly on the payroll of the canton, has an important role in supervising all forestry matters, including timber marking and bark beetle eradication efforts, without charge to the community. Other activities of the forest ranger are paid for by the commune, such as the measurement of timber for sale, and planting and tending trees.

Site 4: Emmental farm forests – resources management in private forests

The Emmental is both a geographical entity and a political district in the eastern part of the canton of Bern. It borders with the canton of Lucerne and is drained by the River Emme and its tributaries. Private ownership predominates in Emmental: more than 90 per cent of the forests (18,068ha) are in private hands, compared with the national average of 27 per cent. Private individuals, however, on average own just 3ha of forest.

The Emmental forests delivered enormous amounts of fuelwood and charcoal to the steel mills in the industrial centres outside the valley at the beginning of the 19th century. Livestock grazing in the forests, common at that time, also played a role in degrading forests by destroying the regenerative capacities of the trees. Until late in the 19th century, large tracts

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of forestland were converted into meadows and intensive pasture, largely in the service of cheese production. An ever-increasing need for timber and fuelwood for farms and industry heavily degraded the remaining forests.

The devastating floods that occurred during the middle of the 19th century created the legal bases that brought a fundamental change in forest development, particularly in Emmental. Until 1920, there were enormous efforts in reforestation all over Switzerland. The greatest increase in forest cover was observed in the nearly entirely deforested Emmental: large afforestation projects were carried out in the mountainous Napf area and in the catchments of the Ilfis, a main tributary to the Emme.

This was made possible thanks to a small agricultural revolution. Simple technical improvements such as the construction of pits to collect animal urine significantly increased the supply of fertilizer. Milk and cheese production soared as a result. Natural re-growth of forest due to the abandonment of marginal agricultural land increased. In the middle Emment, which includes the Napf area, forest area increased between 1860 and 1980 by approximately 5000ha, to 7350ha; in the commune of Trub, the increase during the past 90 years amounted to 40 per cent, up to 3250ha. About 20 per cent of this area increase is due to natural re-growth and not to forest plantations.

Silver fir (*Abies alba*) and beech (*Fagus sylvatica*) are the predominant tree species in the district's *Plenterwalder*, or single-stem selection forests – with trees of all ages and diameters, achieved through harvesting of single old and mature trees. About one third of the forest area is managed as selection forest, through guided natural regeneration. Another third of the forest area is in a stage of transition towards selection forest. The remaining third comprises even-aged stands.

Selection forests can be managed only with shade-tolerant species. This management method has numerous advantages for the forest owners, who can wait for good timber prices. Owners can also save costs because planting or stand tending is not necessary. Most of the time, forest management consists of some liberation thinning and the monitoring of growth of middle-aged trees, as well as creating favourable regeneration conditions, generally through single-tree harvesting of trees of all sizes. Such selection forestry best fulfils all major forest functions, including the productive and protective functions, as well as biodiversity conservation and recreational aspects.

In terms of timber wealth, the Emmental forests have an average standing volume of 520 cubic metres per hectare and an annual increment of 12.4 cubic metres per hectare. The annual harvest is, on average, 9.7 cubic metres per hectare. The Emmental already has among the highest forest growing stock in Europe, and this stock will rise over the coming years because of a decrease in harvesting. The forest service would prefer to increase harvesting to the sustained-yield level, or to reduce the growing stock to an adequate level in order to regenerate some of the old-growth forests. There is, however, insufficient processing and marketing capacity in place; more importantly, timber prices are low and barely cover production costs.

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As opposed to the Bernese Oberland, where community forests predominate, in the hilly region of Emmental, wealthy farmers traditionally own large private forest plots. These private forests have been maintained by special hereditary customs. By tradition, the youngest son inherits the entire farmstead, thus preventing its subdivision. As a result, many forests in Emmental have developed into silvicultural gems barely distinguishable from well-managed community forests. The main species of the original natural forests – silver fir, Norway spruce and broadleaf species such as beech – have been maintained in the forests over the centuries and are still being managed selectively.

In lower parts of Switzerland, in contrast to the Emmental, many private forests were clear-cut for speculative purposes soon after forest property was decentralized during the 1840s. Forest plantations that developed primarily into pure spruce stands largely replaced the original broadleaf forests. On the basis of this experience, Swiss forest experts came to the conclusion that communal ownership was generally better suited for sustainable forest management than private ownership. This perspective is now widely accepted in the current context, as management of forest resources requires integral and larger-scale planning and activities over a long period. In addition, a certain minimal area is needed for rational forest management. According to an evaluation conducted nearly 50 years ago, the privatization that took place in the wake of the reconstitution of forest ownership of the 1840s was ‘one of the worst things that could have happened to the forests in Switzerland’ (Grossmann, 1949).

The issue of private ownership of forests is of central interest in Emmental. Private forests are often found on the best sites. These sites are characterized by a high percentage of fast-growing spruce, producing large trees that are prone to windfall. Damage from windfall can be observed all over Switzerland. The same storm that devastated Boltigen in January 1999 affected 10 per cent of Swiss forests and felled 12 million cubic metres of wood in a single day.

Farmers have traditionally been the most important owners of private forests. But with the concentration of agricultural land, stimulated by economic change since the 1960s, today an ever-smaller number of the 250,000 private forest owners in Switzerland are farmers. New forest owners are urban citizens, many not concerned with the management of their forest holdings.

The main responsibility of the forest service (divisional forest office for the Emmental), particularly of the forest rangers, is to guarantee sustainable management of forests through adequate application of silviculture and timber harvesting by the forest owners. The forest service advises the district’s 6200 private forest owners and coordinates on-the-job training of young farmers – the future forest owners – at the agricultural school. In addition, the forest service gives expert advice to communes and non-forestry officials on issues relating to landscape management and forest legislation.

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The Emmental forest service is currently developing regional management plans in cooperation with forest owners, communes, representatives of nature conservation groups, hunting and sporting clubs, and others. The objective is to identify the specific interests in forests so that the forest service can take necessary measures more purposefully in protective forests and can open up forest areas for recreation and nature conservation, within its limited means. The new element is the involvement of all kinds of stakeholders in a preliminary stage of landscape and forest resource planning. This constitutes a completely new approach, even in the highly decentralized and democratic country of Switzerland.

CONCLUSION

As the Swiss examples show, the challenge to manage forests sustainably is a permanent and ever-evolving task that does not start or stop with the degree of centralization or decentralization in decision-making and forestry funding. With changes in society, forest management also changes. Keeping the capacity to adapt forestry to new socio-economic contexts and economic situations is, and remains, the major challenge in the sector, even in such a highly decentralized country as Switzerland.

NOTE

The workshop field trips described in this chapter were conducted by Christian Küchli; Rudolf Zumstein, divisional forester of the Interlaken Region; Erica Zimmermann, Swiss Agency for the Environment, Forests and Landscape (BUWAL); Ueli Ryter, natural hazards specialist, Forest Service of the Canton of Bern; Beat Stucki, forestry consultant and executive committee member of the community of Adlemsried; Christian von Grünigen, divisional forester of the Frutigen-Obersimmental-Saanen region; Jürgen Blaser and Walter Marti, divisional forester of Emmental.

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