Forest Policy and Economics 13 (2011) 353–360

Contents lists available at ScienceDirect

Forest Policy and Economics

journal homepage: www.elsevier.com/locate/forpol

Regional forest organizations and their innovation impact on forestry and regional development in central Switzerland

Klaus Seeland *, Joël Godat, Ralf Hansmann

Federal Institute of Technology Zurich (ETHZ), Institute of Environmental Decisions (IED), Group Society, Environment and Culture, Switzerland
Regional Forest Organizations and Their Innovation Impact on Forestry and Regional Development in central Switzerland

ARTICLE INFO

Article history:
Received 8 April 2010
Received in revised form 9 March 2011
Accepted 22 March 2011
Available online 29 April 2011

Keywords:
Rural development
Process innovation
Organizational innovation
Small forest owners

ABSTRACT

The capacity for innovation spurred by regional organizations (ROs) and their impact on regional economic development are explored through forest expert interviews and a survey of small-scale forest owners in the Canton of Lucerne, in central Switzerland. The results show significant differences between the economic positions of forest owners who joined ROs and those who did not. Among RO members, the proportion of certified forests is higher, and in net financial return from their forest holdings and marketing effectiveness, they are significantly better off after only a short period of time compared with RO nonmembers. This process innovation, however, will not transform the forest sector substantially nor does it intend to do so. Its economic impact on regional development is modest at the present level of organization.

1. Introduction

Switzerland is a small and highly developed country in Western Europe. Although it is one of the richest countries in the world, some regions remain dependent on agriculture and forestry, and their economic importance has declined over the past 50 years. Nevertheless, Swiss cultural identity is to a remarkable extent tied to landscapes that are predominantly agricultural in appearance and interspersed with forests; these landscapes make up a large part of the Swiss territory. There is a political consensus throughout Swiss society that these regions should keep pace with the country's general standard of living.

Among the great challenges in rural development in the context of the highly advanced Swiss economy and prosperous society is how to overcome the stagnation of a traditional economical sector that has structural problems and help it adjust to the present and future economic demands (Schmithüsen et al., 2009). Forestry has benefited from comparatively low wages and good timber prices for decades, yet for the past 20 years it has been unable to stand on its own and requires the support of government subsidies. The sector also faces generational change, now that more than 40% of Swiss forest owners are above the age of 60 (Zimmermann and Wild-Eck, 2007). The need for transformation is apparent not just in Switzerland but in Austria, Germany, Italy and Norway (Kubeczko et al., 2006; Nybakk 2009) but in other countries of Central Europe as well (Rametsteiner et al., 2005).

Regional development in remote regions whose economies are dominated by smallholders in agriculture and forestry requires innovation and modernization, both societal and economic. The Organisation for Economic Co-operation and Development (OECD, 2005) distinguishes among several forms of innovation: product, process, marketing, and organizational. Those that apply to the forest sector in Switzerland are process and organizational–innovations that will introduce new forms of cooperation among forest owners (Schweizerische Hochschule für Landwirtschaft (SHL), 2010). The question that then arises concerns the potential for process and organizational innovation when wood harvesting is still the basis of traditional forestry: how can the sector become economically viable, engage a new generation of forest owners, and meet such new challenges and opportunities as climate change adaptation and mitigation, biodiversity, and providing bio-energy from wood cellulose at a large-scale in the future?

We look at the Canton of Lucerne, in central Switzerland, where 71% of about 40,000 ha forest are privately owned (12,270 owners); the average individual ownership plot is 2.3 ha, which is again fragmented into several smaller units per owner (Schmidhauser, 2008a). Because of this fragmentation and the extremely small size of holdings, the situation does not favor profitable forest management. The Canton of Lucerne therefore encouraged forest owners to create networks, Regional Organizations for Cooperative Forest Management (Regionale Organisationen zur eigentumsübergreifenden Waldbewirtschaftung, RO), to be financially supported by the canton as well as by the Swiss Federation over a period of four years. From September 2006 to June 2008, 11 ROs had been established; their members accounted for 30% of the canton's private forest owners and represented 60% of the private forestland.

* Corresponding author at: Sonneggstrasse 33, CH-8092 ZÜRICH, Switzerland. Tel.: +41 4463232190; fax: +41 446321358.
E-mail address: klaus.seeland@env.ethz.ch (K. Seeland).

1389-9341/$ – see front matter
doi:10.1016/j.forpol.2011.03.010

Research questions of our survey and analysis among the newly established ROs and small-scale forest owners in the Canton of Lucerne were: Could the RO form of cooperation improve cost-effectiveness of forest management and raise incomes for those forest owners who joined an RO? What kind of forest management improvements did they expect from the ROs and how far did they expect the innovations to improve the profitability of their forests, compared with those who were not members of ROs? Were there any, and if so, what were the effects of ROs on regional forest sector development? How did the experts who were involved in this process perceive the so far achieved improvements and the future prospects of the Lucerne ROs? Did RO membership affect the likelihood that a forest owner would be seeking certification of his forest, or where there different reasons for embarking on such a certification or not? We also sought to investigate the forest owners' motives for joining ROs and determine the factors that promote or hamper their associated innovations. More broadly, we asked whether modernization of a traditional economic sector like forestry could contribute to a structural improvement of the regional economy as whole. With regard to similar developments in, and whenever it makes sense comparisons with the forestry sector throughout Europe, to which will be referred at a later stage of this paper, the establishment of ROs in Switzerland comes comparatively late and is erratic as compared to other Swiss cantons. This limited regional scope of the research venture has to be kept in mind as an important background information.

2. The establishment of ROs

The establishment of ROs in the Canton of Lucerne started in 2006. At the time of the expert interviews, by mid 2008, of the 5260 private forest landowners in the area covered by the six ROs, 1852 were members. However, membership was not equally distributed; in some ROs only 15% had joined, whereas in others 65% were members. The area of the six ROs at that time was 8150 ha, which corresponded to about half of all forestland in their regions–that is, the areas from which owners could be recruited as determined for each RO in negotiations with the cantonal forest administration. All six ROs were managing more than 40% of the forest area within their regions, and one managed 88%.

The ROs were established to fill the gap in advising forest owners about the management of their forests when the cantonal forest service in Lucerne cut its services to forest policy implementation, surveillance and policing measures. All other service functions that were done by the Cantonal Forest Service hitherto (predominantly planning) have been taken up and turned into a political initiative by the Association of Lucerne Forest Owners (Verband Luzerner Waldeigentümer, VLW) to get financial support from the canton and the federation. Together with two other wood promotion programs fostered by the Canton of Lucerne and the Swiss Federation "Efficacy Improvement of the Wood Chain in the Canton of Lucerne" and "Value Added Wood", this innovation is developed by regional project groups initiated by the canton through drafting business models, statutes and regulations and inform the forest owners of the respective forest perimeter. The objective of the RO is to manage the cooperation of forest owners collectively under the guidance of a forest professional with higher forest education in order to achieve joint forest planning and harvesting comprising all forest related activities including wood marketing. Prior to that innovation there had not been any professional assistance in wood marketing and it was either auctioned on the spot or traditionally sold to (mostly always the same) sawmill owners or traders. With the newly established ROs, the financial support entails a maximum of 50,000 Swiss francs for the RO planning phase (LAWA, LAndwirtschaft/WAld, 2005 cit. in Schmidhauser, 2008b). After an RO has been established, a fixed amount of 100,000 Swiss francs, which is reduced annually, plus financial support of another 100,000 Swiss francs maximum, depending on performance criteria (growth in membership per year, the number of forest holdings and size of forest area, and annually harvested cut) and an additional 30 Swiss francs per ha/year of forest being managed by the RO, is provided for a period of four years.

Another reason for creating ROs was the weak position of the small-scale forest owners in marketing their wood to traders and sawmills. Joining an RO offers them the possibility to delegate the marketing of their wood as well as harvesting wood and forest tending to the RO without any transfer in forest land tenure. RO members who prefer to harvest their wood and tend the forest on their own are free to do so. They basically keep the right to manage their own forest and to decide how much and which wood is harvested.

3. Method, data processing and research hypotheses

The overall study consists of two consecutive stages of empirical research which investigated the process and achievements of the introduction of ROs from two complementary perspectives. The aim was to gain an encompassing picture of hitherto unknown collective forest management in the Canton of Lucerne through an explorative study applying different qualitative and quantitative methods.

Expert interviews were conducted with the presidents and leading technical staff of six of the 11 ROs that were in existence in early 2008. Two of these six ROs are associations, and four are cooperatives. At that time the six selected ROs were about one and a half years old, and their leaders could look back at the experience; the other five ROs had been established so recently that interviews would have been premature. Five interviews were face-to-face, and one was by telephone. Three RO presidents were interviewed with their leading technical staff present; two presidents were interviewed without staff; one leading technical staff member was interviewed without the president. In all expert interviews notes were taken, and tape recordings were later transcribed. Assessments were elicited during the interviews on rating scales presented on paper. In two of the interviews, the RO presidents and the leading technical staff provided these ratings independently from each other, so that altogether eight corresponding judgments were sampled. These ratings were, however, considered explorative data and consequently not analyzed with inferential statistics; thus any violations of strict independence in the case of separate ratings made in the same interview do not pose a major methodological problem.

Furthermore, a mail survey was conducted based on a quota sample drawn from all private forest owners in the Canton of Lucerne with forest properties larger than 0.5 ha. Forest owners with smaller properties were excluded from the sampling because their economic interest in forest management, beyond using wood for themselves, was presumed to be low. The quota sampling scheme distinguished among four classes of holding sizes: 0.5–1 ha, 1–2 ha, 2–4 ha, and more than 4 ha. For each category, 200 forest owners were randomly selected, and consequently a standard questionnaire was mailed to a total of 800 forest owners. This sampling aimed at an equal representation of forest owners in all four ownership sizes.

To analyze the content of answers to open-ended questions, we clustered similar answers. Close-ended questions were processed with SPSS16 statistical software. Besides descriptive statistics, variance analyses, *t*-tests, Man–Whitney *U*-tests, and Chi-square tests were applied. A major aim of the inferential statistics was to compare the answers of the RO member and nonmember survey respondents to gain information on possible differences regarding characteristics of the forest properties and indicators of economic performance.

The research hypotheses are that due to a reasonable financial support by the canton and the federation and the simultaneous drawback of the Cantonal Forest Service from many of its previous activities it was a welcome offer to embark on a forward strategy to improve the economic situation of those forest owners who have a pro-active interest in the future of small-scale forestry and that they