Communal Forest Tenure in Switzerland: Towards Co-Financing Forest Management Systems

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COMMUNAL FOREST TENURE IN SWITZERLAND: TOWARDS CO-FINANCING FOREST MANAGEMENT SYSTEMS *

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ABSTRACT
The uses and values associated with communal forest tenure are complementary, locally specific, and have different implications in time and space. Forest management must be flexible, multipurpose oriented and integrate varying social and economic objectives. It has to provide for a kind of utilization which satisfies different groups of the community and leaves opportunities related to changing social demands. Silvicultural practices close to nature and selective uses which maintain ecosystem-specific potential satisfy different user groups and accommodate changing demands in rural and urban areas. Multifunctional and sustainable forest management by communal forest owners, which satisfies both public and privat needs, requires a secured basis of financing. It comprises earnings from marketable goods, cost participation of user groups as well as compensations and financial incentives from public entities. Based on a general co-financing model for multifunctional forestry production of goods and services several specific financing models can be identified which are characterized by different combinations of income sources.

Key words: Land Tenure, Public Forest Ownership; Finance; Multifunctional Forest Management.

1. FOREST COVER AND WOOD PRODUCTION
The forests of Switzerland cover 1.2 million hectares of which three quarters are situated in mountainous areas (Brassel and Brändli 1999). The distribution in the five main geographical regions of the country is as follows: 34% of the forest area in the Alps, 18% on the Central Plateau, 18% in the Pre-Alps, 16% in the Jura Mountains, and 14% on the southern side of the Alps. Forest coverage amounts to 30% of the Swiss territory, with considerable regional variations. South of the Alps nearly half of the land is covered by forests. On the Central Plateau which is the country's most densely populated part, forest coverage is only 24%. A similar rate of forest cover exists in the Alps (24%), where the high altitudes are a natural barrier to tree growth. Regional variations are even more evident if one considers the forest area per inhabitant. A citizen in the densely populated Plateau is surrounded by ten times less forests (6,5a) than his countryman living in the Alps (63,2a). This fact alone is probably a good reason, why people in different regions look with different eyes on forestry problems.

The annual timber production of the country turns around 4,5 million m3. Total wood consumption in roundwood equivalent is in the order of 7 million m3. The negative

* Source: IUFRO Research Group 6.13; Pushkino Proceedings (1996): 201-211
(revised with updated figures and references)
trade balance in forest products would not have to be. In fact specialists agree that the yearly wood production potential of Switzerland is considerably higher than the annual removals. The gap between harvestable volumes and annual harvest is pointing at serious structural problems and unfavorable economic conditions of the forest enterprises. The deterioration of their financial operating results leads to under-utilization of the national wood production potential (SAEFL 1999).

Switzerland has a high proportion of public forests with different types of communal management and historical origins. From a comparative point of view this situation is of interest in two respects. It is the example of an European country with one of the highest proportions of public forest ownership. And it is a particular case since public ownership is concentrated on communal and community forest tenure. This is remarkable since in other countries with publicly owned forests, state ownership usually plays an important role.

2. DEVELOPMENTS AND ISSUES RELATED TO COMMUNAL FOREST MANAGEMENT

Two-third of the forests are public, the remaining third being private forest land of farmers and increasingly of owners with professional activities in other sectors. Public tenure dominates in the Alps, on the southern side of the Alps and in the Jura Mountains, where 70-80% of all forests are publicly owned. In the Plateau and Pre-Alps regions private forests are more frequent but public ownership amounts to at least 50%. Ownership patterns vary greatly between different cantons. The average size of holdings is small with 70% of all public forest owners having less than 100 ha. The average unit of private forests is little more than one hectare. Public tenure and small scale holdings are a significant factor, for the direct involvement of people in decision making. It is also a reason for the diversity of forests and forestry problems, which we find within the country's geographical regions.

Practically all publicly owned forests belong to different types of local entities. In fact, more than 90% of the public forests are owned by local communities (boroughs), municipalities and local corporations (Schmithüsen and Zimmermann 1999). The local communities or boroughs have developed during Swiss history as associations of burghers whose civic entitlements included the right to share timber and pasture in certain forests around settlements. During the 19th century the tenurial rights of these associations have been recognized by the evolving forest legislation as full-right ownership. Today 400 000 hectares or 50% of all public forests belong to this category. A second group of owners are political municipalities, managing at present 250 000 hectares or 30% of the public forests. Their ownership rights result from a transfer of rights from local user groups to political entities during the 19th century and from buying forests in recent times. The third group, classified as corporations and cooperatives under the forest law, includes different kinds of associations which own approximately 100 000 hectares.

The reasons for managing communal forests are manifold. Most forests were used as a local resource for firewood, pasture, supply of construction timber and a wide range of products needed in daily life. Forest management for commercial wood production became an important objective during the last two centuries generating revenues to owners and communities. In mountainous areas protective values of forests against the effects of natural calamities are a major reason for maintaining
and protecting the tree cover (Wilhelm 1997; SFL 2000). Whereas these aspects continue to determine local management practices, other objectives have gained more weight during the last 30 years. Communal forests are now of considerable value for recreational uses in urban and peri-urban regions, an asset for tourist developments in rural areas, and of importance in order to protect clean water resources. Studies on people’s perception of the importance of forests show that they are increasingly valued as environment and natural spaces. They are appreciated as characteristic elements of familiar landscapes and represent a testimony of history and spiritual values (Schmithüsen and Kazemi 1995; Zimmermann et al. 1998; BUWAL 1999)

The uses and values associated with forests are complementary, locally specific, and have different implications in time and space. They point to the fact, that communal forests represent many options for owners and the community. Forest management must be flexible, multipurpose oriented and integrate varying social and economic priorities. Communal forest management, by definition, has to provide for a kind of utilization which satisfies different groups of the community and leaves opportunities related to changing social demands. This is accomplished by conservation of natural forests, silvicultural practices close to nature, and selective uses which maintain ecosystem-specific potential. The need to satisfy different user groups and to accommodate changing demands is probably a major reason why communal forests show a larger variety of vegetation and more selective utilization patterns than other forms of tenure.

Another important aspect is the relationship between public forest owners and the private sector. The pattern which has evolved provides for forest management, silviculture and logging road construction by the owners. Timber harvesting is undertaken by communal enterprises or in combination with private contractors. Timber is sold in different grades to the wood-processing industry at roadside. Some exceptions with sales of standing timber exist. The management and timber allocation system through forest enterprises of communal owners has led to a high standard of silvicultural practices and good forest management.

Economic and technical reasons favor new organizational forms of cooperation. One is the increasing trend of the processing sector to reduce time spans of supply, to demand more flexibility in wood delivery, and to optimize raw material recovery within the whole production chain. Another one is the increase of private contracting companies offering their services in logging, road construction and silvicultural work as well as in business management. Working for different forest units and in several regions, they balance seasonal variations and use special equipment, and are thus in a position to reduce operating costs. Private operators in forest management and logging are today an important option in increasing the competitiveness of timber production through rationalization and improved productivity. This argument has particular weight considering the prevailing tenurial structure with many small-sized units which often cannot employ full-sized forestry equipment. The growing involvement of the private sector in wood harvesting and silviculture has consequences for man power requirements in communal enterprises. It also calls for the elaboration of contractual arrangements, both of short- and medium-term duration, and for minimum standards of contractual work which satisfy the interests of owners and the public.
The Federal forestry statistics show that total revenues of the public forest enterprises have risen from 190 mio CHF in 1960 to 531 mio CHF in 1998 (BFS/BUWAL 1999). In nominal terms not considering inflation, total revenues from current operations and investment in permanent installations have less than tripled during this period. Total expenditures including investments in permanent installations moved from 118 mio CHF in 1960 to 573 mio CHF in 1998. They have increased almost by five times during the period. A similar picture results from a comparison in deflated terms of total annual revenues with respect to expenditures. Taking 1980 as the base year and using the consumer index as deflator, annual revenues of public forest enterprises have remained approximately constant. Total annual expenditures, however, increased by around 70%.

There are no indications that the tendencies reflected by these figures could be reversed in the foreseeable future. On the contrary they represent general and structural trends. General are the developments in as much, as the growing financial difficulties of forest enterprises are not a limited to Switzerland. They occur in other European countries, and are caused by a decline of market prices in real terms per unit of produced raw material. Structural trends are the growing imbalance in forest management which has to incorporate a widening range of multiple-use objectives, and the auto-financing capacity of forest enterprises which still is largely based on earnings from timber sales. The capability of owners to continue with the present kind of forest practices providing services to third parties and the public will diminish, if new forms of collaborative forest management are not developed. The globalisation of the role of forests facing many social demands requires a more global approach combining forest owners' objectives and commitments from third parties. Multipurpose forestry practices need a more equitable sharing of responsibilities and commitments between owners and users.

3. CO-FINANCING OF COMMUNAL FOREST MANAGEMENT

Generally communal forests are well managed and of high productivity. They are appreciated by the members of the entity to which they belong, and a reason of pride to the community in which they are situated. The owners were accustomed for a long time to the fact that the costs of management could be financed from wood selling proceeds and that forest enterprises generated a surplus to the community budget. This situation, however, has changed drastically since in many forest holdings earnings from wood production do not cover the operational costs anymore. Citizens and their representative decision-making bodies may like to own forests, but they generally do not like to allocate recurring funds to finance forestry activities.

The deteriorating economic conditions which many enterprises experience at present create a new situation and rise questions. Some owners ask, for instance, whether they have sufficient information in order to decide on financial commitments regarding forest management. Others, especially members from local entities without income from local taxes wonder, why they should bare the costs for protection and recreational benefits which accrue mainly to other people. City councils and management committees inquire, to what extent managers of their forests could not develop new markets for products and services which generate additional income. They look for possibilities to cut management costs through rationalization measures, organizational changes and better cooperation between forest enterprises.
The changing reality of forest enterprises has important consequences for forest management. In the past the principal objectives i.e., to provide local benefits and generate income from commercial wood production could be reached without difficulties. The performance of communal forest enterprises was largely an issue of competent technical expertise. Today forest activities are largely a matter of a business policy which decides on management priorities and on the range of tasks to be performed. Forest owners insist on information on different options of local forest management, more participation in the decision-making process and better financial planning and performance control methods which relate production costs to specific outputs in goods and services (Kissling-Näf and Zimmermann 1996; Frost and Mahrer 1997). They look for cost-sharing arrangements involving special user groups and citizens from public entities which benefit from forests but do not contribute to finance management costs. In the case of political municipalities such as cities and villages with the competence to raise taxes, it involves commitments in the annual budgets in order to ensure goods and services important to the community but which cannot be financed from proceeds of timber sales alone (BUWAL 1998).

Providing multifunctional outputs for different social groups and in the interests of public entities requires co-financing systems in forest management (Schmithüsen and Schmidhauser 1998). The framework in which they operate is determined by several considerations. One is the acknowledgement that communal land owners are not obliged to furnish goods and services beyond their own objectives without reimbursement of additional costs. Another one is the principle that user groups and public entities benefiting from the protection and sustainable management of forests should compensate the owners for such benefits. And the third one relates to the need of incentives and financial compensations replacing regulatory commitments in order to implement more effectively national forest policy measures.

The increasing difficulties in financing forestry activities from the earnings of timber sales only, as well as the positive external effects valued by user groups and the public in general call for a double strategy from communal owners. They have to insist on their ownership rights and on income generating business objectives. On the other hand, they have to demonstrate that numerous demands can be satisfied if costs are compensated for multipurpose management practices under co-financing arrangements. The owners have to prove to different clients in the community, that sustainable forestry practices provide a range of specific goods and services which are of value at local and regional levels. Cost calculations and an evaluation of the public utility of communal forest management in monetary terms are necessary. And they should be capable of providing sufficient information to interested user groups and engaging in a process of negotiations with third parties. With regard to business management all this requires a realistic evaluation of possible earnings in relation to planned activities, based on a combination of proceeds from market sales and from complementary contributions from user groups and public entities. A simple but efficient accounting system is indispensable in order to calculate the costs for goods and services that are to be considered in co-financing arrangements. Accounting practices which focus on wood production only and group other outputs more or less as an ancillary item are not suitable anymore.
Fig. 1: Model A for Co-Financing Management Systems on Communal Forest Land

MAJOR EMPHASIS ON SUSTAINED WOOD PRODUCTION MANAGEMENT

- Governmental Compensations
  - National Policy Objectives
  - Improved Resources Management and Conservation

- Cost Sharing Arrangements for Specific Benefits
  - with User Groups
  - with Local and Regional Public Entities

- Earning from other Marketable Goods and Services

- Earning from Wood Production
  - Sale of Logs, Stumpage Revenues
  - Proceeds from Resources Utilization Fees

Altogether the co-financing packages vary considerably depending on the specific situation and objectives of owners and the readiness of political entities and public opinion to support forest management valuing forests as local public goods (Schmidhauser and Schmithüsen 1999). Governmental incentives and compensation measures determined by forest legislation are another important factor. From the point of view of the owner, the financial framework in sustainable resources management thus consists of alternative combinations in which user groups and public entities are involved. The following examples (Figure 1) are representative for two typical categories of communal owners and indicate the possible mix of financial contributions to the management of their forests.

The first example (Model A, Figure 1) shows a forest owner in a rural area putting major emphasis on sustained wood production. It assumes a local community with little financial resources from other capital assets, which is not in a position to raise local taxes, and which has drawn in the past its main income from forests. Earnings from wood sales remain probably the most substantial income for financing forestry operations, but contributions from selling other goods and services would increase due to improved costing for delivered units. Cost-sharing arrangements with special user groups may be difficult in the beginning but their proceeds would increase if the enterprise demonstrates its unwillingness to continue with the delivery of such services without compensation. Cost-sharing arrangements with local and regional public entities are probably more realistic at a first stage, and easier to be implemented. This refers in particular to contractual arrangements with political municipalities interested in good management practices in the forests of their territory.
and in protective and recreational benefits for their citizens. Governmental contributions both from the Swiss Confederation and the Cantons are already now an important source of financing forestry operations in mountainous forests.

**Fig. 2: Model B for Co-Financing Management Systems on Communal Forest Land**

### MAJOR EMPHASIS ON URBAN FOREST MANAGEMENT

- **Governmental Incentives and Compensations**
- **National Policy Objectives**
- **Earnings from Wood Production**
- **Cost Sharing Arrangements**
  - with Local and Regional Public Entities
  - with Local User Groups
- **Financial Means of Owner to Manage Forests as a Local Recreational Resource**

The second example (Model B, Figure 2) presents the case of a large city forest which is managed mainly for recreational use and environmental reasons and which benefits to all citizens (Schmithüsen and Wild-Eck 1998). In this case the forest is considered primarily as a local public resource for which the municipality has developed special management objectives in order to satisfy the demands of an urban population. Management costs are financed to a considerable extent from the municipal budget and from community taxes. Cost-sharing arrangements with neighboring political entities which also benefit from this forest, as well as compensation payments from special user groups may supplement local expenditures. Proceeds from wood sales are important as a market contribution to multipurpose forest management costs. Government incentives and compensations would be part of the co-financing package in as much as they are applicable.

Co-financing arrangements for forest management have existed for a long time in Switzerland, particularly in mountainous areas for measures of avalanche prevention. It involves the Confederation which provides public funds for protection, reforestation, technical works, and recently for silvicultural measures in order to improve stability of
forest stands (Zimmermann et al. 1993; Poffet 1997). It also concerns the Cantons with complementary funding mechanisms. However, the requirements and mechanisms of funding as well as the sources of co-financing are at present in a situation of change. This refers in particular to efforts involving more systematically local entities and user groups in joint management systems.

Information, available on the 3,400 public forest enterprises (1998), shows that co-financing of forestry activities has reached an important dimension (BFS/BUWAL 1999). The earnings from wood sales are still the most important source of revenue but other proceeds have become a substantial element in maintaining forestry operations. Both developments are an indication for the multipurpose character of forestry, in particular in mountainous areas in which protection against the effects of natural calamities is of first priority. In 1998 the aggregated revenues of public forest enterprises amounted to a total of 531 mio CHF of which 283 mio derived from wood sales, 93 Mio from other forest operations, and around 155 mio CHF from public entities as incentives and compensations related to silvicultural measures and permanent installations. The proceeds form wood sales represented 53% of total revenues and the auto-financing capacity from sales of goods and services around 70%. Variations within the geographical regions are considerable. In the Alps proceeds from wood sales represented only one third of total revenues, in comparison with two thirds in the Plateau region.

4. POLICY FRAMEWORK FOR MANAGING COMMUNAL FOREST LANDS

The backbone of Switzerland's forest conservation policy is a joint constitutional competence for forestry matters between the Federal government and the member states or Cantons. The federal level has a basic competence, focusing on the protection of forest lands and measures which ensure the protective role of forests in mountainous areas. The cantons are entrusted with the responsibility of implementing federal regulations. They have also a fairly large domain of their own competence, which refers to forest management planning, support to public and private forest owners, and the organisation of the cantonal forest services. The joint public land management system, as designed by the Federal Constitution ensures the participation of citizens on all levels of government. It facilitates a balance between national and regional interests and contributes to a wide range of locally adapted solutions in the forest policy.

A shared public responsibility in forestry matters has not always existed in Switzerland. The second half of the 19th Century was in fact a long period of struggle in order to develop the policy framework of today. Forest depletion, leading to erosion and avalanches in the Alps as well as to flooding and devastation in the low lands, called for a new approach. The perception of an increasing number of natural catastrophes associated with overuse and clearing of forest lands, made it obvious to the voters, that a resource of national and regional importance required a joint system of public commitment. The second Federal Constitution, adopted in 1874, introduced in Art. 24 the framework law competence of the federal government as it exist today.

The principles, which guide the national policy programme, are on the whole fairly simple but for that reason effective. The Law of 1902 - in force until a few years ago - restricted forest clearings, established compensatory afforestation if a clearing permit was issued, introduced sustainable management provisions and excluded clear cutting. The law provided for federal financial contributions, in order to promote
afforestation, protective works and infrastructural improvements. The basic format of policy measures is hammered out and completed by the laws of the respective Cantons.

In 1991 a new forest law has been adopted by the two chambers of the Federal Parliament. It is the result of a long process of revision and of an intensive political debate involving the government, political representatives, parliamentary commissions, numerous interest groups, as well as forest services and public administrations. On the whole, the new law is the result of important changes with regard to the role of forests in our society. Its policy objectives and instruments have to provide an answer to two central issues. How can policy contribute to maintain a balance between the interests and possibilities of forest owners, and the increasing and diversified interests of public user groups? How can policy establish an equilibrium between public demands on the one hand, and public commitment and support in order to protect forest land and maintain a wide range of forestry outputs on the other?

If we judge the new policy programme under the criteria of continuity one may say, that it has retained the principles of forest protection and conservation, which so far have proven their usefulness. We can also look at the criteria of change by referring to its first article, which offers a truly multifunctional concept of forests in our society. It establishes an equal priority between the objectives related to protection, wood production, recreational uses, landscape and nature conservation, and forest development. Among the new features of the law, one should in particular mention the principle of compensation to forest owners. This means, that owners have to be compensated if they are required to provide management activities and services in the public interest at costs that cannot be recovered. One should also mention the increased federal support to education and training of qualified personnel at various levels.

On the whole the national forest policy has favored nature-oriented silvicultural practices and sustainable forest production leading to an increase of increment and annual log production. Considerable efforts have been undertaken, to support management of protection forests, to expand protective afforestations and to foster control and rehabilitation measures preventing damage from avalanches, flooding and soil erosion. And last but not least, competent forest services, educational facilities for forestry personnel and a forest research system have been established. The achievements of the combined federal and cantonal policy programmes are solid and can be noticed in particular in the mountain region of the country (Zimmermann et al. 1996; Schmithüsen et al. 2000). The forest area is protected, which, considering the important pressure for many other land uses, is not an easy thing to do. The Federal Court has made a particularly important contribution by developing strict criteria in dealing with clearing applications for forest land.

We should note, however, that the efforts of forest protection and development are by no means completed. New problems, new pressures and new challenges arise. They call for a reconfirmed political consensus, continuous efforts of forest owners, as well as for the patient work of forestry professionals. What on a first and superficial glance may look to an outsider as a stable and almost unchangeable accomplishment is in fact the result of a national forest policy, which is in constant evolution. Like in other countries forest policy achievements are only as relevant, as they are understood and supported within a changing social and political reality. As in other countries, we experience a diminishing profitability of wood production and at the same time an increasing demand for public services and protective values. This
has put many forest owners and forestry enterprises in considerable operational and financial difficulties and calls for a reassessment of forest management objectives. Policy measures are required which favor and support:

- the rationalization of forest operations in order to reduce production costs and improve economic efficiency;
- the compensation of forest owners for goods and services supplied as collective goods;
- the restructuring of forest enterprises through new forms of co-operation and transfer of certain management activities to the private sector;
- the adaptation of forest services to new tasks and responsibilities.

Summing up some of the issues, which could be of interest from an outside perspective, the following ones are mentioned:

- As a country with a federal-state organisation, Switzerland has a joint system of public responsibilities towards forest and forestry development. It involves the Federal Government, the various states or Cantons as well as the local political level.
- As a country with 70% public forest ownership and the remainder being largely small holdings of private owners, Swiss forest policy can only be effective if it strongly supports communal participation in forest management decisions.
- As a country in which about half of the forests are in mountainous areas, its fundamental challenge is to maintain a policy framework that protects the forests and generates protective value in the interest of the national community.
- As a country in which the citizens have a direct saying in approving the laws and in calling for changes in the constitution, Swiss forest policy reflects to a large extent the immediate concerns and opinions of people. It benefits from public debate and citizens support.
- As one of the smaller European countries with an economy oriented towards world markets and a rapidly changing industrial and service society, forest policy reflects the changing role of forests with new aspirations and opportunities. It also has to cope with serious problems of adaptation and is moving away from established patterns of thinking.
CONCLUSION: ADAPTATION OF POLICIES TO CHANGING SOCIAL DEMANDS

So far Swiss forest policy has focused on the protection of forest areas, the regulation of sustainable wood production, the improvement of operational structures of forest enterprises, and on the promotion of the sector economy. At present policy development is in the stage of incorporation objectives and targets such as maintaining non-market services as part of multifunctional forest uses, introduction of financial incentives related to collective benefits, greater involvement in decision-making processes of the different public actors. Another development results from the fact, that forest protection and use is increasingly subject to other policy programmes. There is a rapidly growing network of laws, which address forestry issues to various degrees. Coordinating the provisions of the forest legislation with the large body of forestry-related policy areas has become a major task.

Changes in social demands towards forests are in itself nothing new. In addition to the production of wood and many other products, forests have always had great importance for man with respect to protective and sociocultural values. The resulting demands are of a much diversified nature and differentiated by countries and regions. They involve the production of goods and services of a distributive character. And they refer to interests in the very existence of forests, which have their foundation in the perception and the personal conviction of everyone. It is the global character which makes the forests an element "sui generis" of our reality and not the summing up of its different, often badly defined functions. The potential and capacity to satisfy not only our needs, but also those of future generations, determine the social relevance of the forest. And they set at the same time the limits of use for the present generation. It is this aspect, which gives a new dimension to the political debate on forests and forestry.

The demands of society are in constant evolution. Their qualitative nature and the intensity, in which they are expressed, change with the flux of economic and social development. The character of uncertainty, which is inherent in any assessment of future demands, should sharpen our eyes for more long-term tendencies that form the underlying pattern of the day-to-day problems and solutions. It should be a guide in judging with modesty our vision of future demands and benefits. A flexible form of resource management, which is not to intensive and relies on the site-specific production potential is probably the best approach in dealing with the uncertainties of future demands and values. In this sense silvicultural practices close to nature, as they are current in Switzerland, are not a nostalgic habit of conservative foresters, but a modern and appropriate management approach. It safeguards the natural diversity and stability of the forests, and it maintains at the same time future options of which we can think, and options which we do not yet know.
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