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3.08.00 "Small Scale Forestry" and
6.11.02 "Forestry and Rural Development in Industrialized Countries"

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Preface

About one year after the "International Symposium on Contributions of Family Farm Enterprises to sustainable rural development" was held by the IUFRO-Working-Units

3.08.00 "Small Scale Forestry"

and 6.11.02 "Forestry and Rural Development in Industrialized Countries",

this proceedings-volume publishes 37 papers presented at Gengenbach.

The presentations are subsumed under three topics:

- Forestry and Rural Development – General Aspects and Case Studies
- Farm-Forestry, General Aspects (e.g. Owners Attitudes, Cooperatives, Forest Policy)
- Special Aspects of Farm Forestry (e.g. Silviculture, Marketing, Forest Management)

The papers underline, that similar difficulties and problems are encountered all around the world. On one hand, the realisation of income from agriculture and forestry is an important requirement for the maintenance of socio-economic and cultural structures in rural regions. On the other hand, it has become more and more difficult, especially for small-scale enterprises, to gain sufficient income from initial production. This discrepancy between economic efficiency and social requirements demands governmental action in order to enable the farmers to survive under the present economic conditions.

Although the socio-cultural differences between the countries represented at the Symposium were shown, the solutions and approaches to overcome problems that were presented by the speakers were similar. The similarity in the solutions proposed by many speakers suggest that there were opportunities for policies to be developed from the results of socio-economic research that may have general applicability across a number of countries. However, these policies might have to be adjusted to the particular circumstances of the country in which they are being applied.

The conference also included a half day field-trip to the forest district of Gengenbach. In particular, the local concept of cooperation between private forest-enterprises and the assistance given by the state forest administration were discussed. The Post-Conference-Excursion took 41 delegates to other forest districts and farms in the Black Forest and the Rhine valley, where similar problems and local solutions were discussed.

The organisation of the meeting was managed by Prof. Dr. Helmut Brandl and the staff of his Department at the Forstliche Versuchs- und Forschungsanstalt in Freiburg. Financial support was granted kindly by the DAAD (German Academic Exchange Service) and by the Andreas-Stihl-Stiftung.

A new journal (Small-scale Forest Economics, Management and Policy) was launched at the conference. The first issue of the journal was dedicated to Professor Brandl for the major role that he played in forming the IUFRO 3.08 group, of which he acted as chairman from then until 1995. The proceedings of the Symposium are edited by the Forstliche Versuchs- und Forschungsanstalt in the publications series "Freiburger Forstliche Forschung" and now available.

Prof. Konstantin von Teuffel, Director
Forstliche Versuchs- und Forschungsanstalt Freiburg
(Forest Research Center)

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Topic B: Farm-Forestry, General Aspects (e.g. Owners Attitudes, Cooperatives, Forest Policy)

Topic C: Special Aspects of Farm-Forestry (e.g. Silviculture, Marketing, Forest Management)

Topic A: Forestry and Rural Development
– General Aspects and Case Studies

Sustaining family forests in rural landscapes: Rationale, challenges, and an illustration from Oregon, U.S.A.

JOHN C. BLISS

Abstract: Family forests are critical components of rural landscapes, societies, and economies. In Oregon, where non-industrial private forests comprise only 16 percent of the forestland base, the ecological, social, and economic impact of this ownership category is disproportionately large. This is due to the landscape position these lands occupy, the diversification they contribute to forest cover and local economies, and the political and cultural connections they provide to urban populations. The significance of this ownership category is even greater in the United States as a whole, where non-industrial private forests comprise nearly two-thirds of the commercial forestland base, dominating rural landscapes in many regions of the country. Despite the important role family forests play, their ability to contribute to the well-being of rural areas is challenged by several dynamic factors, including industrial consolidation in global wood markets, loss of family forestland to corporate ownership, and parcelization and fragmentation of family forestland at the urban fringe. Moreover, family forestry does not enjoy a strong social contract with the American public, which is largely ignorant of the existence of this ownership class. A foundation of broad social approval and appreciation for family forestry is prerequisite to development of policies which can sustain family forestland ownerships and the contributions they make. This paper draws from recent research in Oregon to argue that, whereas most research on non-industrial private forests has focused on economics and management at the individual producer level, these challenges demand greater attention to the role of family forests in the wider context of landscape, culture, and rural economy.

KEY WORDS: Family forestland, non-industrial private forest (NIPF), sustainable development, mixed-ownership landscape, social contract.

Farms in the Black Forest - A historical review

HELMUT BRANDL

Abstract: Today the Black Forest is a very well known tourist-region in Germany. For centuries the Black Forest remained as a low mountain range, which had been regarded as not suitable for settlement due to its unfavourable climatic conditions and difficult terrain.
Clearing the dense forests and settlement therefore started in a historically late stage compared to other regions, just about one thousand years ago. Due to the special conditions in this area the structure of the settlement had become a quite different structure than the structure in those landscapes with more favourable conditions for agriculture. A single-farm-settlement had been developed, each farm laying 200 - 400 m away from the other, surrounded by meadows, agricultural land and forests and owned by the farmer's family. This special structure has remained in some areas until today; in other areas we encounter different types of settlement and also great changes during history.
The paper describes the lay-out of different types of settlement in the Black Forest. Also the changes, which took place during the centuries are illustrated with graphs and pictures. A special type of agro-forestry – a slash-and-burn-management of forests - can be found in times 150 to 200 years before today. This kind of management is also described in the paper. At last an overview is given on the social and the economic situation of farms in the Black Forest nowadays.

Conservation/Development of Community Forest and It's Role to Forester Family Farm Enterprises to Enhance Sustainable Rural Development - An Example from Nepal

ASHOK BUDHATHOKI

Abstract: Nestled on the lap of the Himalayas, most of the land of Nepal is covered by hills and mountains. The few flat lands, which are agriculturally the most productive with tremendous potential for agricultural mechanization, are under great pressure from increasing urbanization. Areas that are not much affected by urbanization are found in the hilly regions, where agricultural mechanization is difficult. Hence, the mountainous regions of Nepal can be exploited for family farm forestry so that the inhabitants can achieve economical assistance as well as sustainable rural development.
Triveni community forest is situated on the foothills of Ilam District in Eastern Nepal. It was established with the aim of fulfilling community's need for forest resources such as firewood, fodder and timber on a sustainable basis. The total land area covered by the community forest is approximately 651 hectares. The major species are Sal (Shores Robust), Chilaune (Schima Wallichhi), Sisoo, Satisal (*Dalbergia latifolia*) and Harro (Terminalin Chebula). Within a short span of time it brought a remarkable changes in the mentality of the villagers and has become very much instrumental in the infrastructure of the region. From its income, the community forest is running a lower secondary school and providing education to 450 students. Apart from that the community forest is carrying out different development activities such as the construction of a road to the village, digging Cannels for irrigation. Moreover the forest is also accumulating enough money to encourage farm forestry in the private sector. The government has already been requested for technical assistance. The community forest is providing technical assistance to the people wanting to establish private farm forestry.

Urbanised Owners of Private Forest Property

ULF HÄRDTER

Abstract: Since the late 80´s several studies on private ownership of woodlands mention an increasing number of private woodlands that are – as a consequence to the structural change in agriculture – no longer connected to agricultural property . Sociological studies on private ownership of woodland in Central Europe show consistently an increasing share of small scale forest owners who do not correspond to the established picture of the (farming) forest owner, whose main interests consist introducing and selling timber. Mostly these forest owners are identified as persons earning their livelihood outside professions which are not connected in any way to agriculture or forestry (STEINKAMP 1983, WIERLING 1996, VOLZ and BIELING 1998, JUDMANN 1998).
It is obvious that a change in the structure of small scale forest ownership comes along with a change of small scale forest owners' objectives connected to their forest property. Meanwhile it is realized that there is a large heterogeneity in both cases. In German works these people are usually called "non-farmers" or recently "urban" forest owners and they generally do not deal in the traditional (i.e. forest-economical) way, but connect individual aims with their forest property (SCHRAML 2001, SCHRAML and HÄRDTER 2002, VOLZ and BIELING 1998),
Actual German forest policies still presume the ideal of a farming forest owner acting in the traditional (forest-economical) way with his property. Meanwhile it is estimated that more than 60% of all forest owners are not yet involved in forest policy respectively are in contact with public agencies for consultation. Moreover the direct approach between non-farming forest owners and public forest administration gets increasingly difficult. On one hand non-farmers are usually not yet involved in traditional communication- and information networks (which are usually based on personal contacts) (SUDA 2001) and on the other hand the spatial and temporal attainability of non-farmers is described as more and more difficult (BITTNER 2002). There are enough indices though that these people have a need for consultation and support (VOLZ and BIELING 1998, BITTNER 2001).

Summary: It is realised that the actual objectives of non-farming forest owners differ increasingly from traditional forest aims. Forest-economical aspects of forest ownership increasingly seem to lose meaning with this “new” kind of landowners. There are just few or no economic expectations at all based on the ownership of (small-scale) forests. These “new” forest owners are just partly or even no longer at all involved in traditional forest policy. It is assumed that this proportion is makes 60% and there is the danger that here an important group of forest policy gets lost (loss of political resources in terms of potential participants). Nevertheless it can be realised that with the vast majority of non-farming forest owners a positive attitude is still connected to the ownership of forest-land.
An actual research project of the Institute of Forest Policy at the University of Freiburg examines this new structure of forest ownership and their different relationships to their forest property on the basis of a representative survey in Southwest Germany. The study is part of the research network “Urban Forest Owners”, consisting of 3 partners:
The University of Göttingen examines “Consultant and Support of Urban Forest owners. Preparation of Expertise To Analyse Conditions and Factors For Success”.
The University of Dresden researches “Attitudes Of “New” Forest owners in East-Germany”.
The University of Freiburg examines “Attitudes and Behaviour Of Urban Private Forest owners”.
The research network aims to work out references to deal with non-farming forest owners in future forest policy and to give references for future consultant and support of non-farming forest owners by forest administrative-bodies.
The presentation is about the study worked out at the University of Freiburg which examines in detail attitudes, objectives, behaviour patterns and incentives of these “new” small scale forest owners dealing with their forest property and how important these aspects are to take into account for future forest policy programmes in order to secure a broad sustainability in rural development and private forest property.
The study is based on the context of modernisation and urbanisation of society as two leading processes of social changes in western industrial countries that led to structural changes in both, agriculture and rural areas and therefore to the existence of “new” (non-farming) small scale forest owners.

The Contributions of Small-scale Forestry to Regional Development in Australia: Prospects, Pitfalls and the Role of Regional Plantation Committees

JOHN HERBOHN and DARYL KILLIN

Abstract: This paper describes the contribution of forestry to regional development in Australia. Two distinct types of farm forestry activity are identified and discussed. The first of these is farm forestry based around *Eucalytpus globulus* which is grown for pulp. This type of farm forestry is developing in areas in large industrial estates have also been established. The second form of farm forestry developing in other areas is centred around producing higher value hardwood sawlogs and veneer logs. The two types of farm forestry have different impacts on rural communities. The role of regional Plantation Committees in facilitating farm forestry development in regional areas is discussed and the regional plantation committee in North Queensland is used to illustrate the how such committees can operate. The paper concludes with an assessment of the prospects and pitfalls for farm forestry in Australia.

Contribution of the forest sector to the regional economy – case North Karelia, Finland

PENTTI HYTTINEN and ANSSI NISKANEN

Abstract: North Karelia is the most eastern province of Finland and also of the European Union. The rich combination of forest resources, forest industries and forest related know-how in the region has led to the unofficial statement that North Karelia is called the “Province of Forests in Europe”. The aim of this paper is to identify and assess the factors influencing

success for forest related activities to contribute to regional development, especially, in terms of employment and income generation. In the regional development strategies, the main effort should be put on the higher value added and especially more innovative utilisation of existing wood and non-wood forest resources. Employment generation possibilities seem to be the highest in small and medium size enterprises, especially in mechanical wood processing. In regional income generation, the existence of large-scale forest industries continues to be an extremely essential factor. The work also draws the attention to the importance of the development of human rather than physical resources.

KEY WORDS: forestry, forest sector, regional development, North Karelia

Forest Property Taxation: Role and Impact on Rural Development and Forest Protection

MICHAEL G. JACOBSON and MARC E. MCDILL

Abstract: This paper will discuss the influence of local forest property taxes on forest profitability, private landowner management decisions, and rural development. Most countries provide property tax relief to small forest owners reduce the probability that the land does not convert to other uses or to promote timber production. Almost every state in the United States has a special forest tax program for small owners. Although there are only a few types of special tax programs – namely, a) exemptions and rebates, b) yield taxes, and c) modified property taxes. Every state is unique its in application and use of these types of programs. Most property tax programs in the United States are administered at the local level, and provide important revenues for counties, school districts, and municipalities. In rural areas where forests and forest enterprises provide substantial economic benefits, special forest property taxes can affect local tax revenue generation. Although landowners may receive tax relief, there are a number of questions raised about the effectiveness and fairness of the special tax programs. These questions include: to what extent do current special forest taxes ensure the conservation of private forestland?, and do special property tax programs have unintended consequences that policymakers should be concerned about? The paper will address these questions using results from an assessment of Pennsylvania's forest property tax program.

KEY WORDS: Forest property taxation, forest landowners, forest protection, rural development

The Viability of British Columbia Community Forestry in the Global Market

PAUL J. MITCHELL-BANKS

Abstract: British Columbia is regarded as one of the most diverse areas in Canada and arguably North America, not only because of the varied ecosystems within the province, but also the wide spectrum of socio-economic conditions for its numerous communities. The province is also the location of the most intense and widespread forestry in the continent – a situation that poses both opportunities and constraints to community forests.

British Columbia has the greatest biodiversity and number of forest types in Canada as a result of varied physiography and climate and a genetic endowment that has resulted in a wide variety of plants and animals throughout the province. The different types of forests and numerous variations of them have led to different approaches to forestry management. The scale of the forestry activity and scope of options available influence the type of forestry management and the resulting forest itself. Community forestry (local control and decision making over forested land) tends to be small-scale in nature in the province, with only one operation approaching 100,000 cubic metres per year harvest rate. The small-scale nature of the forestry has led to some innovative approaches to forest management.

Along with the ecological challenges of community forestry within the province, there are also the socio-economic considerations to address. British Columbia is home to approximately 180 communities - this does not include the numerous unincorporated municipalities (with no legal status) and 195 Indian Bands from a number of First Nations (Native Indian communities). There are a number of community forests operated by both native and non-native communities and each of those community forests are managed to address a series of goals or objectives.
This paper will review the management objectives of three non-native community forests and review their economic performance over a multi-year period. These three community forests were chosen because they have been in operation for a number of years (two over 40) but as importantly, they were operating prior to the market hitting its last peak in 1995. Since that time, the forestry market has been relatively poor. This poor market has been influenced by the ongoing trade dispute with the United States (Canada's largest trading partner), a depressed Japanese market and the displacement from traditional markets by other suppliers such as Sweden and Norway. All of these factors have created new challenges for community forests that do not have the advantages of the larger commercial operations with dedicated marketing staff, international connections, and economies of scale and scope. Community forests are adapting to survive in this new economy and this paper will address some of the strategies and their success rates.

KEY WORDS: Economics, Global Markets, Strategies, Community Forestry

Forests, Enterprises and Rural Development in Europe

ANSSI NISKANEN, PENTTI HYTTINEN and SAIJA MIINA

Abstract: Rural areas across Europe are facing rapid economic changes. Due to the diminishing prospects for financially feasible agriculture and the lack of supplementing sources of income, many rural areas are often characterised by high rates of unemployment, narrow occupational base, poor new job opportunities and rapid emigration. Yet there are often large and under-utilised wood and non-wood forest resources – including their use for small- and medium-scale processing, recreation and tourism as well as for amenity purposes – which could be more effectively utilised for creating job opportunities and increasing income in rural areas.
Due to urbanisation and a more rapid economic growth in urban rather than in rural areas of Europe, the highest purchasing power for forest products and services is increasingly found farther from the place of products' or services' origin. To increase the use of wood and non-wood forest resources it is therefore essential to meet the demands of the urbanised part of the population. If this demand can be transformed to entrepreneurship close to the place of origin of forest resources it would clearly benefit the employment and income situation in rural areas.
To integrate economically in particular urban consumers' demands and the supply of various forestry products and services is a promising mean to improve business opportunities, employment and income in rural areas. This paper will focus on the problems and possible solutions on forest-based entrepreneurship leading to improved rural employment and income on the European level.

KEY WORDS: Rural development, forest products, rural enterprises, urban demand

Rise and Fall of Programmatic Approaches in German Small-scale Forest Owner Research

ULRICH SCHRAML

Abstract: The structure and practices in small-scale forest ownership in Germany have been described in several papers since the end of the 19th century. Systematic analyses of farm foresters and other proprietors of small woodlands are available for more than nine decades. The dominant reason for the continued interest in this group lies in the production and mobilisation of timber. Ambitious efforts to strengthen small-scale forestry began early in the 20th century and increased during the 1930s and 40s with the goal to achieve self-sufficiency in many fields of the German economy. After World War II, when the demand for timber was high, these efforts attracted renewed attention. Contemporary interest in small-scale forestry is multi-various but still influenced by an increased demand for timber, which is expected to be supplied through farm forests.

This paper describes the change in the programmatic approaches that have dominated small-scale forest owner research in Germany for the last 100 years, divided into four phases. It builds on the hypothesis that the change in programmatic approaches in agricultural and forest policy was reconstructed within the social sciences that deal with forest owners. The importance of programmatic approaches to forest owner research is analysed on the basis of a model which describes the production of knowledge as a multi-layered communication process between society, scientists and the observed group (forest owners). "Farm forestry" is the most important programmatic approach, dominating mainly between 1930 and 1960. Therefore this phase is described in detail to illustrate the relevance of programmatic approaches for the scientists' choice of research subjects respectively blind spots in their observation.

KEY WORDS: Small forest owner research, knowledge production, programmatic approaches, forest history, Germany

Paradigm Shift to Sustainable Forestry:
The Case of British Columbia's Coastal Region

SEN WANG and BILL WILSON

Abstract: With the concept of sustainable development taking root in the values system of modern society, a paradigm shift is taking place in the field of forestry. This shift is characterized by a departure from the conventional philosophy of forest practices toward the adoption of a new model of sustainable forest management (SFM). Given that forestry has traditionally been a driver of British Columbia's economy in terms of generating jobs, government revenues, exports and the well being of local communities, such a paradigm shift is bound to have significant implications.

This paper focuses on the economic implications of the paradigm shift for BC's Coastal region. We begin by outlining some of the key elements constituting SFM. Then, we compare and contrast the fundamental differences between SFM and traditional forest practices. This sets the stage for outlining an analytical framework by which the economic implications of the paradigm shift for the forest industry and local communities can be examined. We argue that, while practising sustainable forestry will serve BC's long-term interests, the impact in terms of costs will be different across social groups. Essentially, successful implementation of SFM will require necessary policy changes at the government level, changes in management practices on industrial forestlands and in corporate policy related to these forestlands, and active participation at the community and citizen levels.

KEY WORDS: certification, community, criteria and indicators, economics, ecosystems, policy, sustainable forest management

Landowners' Perspectives on the Future of Rural Europe: Consequences for Farm Forestry

K. FREERK WIERSUM, BIRGIT H.M. ELANDS and TOMÁS N. O'LEARY

Abstract: Within Europe important changes are taking place in rural areas. As a result of an increasing urbanisation and declining agriculture, primary production processes are loosing their predominance and the manufacturing and service sector are increasing in importance. This rural restructuring has repercussions for the role of forests in rural development: their role as a productive resource is diminishing, while their role for landscape, nature and amenity functions is increasing. These developments have a variable impact on different rural areas and consequently a differentiation in rural conditions is taking place. Concomitantly with this change in economic activities, changes in land ownership are also taking place. Such change is influenced by many factors, not least including the type of landowner and degree to which they are economically dependent upon their enterprise. Landowner types can include farmers, foresters and forest-farmers and activity level can range from full-time through part-timers and those who are hobby farmer or retired. As a result of rural change the employment status of landowners is shifting, with increasing numbers of retired and hobby landowners. Objectives of landowners differ according to both their land management strategy and activity level. Some landowners are optimistic for the future, want to expand their holdings and are not supportive of planting their land with forests. Others regard future prospects as merely stable or even declining, are quite prepared to rent their land to others and are open to considering alternative activities, including afforestation. The land use choices made by landowners can have a profound influence upon the development of rural areas and their strategies and preferred rural development options vary under different rural conditions. This paper assesses the perspectives of different categories of landowners regarding the desired future development of rural areas under different conditions of rurality. Landowners generally consider that rural development involves a restructuring of rural conditions. The contribution of forests to quality of life and providing a sense of place is generally valued, but additional forests do not feature significantly in the realm of desired future development of the locality. There seems to be a tendency that forest lands are deemed more worthy of retention than agricultural lands. Forest owners generally do not maintain forests for use or production-oriented purposes, but instead for experience-oriented purposes such as maintenance of family heritage. These rural changes have a different impact on the future scope of farm forestry in peri-urbanised areas, diversified rural areas, rural growth or decline areas dependent on agriculture, and remote rural areas.

Topic B: Farm-Forestry, General Aspects
(e.g. Owners Attitudes, Cooperatives, Forest Policy)

Use of Extension Education Programs by Family Forest Landowners in Washington State, U.S.A.

DAVID M. BAUMGARTNER, JANEAN H. CREIGHTON and KEITH A. BLATNER

Abstract: In this paper we describe the use by family forest landowners of educational programs provided by Washington State University Cooperative Extension (WSUCE), and the associated use of technical assistance programs provided by state and federal agencies and the private sector. Approximately 100,000 family forest owners control 19% or over 1.2 million hectares of Washington's forestland and account for 29% of the timber harvested in the state on a volume basis in 1998. A variety of public and private assistance and education programs are available to encourage and help family forest owners manage their forests. In 1998 and 1999 a mail survey was conducted to evaluate use and effectiveness of Washington's family forest assistance and education programs. A random sample of 1600 owners was mailed a questionnaire. The survey completion rate was 49% with 872 useable questionnaires. Over one-half (54%) of responding family forest landowners had contact with an Extension educator, program, or educational material and 73 % of these respondents gave an overall rating of the usefulness of Extension programs and materials as good or excellent. Respondents attending WSUCE forestry educational programs have larger median ownership size, are older, have owned their forests longer, have a higher rate of absentee ownership, and are better educated than non-users. They are more likely to actively manage their forests in a sustainable manner and exhibit a clearer understanding of the multiple-use capabilities of their forests.

KEY WORDS: extension education, family forestry, Washington State

Characteristics of Washington Farm Forestry Association Members Relative to the Non-member NIPF Landowners in Washington State, USA

KEITH A. BLATNER, DAVID M. BAUMGARTNER and JANEAN H. CREIGHTON

Abstract: Approximately 100,000 family forest owners control 19% or over 1.2 million hectares of Washington's forestland and accounted for 29% of the timber harvested in the state on a volume basis in 1998. The Washington Farm Forestry Association (WFFA) is a state-wide organization of approximately 1600 members. A random sample of 1600 Washington State landowners with an additional over sample of 400 members of the WFFA were mailed a questionnaire. The survey completion rate was 49% with 872 useable questionnaires.

The results of the survey presented here suggest several important conclusions about NIPF landowners in general as well as some important distinctions between WFFA members and the much larger population of non-member non-industrial private forest (NIPF) landowners. WFFA members tend to be somewhat older, own more forest land, are somewhat more affluent, and are more likely to make use of a variety of types of owner assistance. WFFA members are also more likely to have had a timber sale in the past and to have completed a variety of forest and wildlife management practices on their land. However, respondents from both populations rated the same top landownership objectives, although the relative order differed. All of the highly rated reasons for both populations stress privacy, attachment to the land and environmental values.

An evaluation of ecosystem values at the small, temporal and landscape scales indicated only minor differences at the temporal and landscape level. At the small scale level, WFFA respondents placed a much higher level of importance on the economic aspects of forestland management and related factors than the larger non-member NIPF population. Based on the results of this analysis, a key difference between the two populations appears to be the

strong belief by WFFA members that it is possible to achieve a high level of ecological and other values from a managed forest, while producing economic returns to the landowner. The results also do not the support the perspective, held by some, that WFFA members are less concerned about the environment, in fact, the opposite view may be more accurate.

The role of State forest service in improving the small scale forestry: Lessons from the ECE countries front

LAURA BOURIAUD

Abstract. The restitution and the privatisation of forests in Eastern and Central European (ECE) countries had as a result a fragmented structure of forest property. Although the restitution satisfied general ethical expectations of former owners, the regulation of management in private forests seems to be in contradiction with the respect of the "private property". For the private owner, the state forest service is rather a public authority than a provider of technical assistance and extension activities. The paper aims enlighten the relationship between the forest service and the private owner. We analysed the main reasons for the tensional climate which characterised this relationship at least at the beginning of the transition process. We may then formulate some conclusions about the opportunities to improve small-scale forestry through the co-operation with public forest service.

KEY WORDS: Forest policy formation, formal referential, State forest service, private owners, ECE countries

Exporting for small-scale forestry enterprises

MICHAEL COX

Abstract: This paper examines the likely entry into international timber markets for small scale forestry enterprises in Australia. It argues that Small-scale farm enterprises would benefit from exposure to larger markets for their forest products. They would experience more stable demand markets from a larger consumer base and obtain rates of return that might provide more adequate compensation for their efforts. At present the choice of farm forest species planted is more likely to be based on industry and government links, local demand factors, local knowledge and environmental factors without consideration for commercial returns from wider markets. This paper argues that exposure to the export market can allow engagement with the new global economy which is also provide the tools to succeed for small to medium business entities. The export management practices for small scale forestry are examined and methods for forest farm enterprises to become involved in the international trade of timber are identified.

KEY WORDS: small scale forestry, export management for farm forestry, eBusiness

Economic Utilization of Native Hardwood Forests on Private Farmland in Sub-Tropical Eastern Australia

S. R. HARRISON and R. C. HARRISON

Abstract: The management of native hardwood forests on private land throughout Australia has been a contentious issue. Traditionally, timber harvesting on sclerophyll (eucalypt dominated) native forest has involved periodic removal of the best timber, with almost no silvicultural treatments between harvests, resulting in low yields and reduced resource quality. Low timber prices, lack of information about how best to manage native forests and uncertainty about future regulations have contributed to the lack of interest in management of

these forests. In south-east Queensland, there is an area of about 1.2 M ha of potentially highly productive private native forest, and recently there has been strong interest in management for production of poles and sawlogs. Since the forests already exist, they can compete strongly in financial terms against plantation forestry, and contribute to farm income. Technical advice but relatively little government assistance is required, although harvest rights are a critical issue. The large reduction in area of State Forests available for logging following the Regional Forest Agreements and greater business orientation of the Department of Primary Industries (forestry section) can be expected to lead to tighter supply and higher prices for farm-grown hardwood timber. Recent legislation and codes of practice now under development offer an opportunity for private native forest to be managed for timber production, while at the same time allowing benefits in terms of grazing and wildlife habitat. A case study suggests that introducing silvicultural management to native forests is a profitable venture, with relatively modest investment requirements and an early positive cash flow.

Small-scale Forestry in Sustainable Rural Development in the Ylä-Savo Region in Finland and Long Term Timber Trade Planning as a Mean to Enhance it

MIIKA KAJANUS and VEIKKO JAUHIAINEN

Abstract: The region of Ylä-Savo is located in central Finland. It consists of the town of Iisalmi and the surrounding rural districts. There is a total of 65,000 inhabitants living in this region. The main sources of livelihood come from services and food, wood and metal industry. The region has a powerful background based on dairy production with forestry as a supplementary source of income on the farms. There are about 10,000 private forest owners in the region, the average volume of timber trade amounting to little less than 2 million m³/year. Private forestry has been diminishing, but still has outstanding relevance in regional economics. Although a lot of incentives were created in order to diversify the income sources from forest resources, for example to the tourism sector, the main share of income comes from traditional timber trade. That is why one of the main means to enhance private forestry is related to timber trade operations. Possibilities to develop timber trade operations are analysed and a methodology for long term timber trade planning is presented. The methodology contains means (1) to clarify forest owner's timber trade profile, (2) to prepare respective alternatives for long term timber trade when processing the forest plan and (3) means to supply the timber. The methodology forges increased timber supply and gives perseverance for timber trade. Sellers have better possibilities to optimise their timber trade based on concrete offers. Buyers have better possibilities to optimise the whole timber logistic chain including purchasing, procurement, processing and delivering. The long term timber trade methodology is tested in a case study. Moreover, applicability of the methodology is studied by means of mail inquiry. The results of the studies are analysed in the context to economics of small scale forestry in the region.

KEY WORDS: innovation, forest planning, timber trade, extension services, logistic chain

Forest Tenant Farming as Tested in Quebec: A Socio-economic Evaluation

SYLVAIN MASSE, supervised by AUGUSTIN LEBEAU

Abstract: This paper analyses the socio-economic viability of forest tenant farming, a land leasing system that the Lower St. Lawrence Model Forest has been testing in Quebec since 1994. First, forest tenant farming is described, as is the approach used to evaluate this system. The evaluation approach is based on four criteria: viability of tenant farms, costs of general supervision and technical support, socio-economic impact, and potential for extending the model. The results of five studies are then summarized from the perspective of the evaluation criteria, and the principal issues raised by the testing and extension of forest

tenant farming are identified. The paper concludes that this management system is socio-economically viable.

KEY WORDS: forest tenure, forest tenant farming, community forestry, sustainable rural development.

Private Forest Owners' Reasons for Holding Forest and their Forest Management Activities

KOJI MATSUSHITA

Abstract: The Forestry Census is conducted every ten years in Japan to obtain basic forestry statistics; the most recent was in 2000. Since the minimum size of forest included was increased from 0.1 to 1 ha in this census, the total number of forest owners decreased drastically, as approximately 60% of forest owners own between 0.1 and 1 ha. This study was based on a questionnaire survey of representative members of local forest owners' associations in the Osumi Forest Planning Area of Kagoshima Prefecture, Japan. It attempted to identify the owners' reasons for holding forest and to determine their forest management activities. The following five characteristics of forest owners holding 0.1 to 1 ha were identified. (1) The percentage of plantation forest and location of the forest are roughly the same as for owners with 1 to 50 ha. (2) Relatively little is done in the way of forest management because the holdings are too small. (3) The annual income from the forest is too small to support a household or even to serve as a reserve for extraordinary expenditure. (4) Although owners' reasons for holding forest are generally unclear and their interest in forest management is often low, they are reluctant to sell their forests. (5) As for future cutting policy, views from a management perspective are generally lacking. In comparison with owners holding 1 to 50 ha, the owners of small forests tend to want to sell standing trees at higher prices, and their perceived future price of standing trees and logs is higher. Although the total area of forest held by owners with 0.1 to 1 ha is not very large, these owners represent approximately 60% of forest owners, a percentage that is expected to increase. Until now, little forestry policy has been targeted at this group of owners, as reflected in their exclusion from the ranks of recognized forest owners in the latest census. Now that the main objective of forest policy, according to the Basic Forest and Forestry Law enacted in 2001, has changed from timber production to multiple use, including timber production, the policy concerning owners with 0.1 to 1 ha must be reconsidered, especially their exclusion from a national level statistical survey.

KEY WORDS: under minimum-scale forest owner, reason for owning forest, forest practice, forestry statistics, 2000 Forestry Census

Farm Forestry Partnerships in Ireland

THOMAS KAVANAGH and AINE NI DHUBHAIN

Abstract: This paper describes a land leasing scheme between the Irish semi-state forestry company, Coillte Teo, and farmers. One quarter of the participants in the scheme were interviewed. The results of this survey showed that the majority of the farmers have afforested in excess of half of their holdings and that payments from the scheme are making a significant contribution to farm incomes.

Attitudes of Small-scale Forest Owners to Forest Management Practices in Austria
ANDREA MOSER and KARL STAMPFER

Abstract: Small-scale forests are of key importance in Austria since approximately half of the forest area is managed according to small-scale forest management. Its characteristics are small-scaled management units and changing ownership structures, which result in combination with insufficient wood harvesting technology in low profitability. Nevertheless, income from forestry is very important and in some cases even ensures the basic existence for many agricultural and forestry landowners. To overcome the structural weak points and to increase competitiveness, cooperations between forest owners are established. In Austria the so-called forest economic communities (FEC) are founded, whose activity is mutual wood marketing and machinery employment.
Although experts recommend high mechanised wood harvesting systems to overcome economical disadvantages, it depends on the forest owner's attitude, what kind of forest management regardless the resulting revenues is chosen. To express secure statements on how small-scale forests will be managed in the future, a standardised opinion poll was carried out. A total of 244 questionnaires were sent to members of the forest economic community Leoben in Styria/Austria. Out of that, 134 questionnaires were returned which refers to a response rate of 55%.
The results of the questionnaire are information about current and future forest management. About 80% of the members manage their forest in self-employment and the same number wants to carry out this management practice in the future. The machinery is mostly dominated by chainsaw and agricultural tractors, even the FEC owns a harvester. Considering terrain conditions and forest owners attitudes cooperational machinery operations have to be carried out to make the FEC attractive to its members. Therefore perspectives regarding the FEC with the aim to lead to future requests of the forest economic community from the members have to be drawn.

KEY WORDS: forestry, small-scale forestry, land owner cooperatives, timber harvesting, management practices

The Significance of Family Income in Farm Forestry Enterprises: How can it be increased through changes in thinning activities?
WILLY NAIN

Abstract: The mark-down of prices for cut wood after the damages caused by hurricane Lothar took away the incentive for many owners of small forestry enterprises to produce wood. This paper intends to encourage owners of forests with younger stands not to stop exploitation entirely but to transfer to weak thinning activities.
Thinning does not only aim to realize running income but also ensuring the stability of stands as well as improving the assortment structure of coming exploitation.

Increase of absentee forestland owners and efforts of forestry cooperatives against not managed forestland
IKUO OTA

Abstract: Large areas of small scale private forestlands in Japan are not managed by their owners any more, due to low profitability of domestic forestry. Considerable amount of absentee forestland owners increase this problem. Forestland owners who have moved away from their forest into cities or inherited the land from their parents are likely to ignore or abandon managing their forests, natural second growth forests as well as artificial

plantations. This paper describes the increasing trend of absentee forestland owners and the measures of forestry cooperatives on national and local level .
Over three million hectares or 25% of private forestland area are belonging to absentee owners today. The area of absentee holdings has increased more than 50% during the past three decades. Forestry cooperatives collected data of absentee holdings and sought actively contact to absentee owners. These efforts of forestry cooperatives resulted in a consignment for long-term forest management, contracts on forest practices or contracts on harvest and sales. Successful relationships are still too rare, and the majority of absentee small scale forestland owners is not interested in paying money for the management of their forests at all.
The paper discusses effective measures to involve absentee owners in forestry cooperatives. A couple of examples of forestry cooperatives are analyzed. In conclusion, the author recommends that general governmental measures as well as industrial efforts to improve the situation. Further it is questioned that the intense expansion of artificial plantations all over the country should be reversed to some extent. Laying aside forestland would be a good option for a conversion from even-aged softwood forest to natural second growth forest.

KEY WORDS: absentee forestland owners, basic forest and forestry law, depopulation, forestry cooperative, management lay aside.

A successful cooperation-model of forest owners
GERHARD RIEGER

Abstract: In the south-west of Germany a public forest organization exists since 1834. This state forest organization is responsible for all forest owners:
- full treatment of the state forest
- supervision and advising of communal and private forests

The professional range of forester's activities in our country include in particular:
- planning and execution of silviculture
- forest road construction
- timber harvesting and assorting
- sale of stem wood (at forest road side)

This combination of responsibility may be – together with the principle of sustainability – the basis for the actual condition of the forests in Central Europe.
Since World War II the state forest organization is more and more involved in economic issues of non-governmental forests as well, based on the fact, that an increasing number of forest owners are no longer busy with agriculture and forestry. Therefore they have often lost their skills for operations in the forest and timber sale.
The continuing concentration of the timber industry (especially sawmills) today needs a response from the side of the forest owners. Especially small scale forest owners are not powerful enough to act as individuals on the timber market. Thus, different forest owner cooperations have been established under assistance of the state forest services professional knowledge.
This paper presents an example of such an association of forest owners.

Functions of Farm Forestry from a Socio-political Point of View
ANDY SELTER

Abstract: In this study the interactions between forest management and the preservation of rural structures, as well as the economic implications should there be a shut-down of silvicultural activities in the small-scale private forestry of the Southern Nature Park of the Black Forest in Germany, are examined. The jobs, which are connected to the production of

wood and the quality of the landscape, are characterized and projected on the region as far as possible. The creation of value by owners managing forests for production is demonstrated for the area of investigation. In combination with estimated average monetary values for the infrastructural benefits of the forests, scenarios point out the consequences of management as well as of a shut-down of the small-scale private forests. Finally, the paper explores whether it is it is appropriate to extend the meaning of the term 'Environmentally Sound Forest Management' beyond the conventional sense of forest functions, and to an holistic approach which integrates the people as well as forests and other landscape features. If an holistic approach is adopted, a redefined model of the mixed farm forest enterprise, which pursues many targets in the same area, must be developed. In this way, it seems possible to solve conflicts regarding land-use in rural areas and to achieve desirable socio-political development.

The significance of forests in the management of family-farms in Austria: A case study of farm-holiday enterprises

KOZUE TAGUCHI

Abstract: This study focuses on forests owned by family farms in Austria that run accommodation businesses known as "Urlaub am Bauernhof". We studied how the forests on the farms are used, and examined the relationship between the forest, farm family, and guests, to analyze the significance of forest in the management of these family farms. This study was based on interviews with 26 farm families, and questionnaire results from 196 farm families and 133 guests.
The forests owned by the "Urlaub am Bauernhof" holiday-farms play a significant role in farm business, and in relation to farm guests. Farm families use the forests for wood, including firewood and timber, and to obtain food such as mushrooms, berries, and nuts, as well as for hunting. Guests visit the forest for recreational purposes, particularly hiking. These family farms are self-sufficient to some extent. Furthermore, the farm-holiday enterprises require constant investment with respect to accommodation. Both these factors help to account for the production and self-consumption of wood, and the care of the forest by the farm families. Moreover, good management of the forests by the farm families facilitates access to the forests by guests and helps to maintain the natural beauty of the rural landscape. It has also been suggested that, as the children of guests have an opportunity to become familiar with forests and to enjoy recreational activities in the forest, an attachment to forests and to activities such as hiking in forests may be passed on from generation to generation.

KEY WORDS: Austria, Family-farms, Farm holiday enterprises, Wood production, Recreation

The Motivation of Owners of Farm Forest Enterprises

SVANTJE ZIEGENSPECK

Abstract: The farmers in the region of the Central Black Forest that run their family farm enterprises mainly on the industries of dairy farming and forestry and occasionally tourism with a size of their forests between 1 and 40 hectares own farms that are inherited from one generation to the next generation without division (KALTENBACH 1993).
The forest farmers activities take place against a backdrop of a phenomenon of agricultural change (which includes e.g. a decrease of agricultural enterprises, a shift in the general, formerly full time enterprise structures; a decrease in the number of people working in the field of agriculture; a structural change leading to the tendency of the separation of field and forest in agriculture). Furthermore, there are many claims against rural forest owners by conservationists and by society at large; the owners are pressured to keep their forests ecologically intact or to maintain a pleasant man-made landscape by the society.
The collective of forest farmers has been quite well studied in the way of economical regards. However, studies about what forestry and the forest itself mean to farmers in a more

sociological way have so far only rarely been attempted. The main question in this field is it to find out why these families are still motivated to run their farms and also under which conditions they are willing to do so.
Motivation can be explained mainly on the base of certain structures that in total build the lifestyle of these forest farm families. The knowledge of families with farm forest enterprises in terms of lifestyle-structures is gained in the research project presented here. The lifestyle of the farm forestry community in the farming area of the Central Black Forest is very homogenous and is characterised above all by the following structures: a high need for self-sufficiency, a strong environmental conscience, a desire for an effective use of income, an increasing individualistic lifestyle, a high significance of cultural rationality, a high degree of attachment to the home region, the preference of a full-time farm orientation, the need for acceptance of autonomy along with a very characteristic need for autonomy.
The structures make it possible to then generate prognoses that can furthermore be used for policy extension. This means, if the lifestyle of farm forestry families can be determined exactly in its social structures, it must be also possible to forecast what will happen towards the behavior of people, assuming special inexperienced new situations occur or special changes in their everyday-life take place. Behavior bases on attitudes. Acceptance is related to attitudes, which are an important part of lifestyles. The higher the acceptance of policy measures, the more successful the implementation will be. As the study aims to conceive of prognoses for models or policy programs that takes this motivation into account and help to enable those farmers to continue to exist, some of the most important prognoses are also given, e.g. the warranty of autonomy, warranty of effective land-use and steadiness and constancy of policy.

Topic C: Special Aspects of Farm-Forestry
(e.g. Silviculture, Marketing, Forest Management)

Fire and NIPF and Tribal Landholders: A Case Study from Northeastern Washington State, USA

MATTHEW S. CARROLL, KEITH A. BLATNER and PATRICIA J. COHN

Abstract: This study focused on the role of fire both as a perceived threat and a management tool of NIPF and Tribal forest land owner/managers in two counties in northeastern Washington State. Using qualitative social research methods, we identified distinct categories of landholders with differing reasons and strategies for holding and managing their forest lands. We found similarities in categories of landholders/managers in each county, ranging from those who actively manage for timber production and forage, to residential and recreational users who manage for wildlife, aesthetics or fire safety, and those who don't manage at all. There were differences between landholder categories in the two counties over the perception of fire as a threat; measures taken to reduce the threat of fire, and the use of prescribed fire (broadcast burning) as a management tool. These differences can be related to landholders' experiences with fire (wild and prescribed), land tenure, financial and physical restraints, and their reasons for owning the land.

Eucalyptus trees in home-gardens in Sri Lanka: Tree density, economic contribution and social attitude

MANGALA DE ZOYSA

Abstract: A home-garden is a place adjacent to the house, which exhibits the fruitfulness of mixed cropping in multi stories, helps fulfilling the daily needs and also earning extra income. The perennial cropping system is consistent with a range of highly diversified, economically viable plants such as fruits, spices, medicinal plants and timber species. The forestry master plan of 1996 has examined a scenario for promoting home-gardens as an important location for growing trees outside the forest. The Forest Department directly sponsors the raising of trees in home-gardens by means of technical and cultivation support. It can be observed that Eucalyptus trees are commonly grown in home-gardens in the district of Badulla in the country. The controversy however, regarding the ecological, social and economic merits and demerits of Eucalyptus has engulfed the minds of agriculturists, environmentalists, ecologists and even of conscious common men. The main objectives of the study were to measure the tree density in home-gardens, to analyse the economic value of Eucalyptus trees and to ascertain the social attitudes. The case study is based on the field survey conducted in Badulla District through field observations and interviews of householders selected by using cluster-sampling techniques.

Among the seven tree species cultivated with an average density of 266 trees per hectare, Eucalyptus is grown in home-gardens with a maximum density of 107 tree per hectare. Mixed-tree cultivation is the popular land use system with a share of Eucalyptus by 54% of the households. 83% of the households personally decided to grow Eucalyptus, which gives on average a significant extra income annually of Rs. 24,360.33 (US$ 270). The income is calculated by taking into the account the tangible benefits: mainly fuel-wood, land boundaries and timber. The households in general have a favourable attitude towards cultivation of Eucalyptus in their home-gardens. Rapid growth (z=2.12), less legal restriction on harvesting and transportation (z=2.34), a promising market (z=2.38), and a contribution to the household's income (z=2.41) have significantly influenced their decision to grow Eucalyptus in their home-gardens. However, the environmental impacts, mainly under-growth (z=-2.35) and soil fertility (z=-2.42) of Eucalyptus, had a negative influence on their decision.

Silviculture of Sandalwood: a Semi-parasitic Species for Family Farm Enterprises in Western Australia

JOHN E. D. FOX

Abstract: Declining and irregular supplies of naturally occurring sandalwood have led to increased interest in private investment in Australia. This paper is concerned with enunciation of suitable silvicultural principles for farming enterprises. *Santalum spicatum* is an autotrophic, obligatory parasite and therefore there is a need for early attachment to a host. Some host species allow sandalwood to grow better than others. In Western Australia, the native, nitrogen-fixing species, *Acacia acuminata*, has demonstrated best sandalwood response. Data are presented of 20-yr growth of the WA sandalwood (*Santalum spicatum*) in an experimental plantation. Planting success on saline soil is reviewed.

KEY WORDS: growth data, salinity, sandalwood, hosts, establishment, planting

Silviculture Adapted to Private Forest Owners

ROLAND HÖRNFELDT and FREDRIK INGEMARSON

Abstract: Ideas on proper forest management appear to change along with value-changes in society. Internationally the Scandinavian clear cutting system has been criticised. In middle and southern Europe, alternative systems are often used, but to what extent is this possible in Scandinavia? This paper is an attempt to answer this question. The aim was to analyse the suitability of different silviculture practices to multi purpose objectives and to propose modified systems to suit the objectives of private forest owners. A model describing private forest owners' objectives was used to compare different silviculture practices. A literature review was conducted and the relationships between practices and objectives were analysed using matrixes. The practices used today are known to function under Scandinavian conditions. The results showed that an emphasis on clear cutting systems is not always suited to the objectives of private forest owners. Thinning and successive felling appear to be more suitable for forestry practices for private forest owners. "Passive" (no felling, no cleaning, no thinning) practices and clear cutting are unsuitable for the multi objectives of private forest owners. Studies of silviculture practices and their relation to different objectives of the forest owner can be used to enhance the opportunities of manifesting personal ideas in the construction of forest management plans. To optimize management for multi purpose use there is a demand for alternative practices to those commonly used in Scandinavia.

KEY WORDS: Forest management, silviculture, forest owners.

Forest Owners' Choice of Reforestation Method

HEIMO KARPPINEN

Abstract: In the study, the theory of planned behavior (TPB) is tested in the context of Finnish nonindustrial private forest owners' (NIPF) decision-making. Forest owners' choice of reforestation method, i.e. choice between natural reforestation and seeding/planting, is investigated empirically based on the data on two regions in Finland. The choice of natural reforestation is predicted from forest owners' attitudes, subjective norms and perceived behavioral control factors (e.g. soil conditions). In addition to the theoretically grounded factors, the effects of past experience of natural reforestation and use of own labor force, as well as the effects of forest owners' demographic characteristics and ownership objectives are analyzed.

The results supported the theory of planned behavior. As regards to the direct effects, attitudes were the most powerful explaining factor in the regression models, and norm pressure and control factors had clearly smaller but mutually equal effects on intentions to

reforest naturally. Being a wage earner had a smaller negative effect, but favorable past experience in natural reforestation had a clear positive effect on intention. Considering the indirect effects via attitudes, norms and perceived behavioral control, former experience was the most important explaining factor.
Only a minor part of the regeneration areas are reforested naturally, clearcuttings supplemented by replanting or seeding being the dominant method. According to the results, natural reforestation is associated with positive beliefs and favorable attitudes. In addition, forest owners seem to obey the advice of forestry professionals. It is therefore obvious that the avoidance of natural reforestation in practice could be explained, more than is shown in the study results, by controlling factors, such as soil conditions.

KEY WORDS: attitudes, forest regeneration, non-industrial private forest owners, reforestation, theory of planned behavior

Alternative Price Adjustment Models for long-term log contracts – impacts on Small Scale Forest Farmers

MICHAEL J. QUAYLE

Abstract: Small Scale Forest Farmers have the potential to contribute considerably to regional economic activity in terms of forest products grown for the commercial processing industry. Financial returns, economic viability and ecological sustainability are dependent on a number of parameters including yield, species, growth rate, log prices, supply contracts and certification of timber quality. Log prices determination and adjustment through the term of the contract affect financial returns to industrial growers and small-scale forest farmers alike. Maintaining the “real” value of the contract price throughout the term of the contract is imperative.
This paper addresses the issue of log price setting and adjustment for long term contracts of logs supplied from small scale and commercial softwood plantations. Specifically, it deals with the reasons and rationale for adjusting the contract price over time and explores various adjustment models applied in a number of countries. Parallels are drawn and the implications of different adjustment models are assessed as they affect commercial softwood forest growers and small-scale farm foresters.

Hunting Roe Deer without Shooting Plan Regulations – An Increase in Responsibilityof Local Forest Owners for Tree Regeneration in Bavaria

HANS-ULRICH SINNER and ELKE EKLKOFER

Abstract: Hunting right is a property right in Germany, but most landowners are member of a hunting association which leases the right to actually hunt to a game tenant. Administrative shooting plans regulate exactly how many game may be taken. In six hunting communities we investigate in a sociological approach the reaction of forest owners and hunters, if shooting plan regulations are replaced by private agreements at their local level. Preliminary results of the still running project show that both partners act rather conscious with this “freedom” and gain an increase in responsibility for forest regeneration as well as game management this way.

KEY WORDS: forest policy, hunting politics, private forest owners, tree regeneration, applied social sciences

Cost Structures for Portable Sawmill used in Milling Mixed Species in North Queensland, Australia

DAVID B. SMORFITT, STEVE R. HARRISON and JOHN L. HERBOHN

Abstract: The sawmilling industry within North Queensland, Australia has traditionally processed a diverse range of high quality rainforest cabinet timbers from locally occurring tropical rainforests. Over 100 species are suitable for milling, many of which produce highly prized timber for cabinet work and flooring. The sawmilling industry contracted dramatically with the World Heritage listing in 1988 and associated logging bans on Crown and some private land. Sawmilling is currently restricted to a small number of fixed-site and portable mills which source timber from privately owned native forests. The low stumpage prices paid by these mills relative to the final sawn timber prices is a source of contention, with landholders believing that the mills are profiteering from an oligopsony situation. There has been increased use of portable sawmills in recent years by full-time and part-time millers. While portable sawmills do compete with traditional fixed-site sawmills on the local market, they are not seen as a major threat to the future of traditional fixed-site sawmills. Anecdotal evidence suggests that portable sawmillers do not account for all costs relevant to their milling activities but rather work on a cash flow basis. For portable sawmillers, labour is the major cost element, especially if associated costs such as workers compensation and superannuation are included. This paper examines cost structures of portable sawmills in North Queensland. The various sources of cost data and the limitations of these data are discussed. Short-run cost curves are derived and sensitivity analysis undertaken with respect to a number of key cost parameters. An attempt is also made to develop a timber milling long-run average cost curve. Results of this analysis are used to shed light on the accusations of rent capture by fixed-site sawmillers and to examine the potential role of portable sawmills.

KEY WORDS: Portable sawmills, mobile sawmills, cost structures, cost curves, Queensland, Australia

The Pick-Handle Approach to Farm Forestry in North Queensland

ERROL WILES and MILA BRISTOW

Abstract: The State of Queensland, and it's tropical regions in particular, offers opportunity for establishing cabinet hardwood plantations. Industry is now, and will become increasingly so, facing shortages of quality timber produced sustainably from plantations. In addition to forest products, the multitude of environmental advantages accruing to forest plantations makes tropical plantations highly desirable. Current economic difficulties being faced by farmers in the traditional agricultural and horticultural industries of this region can be lessened with established plantation forestry and native forest management supplying products to niche markets. Fostering of forest growers and farm forestry groups is being achieved through cooperatives and support from State and Federal Government R&D organisations to farm groups. Eventually the farm forestry groups seek to establish a viable timber industry coordinated through one cooperative of cooperatives. This paper will discuss the potential of forestry as a component of family-farm-enterprises in tropical north Queensland.