

**2011 IUFRO SMALL-SCALE FORESTRY
CONFERENCE
SYNERGIES AND CONFLICTS IN SOCIAL,
ECOLOGICAL AND ECONOMIC INTERACTIONS**

Special workshop sessions on Figures for Forests II

24.07.2011 - 28.07.2011, Freiburg, Germany

- Book of Abstracts -

IUFRO Working Unit 3.08.00 and Network of Accountancy Network Operators

FORSTLICHE VERSUCHS- UND FORSCHUNGSANSTALT

BADEN-WÜRTTEMBERG

ABTEILUNG FORSTÖKONOMIE

2011

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INNOVATION, RESPONSIVENESS AND ADAPTABILITY AS MEANS FOR FOSTERING PARTICIPATION IN FOREST ACCOUNTANCY DATA NETWORKS

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ABSTRACT

The motivation for participating in a forest accountancy data network hinges on the feedback of relevant economic data to the owners or managers of the respective enterprises. In order to sustain their interest, the contents, the quantity as well as the quality of the information provided has to be adapted to the changing requirements and frame conditions. To some extent, also adjustments according to individual demands can be realized and may serve as incentives.

The paper highlights the role of such innovations for the prosperity of networking activities at the example of Austrian accountancy data networks. Modifications and extensions directly responding to requests on behalf of participating enterprises are of special significance for the general esteem as well as for the further development of the overall system. Offering and demonstrating new possibilities is another driver of a vivid interaction. Examples to be presented comprise e.g. additional ratios and specific formats for interfirm comparison, planning tools and an extension in terms of machine hour accounting for farm forest enterprises.

However, striving for compliance with specific requests faces limits, necessitates trade-offs and may even trigger adverse effects. Safeguarding the consistency of the methodology and hence also of the data pool is a considerable challenge. The paper addresses such critical issues as well and reflects Austrian experiences in dealing with those.

Keywords: Forest Accountancy Networks, Ratio Analysis, Interfirm Comparison, Incentives

CLIMATE CHANGE, FORESTLAND TENURE, AND VULNERABILITY OF SMALL-SCALE FORESTLAND OWNERSHIPS IN THE U.S. PACIFIC NORTHWEST

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ABSTRACT

Climate change presents significant ecological, social, and economic challenges to institutions and individuals involved in forestland ownership and management. The overarching question posed in this conceptual paper is, “How might climate change affect ownership and management of various forestland tenure types?” For our theoretical frame we look to two literatures; land tenure, understood as the system of formal and informal rules, regulations and practices that govern people’s rights and responsibilities regarding land and associated resources (Geisler 2000); and political ecology, with its focus on relationships between ecological change, the distribution of economic and political power, and connections between local, regional, and global dynamics (Guillozet and Bliss 2010). Because they differ by forestland characteristics, objectives, capacities, and constraints, we hypothesize that nonindustrial private, corporate, and tribal tenures will respond differently to climate-driven ecological change (e.g. soil temperature, phenology, forest productivity, etc.). We further hypothesize that they have different capacities and inclinations to participate in institutional changes (e.g. changes in markets, regulations, incentives, etc.). How different ownership groups adapt will likely depend on the rules and norms that underlie their management practices, their access to resources required to make changes, and their relationships with other individuals and institutions through which information, knowledge and resources are shared. We consider the mix of forestland tenure types in the Douglas fir region of the U.S. Pacific Northwest with special emphasis on contrasting small-scale family forestland with other prevailing tenure types. The paper closes by posing a research design for examining these hypotheses in a long-term empirical study of the influence of climate change on forest tenure patterns in the region. **KEYWORDS:** Climate change, vulnerability, forestland tenure, small-scale forestry, political ecology.

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FOREST FUNDING AND SOCIETY

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ABSTRACT

German private and municipal forest owners have a possibility to receive subsidies for special forest management measures. These subsidies are funded by the EU¹ and German federal and state institutions. In many cases public forest funding has a secondary objective to improve benefits of forest recreation. The paper examines the perception of public forestry funding in Germany.

Initially the different possibilities for public forestry funding are explained. After that the research questions are derived and the survey concept is introduced. In conclusion selected results are presented.

¹ EU - European Union

FOREST LAND CONSOLIDATION – WHO BENEFITS?

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ABSTRACT

In many regions of the world continuous dispatching of land has over time led to various spatial patterns reflected in the land register maps. Recognizable on maps of a greater scale, these borders become blurred on the ground as well as in the owners' perception. Meaningful management of a 3 km long and 4 m wide stripe of forest is simply impossible. When 6 ha are located on 100 separated parcels, foresters start searching old tracks or boundary stones. The idea of re-sorting ownership or consolidating separated plots is without a doubt fascinating, but because of

- the strong emotional attachment of the owner to his or her plot or
- the lack of interest among the majority of owners

it requires governments to invest enormous resources into "correcting" these inefficient conditions.

These investments can be politically analyzed and legitimated from different perspectives:

- a) from the national economy perspective: to raise the (predictable) amount of natural resources
- b) from the business economics perspective: to increase owners' benefits
- c) from the political perspective: to decrease conflicts between owners

The question we seek to answer in our paper is which of these three perspectives is chosen to justify the investment of state resources.

The consolidation of woodlands as a method of structural improvement in small scale forests will be examined using several case studies. The land consolidation acts are self-inflicted and thus offer a chance for improvement to those who are aware that they are disadvantaged by the current ownership structure.

Based upon the German Land Consolidation Act (Flurbereinigungsgesetz – FlurbG, as amended on December 19th 2008), the owners apply for and enter a legal procedure to consolidate their parcels with the aim of overcoming the real or perceived disadvantages.

In order to understand the motives, impulses, communication patterns and power structures in the selected case studies, we have conducted narrative interviews with forest owners and other important actors.

Direct and indirect costs caused by land consolidation acts has been well studied but appraising and evaluating benefits is very difficult (cf. Keymer et. al. (1989), Klare et. al. (2005) and Seibert et. al. (2008)). Therefore, we primarily analyze how the justification and legitimation of (comprehensive) land consolidation through policy and administration has changed over time.

PROMISES AND DRAWBACKS OF PEER-TO-PEER LEARNING IN FINNISH FAMILY FORESTRY

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ABSTRACT

Recent research on family forest owners' decision-making networks has opened a scene for looking more closely at owners' communication with various actors. Alongside forest and environmental officers, peer land owners appear as sources of trustworthy testimonials; experience sharing and identifying with them is easy. It has been hypothesized that empowered peer-to-peer (P2P) networks could fill the gap between the high demand and scarce resources for publicly funded forestry outreach. Thus far however, knowledge of the applicability, the opportunities and threats of P2P learning as a part of policy-motivated forestry extension has been limited.

The study aims to develop understanding about how forestry professionals and forest owners in Finland perceive and value the idea of P2P networks as a support for their forestry extension activities and role as forest owners. To feed this aim, total of five focus-group interviews will be conducted in November–December 2010, each reaching 4-8 participants. One of the interviews will be organized with national and regional developers of extension systems, while the remaining four group discussions will be conducted with local forest planners and forest owners in both eastern and western Finland.

The themes of the focus-group interviews include, with a variation according to the group type, topics of P2P experience sharing, sensible contexts for P2P learning, and benefits and drawbacks of P2P extension compared to expert-led guidance. The data will be analyzed qualitatively with a collaborative mind-mapping effort by the researcher group. The analysis will in particular seek similarities and differences (i.e. potential synergies and conflicts) between the views of extension experts, root-level foresters and forest owners. A condensed view on the applicability of P2P learning approach in family forestry extension in Finland will be produced, with a carefully assessed conclusion specifying which of the identified promises and drawbacks may be relevant in other countries.

Keywords: family forest owners, focus-group interviews, forest professionals, forestry extension, social capital, testimonials, trustworthiness

OVERCOMING THE ANTICOMMONS - PATHWAYS TO RESOLVE THE RESTRAINTS OF EXTREMELY FRAGMENTED FOREST PROPERTY

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ABSTRACT

Spatial and legal fragmentation of the property rights bundle considerably impairs adequate and efficient utilization of forest resources under present day legal and socio-economic conditions in many central European countries. Extreme property fragmentation, however, is not only the remnant of some long ago terminated historical subdivision processes. Minute property fragments also were one result of recent political transformation processes e.g. in former East Germany. In such an anticommons situation multiple small scale forest owners can exclude each other from efficient use of their property. One cause for this stalemate are prohibitively high transaction costs of - inter alia - coordination of silvicultural action in adjacent property units, market access or maintenance of forest road infrastructure. Other causes can be found in changes of ownership structure and modern forms of forest management.

Fragmentation may not only preclude smallholders from efficient use of forest resources at present time. It can also exclude them from gaining the remainder, i.e. the entitlement to the property rights for new goods and services ever anew developing in forest resource systems. Recent examples are carbon sequestration or environmental impact compensation measures.

Pathways out of such an anticommons stalemate must not only strive to improve the various social, environmental and economic uses of forests. Heed also has to be taken of the vital role of widely distributed real estate property, forest property included, for the stability and viability of modern democratic societies.

In this context the paper explores opportunities of re-bundling spatial and legal property fragments particularly under German conditions. Special attention is given to the question how high transaction costs of re-bundling can be reduced and how impeding obstacles can be overcome. In the absence of a panacea, a set of propositions is made for coping with extremely fragmented forest property.

Keywords: fragmentation, anticommons, property rights bundling

LOOKING FOR SUSTAINABILITY IN TRADITIONAL SMALL SCALE FOREST MANAGEMENT IN NORTH WESTERN FORESTS OF IRAN (ARASBARAN)

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ABSTRACT

Prior to 1962, small-scale landlords owned most of Iran's forestlands, in 1962, however, all lands, including forestlands and forest resources were nationalized. Their management was handed over to the Forest and Range Organization. As a result of losing ownership and usufruct rights both the ex-owners and the traditional forest dwellers and users lost from then on their interest and sense of responsibility for the sustainable management and protection of the forests. The gradual disintegration of the forest and range resources persists, in view of the fact that no modern government initiated alternatives to traditional management and production systems. In an iterative procedure a list of regional indicators was developed based on the issues identified in the systems approach via the DPSIR frame and existing sets of indicators for Sustainable Forest Management (SFM), and agro-environmental indicator to compare sustainability performance between traditional and modern forestry. After several rounds of checking requirements such as data availability, sensitivity, and specificity regarding the case study area the consolidated list included 7 criteria and 40 indicators. From the total of 40 main indicators most are split into several sub-indicators (up to 6 sub-indicators per one main indicator). This amounts to a total of 69 indicators. All of these indicators appeared in different existing sets of indicators. Forest administration, environmental administration and villagers were identified as main relevant stakeholder groups. The applicable and consequential indicators were selected concerning objectives of study. Quantitative measures, historical documents and stakeholder's judgments have been utilized for measuring indicator's values. Selected C&I have been utilized to compare and rank two forestry approaches (traditional & modern) for the case study areas from the viewpoint of involved stakeholder groups. The results demonstrated; based on the majority of employed indicators the traditional forest management appears more sustainable than the modern approach.

A PERSPECTIVE FROM PRIVATE FOREST PROPERTY OWNERS ON FOREST POLICIES IN CATALONIA SPECIFIC FOCUS ON THE RESPONSE TO NATURAL RISK EVENTS

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ABSTRACT

Catalonia is a region situated in the northeast of Spain. Here, forest land covers 64.2% of the territory of which 38% consists of dense vegetation. Its ownership structure is dominated by private owners, possessing 80% of the land. Hence, for forest policy to be effective, policy instruments need to be strongly linked to this stakeholder group. Nevertheless, socio-economic changes and a weak forestry sector present significant obstacles for its implementation. Catalonia is dominated by a Mediterranean climate, which makes forest fires the most important abiotic threat. Particularly in the period between the 1970s and 1990s they caused devastating damage to the territory. Furthermore, extraordinary events such as snowfall in 2010 and a windstorm in 2009 had a great impact on the vegetation structure. Using two case studies, this presentation will describe the experience of private forest property owners in relation to extreme events. One will address the experience of wild fires in Central Catalonia, while the other will address the extraordinary events in the northeast of Catalonia. The objective of this study is to understand how owners coped with the challenges those events presented to them. It especially aims to examine which governmental instruments were provided for them and what were their experiences with these mechanisms. In order to gather relevant data, in-depth interviews with social agents (private owners, public administrations with technical and political competencies) have and will be conducted. Preliminary results showed that financial support basically relies on public financing, as private owners are unwilling to invest in their properties. Unfortunately, this support is largely insufficient under the actual conditions. Concerning the implementation of forest policy it was found that traditional values, the hierarchical structure in decision-making and the individualist culture lead to considerable difficulties in finding a consensus for common objectives.

Keywords: Private property owners; extreme events; policy instruments

FURTHER DEVELOPMENT OF A NEW CONCEPT IN SMALL SCALE FORESTRY: “FOREST MANAGEMENT SERVICE CONTRACTS” IN BAVARIA

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ABSTRACT

The forests in Bavaria cover about one third of its land area or 2.56 Mio hectares (ha) and the major part of this forest is held by private forest owners. Around 700 000 landlords manage approximately 1.4 Mio ha. Two thirds of the private forest enterprises cover less than 20 ha. In Bavaria, about 140 Forest Owner Associations (FOAs) play a key role in managing the small scale forests. In the last years, a new concept within small scale forest management arose, the background being:

1. A considerable part of the forest owners are not able or willing to manage their forest on their own. The reasons could be described as “social demographic changes in modern societies”. That means forest owners are overage and /or physically unable to work or deal with the management of their property, they do not have the skills and expertise or they live too far from their forest property (urban forest owners).
2. In 2005, accordingly to a “reform” of the forest administration in Bavaria, the forest service reduced the subsidised management service for statutory corporations (those are for example: churches as forest owners, municipalities and common land).

In this situation a “new market” for forest management services arose. The statutory corporations needed a proper management for their forests accordingly to the German forest laws and the FOAs took the chance to adopt a new business concept, the “Forest-Management-Service-Contract” (FMSC). The Bavarian forest administration as reduced the subsidies for the statutory corporations at one side, started supporting the FOAs on the other side, in order to incentivise them to fill this market niche.

In Bavaria about 3000 forest-management-service-contracts exist at the present, covering over 40.000 hectares. For about 20 % of the FOAs, FMSC are already a significant business segment. They supervise on an average more than 500 hectare each and contract professional forest engineers ¹.

In a current project “Further development of the concept Forest Management Service Contracts through economic analysis” a data base will be elaborated for the better understanding of the crucial factors for success of FMSC. As there are no sound economic data available to verify the profitability of single FMSCs, the participating FOAs will be able to improve their decision making. The economic analysis of the FMSC will be based on business process analysis related to the administration of FMSCs, on economic operating figures deviated from a single contract analysis and performance data. This information base aims to optimize the contracting process and to reduce the risks related to un-known hazards of the single FMSC. First results show that the crucial factors to success vary because of natural or regional characteristics like tree species, age, potential hazards, medium size of tract of land and distribution of FMSC areas within the boundaries of single a FOA.

1

^{1 1} Accordingly SUDA, M.; SCHAFFNER, S.; HUML, G. (2009): Projekt G 28. Die Beratung der Forstlichen Zusammenschlüsse in Bayern – Inhalte, Methoden und Erfolge. TUM.

FINANCIAL VALUATION OF YOUNG TEAK PLANTATION TIMBER IN IMPROVING ACCESS TO MARKETS AND MICRO CREDITS IN LAO PDR

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ABSTRACT

Smallholder teak plantations have been established at an increasing rate in Northern Lao PDR since the early 1980s. The share in value addition in smallholder teak remains typically below 15 % for the primary producers. A first pilot intervention on FSC certification showed considerable benefits in teak smallholder production. Tenure rights were documented in plantation management certificates, which also include stand inventory and tree valuations. The realization of financial gains through valuing logs in terms of volume and quality and selling at loading points has led to an increased share to teak smallholders in the production chain. An interesting application of the plantation management certificates has emerged in the valuation of the standing logs as bank collateral in local microfinance schemes. This is most encouraging, since it addresses both the issue of smallholder cash needs and the problem that teak trees are very often being harvested prematurely, before reaching higher commercial value. By taking microfinance loans at interest rates around 12 to 15 % the trees can be saved for longer rotations of up to 25 to 30 years when the annual value increment of teak is in the order of 20 to 25 %. A comparison with the value increment with young eucalypt plantations in southern China is also provided for the same age class range in order to assess the collateral scheme with faster growing lower value species.

AFFORESTATION OF MARGINAL CROPLANDS FOR ENHANCING THE RESILIENCE OF RURAL INCOMES TO WATER SCARCITY IN DRY AREAS OF CENTRAL ASIA

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ABSTRACT

Income and food security of rural population in Central Asia highly depends on irrigated agriculture. Vast arable areas are subject to soil degradation and crop cultivation on such lands brings economic losses to farmers and as a result affects livelihood of rural population. Studies showed multiple benefits to population from establishing tree plantations on marginal croplands in arid areas. Despite the economic and environmental benefits, the afforestation of marginal croplands will also impact the incomes and decision making of farms and rural households that are currently interdependent via wage-labor relations. This study analyzes the impact of afforestation of marginal croplands on incomes of farms and rural households. The study was conducted for the Khorezm province located in the downstream of Aral Sea basin in Uzbekistan. Based on farm and household surveys net present value of afforestation and gross margins of main crops were estimated. These data along with the observed structure of payments for agricultural labor were included into a mathematical programming model. The model maximizes farm profits and household utility under different scenarios of water availability. The model results showed that the farm benefits from afforesting the marginal croplands will be largely transmitted to rural households via access to cheaper fuelwood and improved agricultural incomes and expenditure structure. Particularly during the drought years, farm will use the benefits gained from the afforestation activity to compensate partly the losses in household incomes during drought years.

Keywords: rural income security, low productive lands, water scarcity, farm-household model

PUBLIC PARTICIPATION GIS TO SUPPORT A BOTTOM-UP APPROACH IN FOREST LANDSCAPE PLANNING

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ABSTRACT

Forest landscape planning analyzes all forest aspects (economic, ecological and social) and defines long-term forest management guidelines. Various actors are influenced by the effects of landscape planning, so at this level of analysis it is strategic to take into account objectives and targets expressed by different stakeholders.

The participatory process can concretely support the development of a bottom-up forest plan when stakeholders are involved all along the decision making process. In this way management guidelines are defined by decision makers and local communities through a shared process.

In such a perspective a Public Participation GIS (PPGIS) is a useful tool in order to support the decision-making process in forest planning.

The aim of the paper is to present a method that meets these requirements by exploiting the potential of GIS. The application of Public Participation GIS (PPGIS) represents a useful support to integrate stakeholders' priorities and expectations into forest planning strategies. Furthermore it represents the starting point to draw up management scenarios integrating and comparing both technical and social preferences.

The paper presents an application of PPGIS potentiality in a forest landscape plan in Southern Italy (Alto Agri district – Basilicata region).

Keywords: Forest landscape planning, public participation, decision making, Public Participation GIS

MARKET SUPPLY OF WOOD FROM AREAS WITH FRAGMENTED FOREST-OWNERSHIP STRUCTURES – A EUROPEAN CASE STUDY APPROACH

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ABSTRACT

A study on the market supply of wood and other forest products, in particular on obstacles to mobilisation due to fragmented ownership structures, was carried out to identify the most appropriate measures for increasing the market supply of wood and other forest biomass from the areas where forests are held by many individuals owning relatively small parcels of forest.

In order to assess the level of private forest owners' participation in the market case studies have been carried out in eight European regions (Saxony, Austria, Rhône-Alpes, Sweden, Catalonia, England, Hungary and Estonia). In every case study focus group sessions were held including representatives of forest owners, wood buyers, public authorities and other relevant experts (e.g. from chamber of commerce, researchers, forest administration).

The assessment of mobilization measures by type of market and by type of owner is one of the central achievements of this study. The analysis of the market factors supply, demand, infrastructure and legal framework resulted in a categorisation of three types of dominating market conditions. Regarding forest ownership related factors it has been found that in general (in all cases with sufficient available data) a significant number of fragmented forest owners show, a strong and positive reaction with wood price changes. Hence, a huge mobilisation potential can be assumed in the case of rising wood prices - a factor that is again linked to the market type. The results indicate that the general positive wood price elasticity of supply of fragmented forest owners is itself dependent on several factors. First of all it seems that there is (in all regions) a growing group of fragmented forest owners who are not participating in wood markets at all. Regarding the selection of measures for wood mobilisation this results suggest to distinguish first of all fragmented forest ownerships by their willingness or ability to participate in wood markets.

FAMILY FOREST OWNERS' VOLUNTARY BIODIVERSITY PROTECTION - DECISION SUPPORT NETWORK, SATISFACTION AND PERCEIVED DIFFICULTIES

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ABSTRACT

The aim of the several international and national level agreements is to halt the decline of the biodiversity. In Finland, one way to fulfil this target is the ongoing METSO Programme. The programme aims to protect the biodiversity of the forests in the southern Finland by various means. According to the programme, private forest owners can offer part of their forests under protection and get compensation. Agreements can be concluded for fixed ten years period or they can be permanent.

The programme has been successfully implemented about two years and it has already gained popularity among the forest owners, much due to its voluntary character and the reasonable level of monetary compensation. In this programme, for the first time, owners are the decision makers in protection issues. The situation is new for both owners and forestry organizations. The guidance offered and the interaction of owners and various forestry related actors need to be studied to be able to improve functioning and cost-effectiveness of the operations.

The data for this study was collected from 44 forest owners who had concluded protection agreement in the North Karelia. The network who participated in their decision-making was clarified in detail. In addition, possible difficulties and the satisfaction with the agreement were inquired. Besides the interviews of forest owners, the employees of forestry centre and environmental administration, who committed the agreements with the forest owners, were interviewed.

The results of this study will present forest owners' social network in a case of voluntary biodiversity protection. The study will find out existing good practices as well as the offered and needed decision support. In addition, the results will reveal if there were conflicts or synergies between the different actors of the decision-making network such as forest owners, forestry organizations, neighbours, other forest owners or family.

Keywords: decision support network, family forest owners, satisfaction, voluntary protection

THE STRUCTURE AND POTENTIAL OF SMALL SCALE FORESTS IN THE NORTH-WEST OF CROATIA

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ABSTRACT

In the Republic of Croatia almost one quarter (23%) of all forests and forest lands belong to private forest owners (593,027 ha). This research was prompted by the lack of empirical data concerning growing stock, areas, annual increment, annual felling and forest roads of private forests in the northwest of Croatia. Sustainable development of rural environments is one of the primary European Union goals. The area has good possibilities for rural development based on the forest industry on one hand and wood utilization with support of private forest owners' associations on the other. Forest management possibilities and other parameters of these forests indicate the insufficient use of these forests and of their immense potential. The main reason for neglecting this economic potential lies in the historical development and disregard of this issue by professional foresters in the past. According to recent estimates, there are 600,000 forest owners who manage their forest properties of 0.51 ha and leave the unused potential to forestry economic management. The research has shown that the average stand volume of 199 m³/ha is higher than the previous estimates of 45 m³/ha, and so the annual increment is 6.19 m³/ha (compared to the previous 4.7 m³/ha). The paper deals with the issues of development and results of the Forest Extension Service in this region, the establishment of private forest owners' associations, small scale forest characteristics compared with the EU member states, regional project research results, as well as the supporting and impeding factors.

Keywords: small scale forests, management, potential, private owners, northwest Croatia

NATURAL RESOURCE ENTERPRISES: ENHANCING LOCAL SYNERGIES AND OPPORTUNITIES IN SUSTAINABLE SMALL-SCALE FORESTRY AND ECONOMIC DEVELOPMENT TO ENHANCE GLOBAL CONSERVATION

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ABSTRACT

Mississippi landowners were found to diversify incomes from their lands through fee-access outdoor recreation, including hunting, angling, wildlife watching, and other nature-based activities. In 1998, fee-access hunting revenues ranged from US\$2,964-\$5,254 on average/landowner or \$7.50-\$14.28/ha (1). During 2005-2008, outdoor recreation increased Mississippi rural property values by 52% or \$1,615/ha and those tracts that were leased for hunting collected over \$61/ha on average (2). Additionally, outdoor recreation in Mississippi, including hunting, angling, and wildlife viewing generated \$2.7 billion in economic impact to the state in 2008 (Jones unpublished data). The Natural Resource Enterprises Program at Mississippi State University educates private landowners, resource agencies, and local communities about recreational enterprises, conservation management practices, and integration of these activities with sustainable forestry and agriculture through outreach programming and demonstrations. Since 2005, we have conducted 45 landowner workshops in 8 US states and Sweden and recruited an estimated 3,000 participants. Participants owned on average 505 ha comprised of 50% forests, 29% agriculture, 13% uncultivated or fallow lands, and 8% wetlands and impoundments. Seventy-five percent of participants reported intentions to implement recreational operations, conservation, and sustainable land-use practices on their lands (1.0 million ha) and estimated that they would average an additional \$25,208 annually from these activities. Outreach programming promoting fee-access recreation and conservation on privately-owned lands can benefit landowners and local communities through sustainable economic development, environmental conservation, and land stewardship and retention.

THE CURRENT STATE OF ROUND WOOD DISTRIBUTION IN JAPAN

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ABSTRACT

The role of the auction market system has been important for the distribution and pricing of round wood in Japan. Wood circulation through auction markets began in the 1970s. The auction market system functions in procuring, sorting and pricing round wood as well as collecting sales proceeds. The auction market system has been an easy, safe and fair way for small-scale private forest owners, who are the main suppliers of small amounts of round wood, to sell their timber. At the same time, the auction market system is an efficient way for small buyers, such as small sawmills, to purchase round wood.

After the globalization of the 1990s, the number of small sawmills in Japan decreased, a few larger sawmills were established, and the wood industry began to use domestic round wood. (In Japan, a large wood consumer has a consumption of more than 100-200 thousand cubic meters of round wood per year.) It is difficult for larger consumers to collect sufficient amounts of round wood through auction markets because most auction markets trade less than 100 thousand cubic meters of round wood; this is quite small, compared to large buyers. Most large mills are decreasing the amount of round wood bought through auction markets and increasing the amount bought directly from large logging contractors because the auction market system reduces the advantage for large buyers. In general, a turning point in the wood circulation structure is occurring.

The purpose of this article is to examine how and why the round wood circulation structure has changed as a result of the establishment of the large wood industry, and how this change has affected the production and sale of round wood by small-scale forestry owners. I argue that changes in the round wood circulation structure in Japan are incomplete due to the insufficient scale of expansion in the wood industry and that strengthening price formation by the stable supply of round wood on the supply side is an important issue.

FORECASTING TIMBER SUPPLY FROM SMALL-SCALE FORESTS: ANALYSIS OF SUPPLY-INFLUENCING FACTORS

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ABSTRACT

When negotiating wood prices with the wood processing industries, the Styrian¹ forest owner association (SFA) needs to determine the expected timber supply for the upcoming months. Since the total monthly supply of timber is subject to strong volatilities, it is essential to reduce inherent price risks, planning risks, and risks of contract fulfillment which have a clear monetary implication for the members of the SFA.

The main aim of this project is to develop a model which forecasts short-term timber supply marketed by the association. To achieve this goal, the factors affecting supply, like roundwood price, plot size, calamities, etc. are identified in a first of three steps. This first step of identification is presented in this work.

The underlying panel data set is unique. It aggregates every single delivery of all 12.000 members of the SFA to a monthly individual total over a period of 60 months - from 2006 to 2010.

Keywords: monthly timber supply, forest owner association, panel regression, Tobit, hurdle model, price elasticity of supply, Austria.

¹ Styria is an Austrian Bundesland (state), located in the south-east of Austria.

THE COMMONS IN SOUTH-WEST GERMANY: PROSPERITY, DECLINE AND TRANSFORMATION

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ABSTRACT

The use of forests and of pasture areas had been organized in South West Germany throughout centuries mainly in a special property right system, the “Commons”. Not an individual right of disposal over a certain forest area for an individual farmer could be found, but the right of all farmers of a village to use commonly a certain forest area within the boundaries was the main characteristic of this property right system.

This system had been developed and successfully worked and maintained since the 8th century A.D. until the 18th century A.D.

This period of prosperity had been followed by a process of overusing, mismanagement and ruining the commons in the 18th and 19th century A.D. New solutions had to be found. A process of fundamental changes in all spheres of the German society, also in the field of the property rights system started in the 2nd half of the 18th century A.D. At the end of this process in the 20th century A.D. we find a new ownership structure of forest land. The largest part of the area of the commons had been transferred either into the unrestricted ownership of the municipalities and cities (communal forests) or into the exclusive ownership of individual persons (private forests). In the last case the commonly used woodland area had been divided into small parcels so that each entitled person in a village could get a part of this forest. As result, we find only small units of private forests in a region. Only few forest commons with good management could survive.

During such a long time-period advantages and disadvantages of both regimes (common use or individual private ownership) can be found. Elinor Ostrom in their research about Commons worked out the main influencing factors for success or failure of commons.

The intention of this paper is, to use the criteria of E. Ostrom, to describe and to explain, why the commons in South-West Germany at first had been successful and well adapted to the needs of the rural population, failed in the 18th century A.D., and why other types of property-rights systems with a new conception of ownership came up and replaced the common use of the forests.

DEVELOPING FORESTRY-RELATED LIVELIHOOD PROJECTS FOR PHILIPPINE SMALLHOLDERS

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ABSTRACT

This paper reports the development of a business case – including financial, social, environmental and institutional analysis – and development of implementation plans, for community livelihood projects in upland areas in the Philippines. Two particular project types – production of briquette charcoal and of compost from forest and crop harvest residue and domestic waste – are found to be financially viable and have environmental benefits. These seem well suited to traditional communities in upland areas, as part of a package to involve them in reforestation for watershed protection.

POSSIBILITY OF ASSOCIATING SMALL SCALE ENTERPRISES IN THE TIMOK FOREST AREA: ENTREPRENEURS AND DECISION MAKERS' ATTITUDES TOWARD CLUSTER ESTABLISHMENT

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ABSTRACT

In accordance with the political and socio-economic changes that occurred in Serbia during the transition period, the forestry sector was reformed and certain activities within forestry were privatized. The problem of unemployment, which appeared in this period and entrepreneurial initiatives by the local population have resulted in the establishment of a significant number of small scale forest-based enterprises.

However, most of these enterprises are not well organized and connected into the supply chain and are therefore not competitive in the marketing of wood-based products. Accordingly, this paper aims to analyze and compare the attitudes of entrepreneurs and decision makers toward the possibility of associating small scale forest-based enterprises into a cluster in order to achieve more efficient business activities. The paper uses the results of the project "Development of small scale enterprises in Timok forest area: system of support measures and model of organization". The main research question was: "What is the attitude of entrepreneurs and decision makers about the possibility of an association and establishment of a cluster of small scale forest-based enterprises in the Timok forest area?" Research was conducted in eastern Serbia in 2009, when 138 entrepreneurs were interviewed and in 2010, when 23 decision makers and representatives of other relevant organizations were interviewed.

Results of this paper show that 70% of entrepreneurs consider that associating could have a positive impact on the business activities of small scale forest-based enterprises. The majority of decision makers agree with this attitude. Also, 84% of entrepreneurs and 95.7% of decision makers have a positive attitude toward the possibility of establishing a cluster of small scale forest-based enterprises. However, the decision makers show a certain amount of distrust about the realization of this idea. In this paper, the authors attempt to analyze the results and to give their interpretation and propose policy and institutional measures to improve the current situation.

Keywords: Small scale forest-based enterprises, Cluster, Timok forest area, Serbia

SOCIAL, ECOLOGICAL AND ECONOMIC ASPECTS IN PRIVATE FOREST MANAGEMENT DECISION MAKING

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ABSTRACT

Private forest owners are diverse. Even in small scale forestry, it is assumed that economic interests are among the most important reasons for engaging in forest management activities. However, there is a need to better understand the owners' management decisions and their drivers so that forest policies can be better adjusted to different management types. Based on face-to-face interviews (N = 380) with randomly selected private forest owners in two forest management regions in Slovenia in 2009/2010, we studied which information private forest owners consider important in making management decisions. Nineteen issues describing social, ecological, and economic aspects of forest management were presented to the landowners for their assessment of the relevancy in management decision making. The ecological and social aspects of forest management turned out to be considered in decision making by the smallest landowners (< 5 ha) as well as by the landowners of forest properties bigger than 30 ha. Forest management decisions in private forests were primarily based upon social information; economic information did not influence the decisions much. Slovenia Forest Service decision support reduced the proportion of non-oriented decision making in private forests as evidenced by significantly higher mean relevancy assessments of information by the supported owners compared to non-supported and lower variability of relevancy assessments of social, ecological and economic information. This does not apply to the smallest properties, where the influence of SFS on more distinctive management profiling was not significant. The low relevancy of all information assessed by the owners of the smallest properties (< 5ha) indicates that their decisions are rather stochastic. We analysed the differences in the management decision making related to selected variables (e.g. forest land size, socio-economical status) and discussed the complexity of individual owner's decision making. Public forest service should pay special attention to two aspects: 1) private forest owners are still not prepared to include mechanised harvesting into their working model and 2) the role of the forest land market in solving the problems in private forest management should not be overestimated. The complexity of decision making in private forest management calls for more adaptive forest policy.

Keywords: Management information, management objectives, private forest owners, decision support, public forest service

BIOFUEL PRODUCTION: LOCAL COMMUNITIES INCOME FROM JATROPHA CURCAS L. IN TERENGGANU, MALAYSIA

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ABSTRACT

Jatropha curcas is known as a potential crop for producing biodiesel. This shrub species thrives well in a tropical and subtropical climate and is well adapted to the Malaysian climate and soils. *Jatropha* can yield about 1,000 barrels of oil per year per square mile. In such quantities, *Jatropha*, like other biofuel crops in general, can become a partial replacement for oil as it requires minimal inputs, stabilizes or even reverses deforestation, and can be used in a variety of products after the biofuel has been extracted. Biodiesel can be blended with diesel fuel for use in diesel engines as proposed by Malaysian Government who has mandated a 5 percent biodiesel mixture (B 5). *Jatropha* can be planted in degraded lands since it is drought-resistant and can grow in saline, marginal and even otherwise infertile soil, requiring little water and maintenance. Coastal Beach Ridges Intersperse with Swales (BRIS) soil areas are one of the potential areas that can be used for planting *Jatropha*, which are mainly located in the eastern coastal states of the Malay Peninsula such as Kelantan and Terengganu, as indicated by our initial planting trials of the species. These areas are mostly settled by poor income groups and therefore FRIM has proposed a cottage industry model based on *Jatropha* which will help to raise the socio-economic situation of the community.

Keyword: Biodiesel-plantation-soil-cottage industry-community

TRADITIONAL AND UPCOMING TYPES OF FIGURES AND THEIR USE

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ABSTRACT

Before the World Summit in Rio, forest management predominately used traditional, mostly retrospective, financial respectively silvicultural key ratios for management purposes. Evolving trends like strategic sustainability management and sustainability reporting triggered the need for new types of measures and indicators. This was – on one hand – related to the three pillar approach where especially a lack of social and ecological indicators was identified. On the other hand it became obvious that inter alia globalisation fostered the dynamic and complexity of forests and resulted in a need for new indicators, especially in order to optimize the relations between an enterprise and its societal and political environment. These mega-trends described above led to the development of a relevant number of different types of figures and subsequently to “more opportunities” for misuse and misinterpretation. The paper presents firstly an overview of the most relevant types of figures and defines their most important areas of application. A typology of indicators will be presented, ranging from management oriented indicator families such as “input – output –outcome” to series like “pressure – state – response” which are used predominately in an ecological context. Secondly an overview of the frequency of the use of these individual types is given, based on a database in which about 3,000 figures from different strategic (sustainability) management systems and sustainability reports from different continents and countries have been collected. It can be shown that the use of traditional and retrospective indicators is still prevalent and that new types of figures are adopted very slowly. Especially in the social dimension of forest enterprises a lack of adequate indicators and a restrictive use of them can be identified.

COSTS OF FOREST EXTENSION OFFERS

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ABSTRACT

Germany has a strong tradition of private owners of small and medium sized forest estates having access to a wide range of extension services offered by public bodies. Despite the fact that a varying, but large part of the daily work of forest field foresters is related to these extension activities, little is known about the time and money required to deliver these services, especially with regard to the individual sorts of extension offers. In times of increasing public budget constraints such kinds of economic black boxes are more and more scrutinized. The same level of ignorance can be found with respect to the question of which kind of consulting meets the demands of small scale forest owners. Conflicting arguments are - inter alia – the hypothesis that a wide range of forest consulting services are wanted or that wood-harvest and selling is the focus.

In an almost four year field study, where different types of extension services were offered to smallholders, an in-depth analysis of working time and costs was carried out. The background and methodology of the field study and the accounting tool applied will be presented and discussed. This was flanked by ex-ante and ex-post surveys where smallholders' attitude and demand for individual consulting services was tested.

The paper gives an overview on the different types of extension and highlights the intensity of demand and the related costs with special regard to direct and indirect costs. These costs are compared with the present cost unit rates which smallholders have to pay today. It can be shown that owners pay only a small part of the effective costs. Further it was revealed that all extension offers are charged a high share of indirect costs - in the order of 40%.

The results provide evidence that wood harvest and wood selling can be identified as the key drivers of extension service demand. Moreover it was found that new, non-timber related consulting does not currently offer a promising approach to access owners of small scale forests.

The apparent distinction between cost unit rates and effective costs, which are nothing else than institutional subsidisation by public forest bodies, are discussed from the perspective of increasing budget constraints as well as from the perspective of welfare effects caused by forest extension.

EXAMINING SYNERGIES AND CONFLICTS IN SOCIAL, ECOLOGICAL AND ECONOMIC INTERACTIONS IN THE SLOVENSKÝ RAJ NATIONAL PARK

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ABSTRACT

Countries located in the Carpathian region have valuable forest resources. Previously, they were owned and managed almost exclusively by the state, under the principles of a planned economy. In the majority of these countries (EU member states), the restitution of forest to private ownership began in the mid of 1990s, and is now almost completed. Transitional changes, including the emergence of private companies in timber production, wood processing, non-timber forest production and forest tourism/recreation have overall resulted in a drop in the level of employment, largely leading to the impoverishment of local communities located in the vicinity of forests (Soloviy and Cabbage, 2007).

Stakeholder involvement in defining policies for sustainable provision and use of ecosystem services is regarded as important for sustainable forestry development (Koupelevatskaya-Yunusova and Buttoud 2007). Implementation of sustainable policies requires participation, capacity development and well-established institutions linked to a strong social capital. However, it is generally accepted that in former command-and-control economies, state monopoly and absolute control over all actions/resources resulted in the decline of trust in formal institutions (Putnam, 1995) and in the erosion of effective participation in planning and decision-making (Lin 2000). The Carpathian region has undergone significant political transformations since the early 1990s, with its small scale forests growing. However, communities, particularly with multicultural ethnically diverse populations, are facing serious social and economic problems, including high unemployment, weak social support and a low level of stakeholder participation.

The case of Slovensky Raj National Park is analysed in this paper, with a special focus on the involvement of the Roma minority in sustainable forest management. Social capital, cooperation and community development are addressed and potential scenarios linking sustainable ecosystem management with sustainable livelihoods are investigated. We focus on identifying opportunities for enlarging trust and improving cooperation through repeated interactions between stakeholders and capacity development. The paper argues that the advancing of local institutions and promoting participation to increase social capital would result in a more sustainable management of forests. The results suggest that a way towards sustainability lies in the integration of forest management with community development and that learning, repeated stakeholder interaction, building up of trust and cooperation between and within local communities are important preconditions for success.

NECESSITY AND FEASIBILITY TO INCREASE SUPPLY OF TIMBER FROM THE PRIVATE FOREST SECTOR IN LATVIA

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ABSTRACT

The forest sector is one of the dominating sectors in the national economy of Latvia. The yearly cutting volume from 2000 to 2007 ranged from 10 to 11 mil. m³. In this period the proportion of timber from state forests had increased from 34 % in 2000 to 46 % in 2007. The allocation of cutting volume between state and non-state forest sector marginally corresponded to the ownership structure - 50 % of the total forest area belongs to the state. The private forest sector supplied 7,5 mil. m³ of timber in 2003, subsequently it slowly decreased to 5,4 mil. m³ in 2007. In the next two years the harvesting volume in the private forest sector fell to 3 mil. m³. It led to the contradictory decision taken by the government in 2007 to increase the harvesting amount in state forests by 6 mil. m³ in 3 years to provide industry with raw materials. In 2010 the harvesting amount was increased in both sectors - 5,3 mil. m³ in private forests and 7,6 mil. m³ in state forests.

Data from various opinion polls of private forest owners are analyzed to define factors influencing the decision making process in the matter of harvesting activities. Timber price is one of the dominating factors which has influence on the decision making process. Private forest owners also noted the lack of forest infrastructure and inaccessible forest stands in wet soils. The paper also discusses other factors not identified by private forest owners, but which have an influence on the timber supply.

Research was done to define effective policy implementation means to impact forest owners' behaviour and make them more interested in timber production. It is a very important issue to find prompt and effective solutions as the State Forest Service has reported that required cutting licenses in the first three months of 2011 in the private sector is slightly above 3 mil. m³.

Keywords: private forest owners, opinion poll, harvesting, decision making process

SMALL - SCALE PLANTING OF TEAK (*TECTONA GRANDIS*) AGAINST RISING PRICE OF RUBBER (*HEVEA BRASILIENSIS*) IN MALAYSIA

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ABSTRACT

Teak (*Tectona grandis*) a globally emerging forest resource is known for its high quality and valuable timber products has been selected as one of the species for large scale planting under the Forest Plantation Programme in Malaysia. The programme under the purview of Ministry of Primary Industries and Commodity (KPPK) was launched in 2006 with the main objective of continuous supply of valuable and general utility timber for the existing wood and furniture industries in the country. The investors have the right to choose either to plant forest tree species or rubber depending on the availability of labourers, site suitability and site location. To encourage intensive establishment of commercial timber plantations, a number of incentive has been allocated by the government including the provision of soft loan of MYR 8000 ha⁻¹ (2700 USD) at 3.5 % rate of interest payable after 15 years. However, since 2010 with the increasing trend in rubber prices in the world market has put the small scale timber planters in dilemma, either to continue planting teak or rubber for latex and timber production after specified time period. With ever increasing latex prices (MYR 11.90 kg⁻¹ as of January 2011), the rubber growers on the average production and tapping days of 30 kg and 12 days month⁻¹ earned about MYR 51,000 annually. In comparison with teak, even under intensive management may be ready for harvesting after 25 years, and the situation of wood industry in Malaysia has no market demand for small size timber produced from thinnings. However, despite having no return even after the first thinning in 5 years, and increasing timber prices and value-added timber products, the small-scale teak growers still considering teak planting as a lucrative business. The growth and yield information from small-scale teak cultivation at 14-years after planting is presented. Overall the average production (MAI_v) of teak cultivation in Peninsular Malaysia and Sabah lies between 10 and 20 m³ ha⁻¹ year⁻¹ after 13 years.

Keywords: Plantation programme – intermediate income – soft loan

ASSESSMENT OF SPECIES DIVERSITY, YIELD AND BENEFITS OF SMALL-SCALE NATURAL FORESTS TO OWNERS IN ONDO STATE, NIGERIA

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ABSTRACT

This paper examined the present status of small-scale natural forests in terms of tree species diversity, abundance, and yields in Ondo State, Nigeria. The contributions of the forests to owners' livelihood and the various forms of restrictions were highlighted. Data on tree species diversity and growth variables were collected from five plots (25 x 25m) randomly located in six different locations across the State. Information on benefits and restrictions were obtained from informants, officials of Forestry Department, literatures, annual reports and files. A total of 344 stems/ha of 29 families and 99 species, (Shannon Index = 4.10, Evenness = 0.90) were encountered. The most abundant species and family were *Celtis zenkeri* and Sterculiaceae respectively. The forests were in form of woodlots, relics of natural forests, cocoa agroforest and highly economic tree species purposefully retained on farmlands. The dbh varied between 16.58 and 41.60cm, height between 15.99 and 18.40m, basal area between 12.13 and 48.05cm²/ha and volume between 117.47 and 307.73m³/ha. About 45% of the trees were merchantable. The social, economic and ecological benefits of these forests to owners and the various personal and institutional restrictions, in order of importance, were enumerated. It was suggested therefore that the effective use of forest extension agents could remove some of the restrictions and promote small-scale forest management in Nigeria.

Keywords: Species diversity, farmland, diameter at breast height, tree volume Diversity indices

MANAGING COMMONS: COMMON AND INDIVIDUAL INTERESTS IN TIMBER PILOT TEST OF A FOREST GAME IN THE AGRARIAN COMMON RAVNIK-ORLOVŠE, SLOVENIA

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ABSTRACT

Commons are type of properties that are collectively owned by commons' members. Commons members traditionally originate from nearby settlements in rural areas and hold ideal shares of property. Commons are managed by common rules, a result of long-term experience in steering between member's rights and duties on one side and the sustainability of a common pool resource, on the other side. The main decision-making body is the assembly of members which takes place once a year. It adopts an annual management strategy which represents a political decision made by a majority of the members. Every four years there is an election assembly where the management committee is elected with the aim of taking day-to-day decisions.

Authors of this article studied the case of Agrarian Common Ravnik-Orlovše. The focus of their research was how individual members' tendencies correspond with the interests of the common policy on managing the timber of common forest, here understood as a common pool resource. The aim was to test co-operation readiness among members in the process of managing their common resources. Their overcoming of individual personal interests and benefits was examined by three methods, economic experiment, inquiry and interviews.

A Forest Game was tested as a policy and economics experiment tool. Selected members of the common played the forest game according to different scenarios, described in the literature, mimicking real forest management decisions in a forest common. Further data were gathered by an inquiry and open end interviews with participants of the Forest Game.

Our test proved to be structured properly as results gathered by all three used methods correspond. The decision making process reveal a social responsible character, developed through history in regular face to face communication with low transaction costs. Results of the pilot test will be presented and discussed in the framework of Agrarina Common Ravnik-Orlovše. Our approach is an example of linking the details of decision-making processes with the long-term evolution of forest management.

Keywords: Commons, Forest Game, Common Pool Resources, Slovenia, community, forest management

FACTORS IMPACTING MARKETPLACE SUCCESS OF COMMUNITY FOREST ENTERPRISES: THE CASE OF TIP MUEBLES, OAXACA, MÉXICO

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ABSTRACT

In most developing countries where local community ownership is common, successful forest conservation initiatives must be adapted to engage and train rural communities. Decentralization of decision-making and stewardship by the State is required to maintain forests as a common good with extended benefits to society.

Despite a tendency to operate in isolation, three Oaxacan community forest enterprises (CFEs), Textitlán, Ixtlán and Pueblos Mancomunados, have vertically integrated from forest management to retailing furniture through a company: TIP Muebles. The case illustrates the factors impacting the ability of CFEs to succeed in the marketplace. The results of this research suggest that the main challenges are related to human capital, regulatory challenges and centralized forest policy for forest product production, the taxation system for timber production, and endogenous factors such as the forest quality and the decisions based on tradition rather than efficiency. In this context, the integration of chains of production is a fact in only a few cases and financial success continues to be slow. The studied CFEs are resilient and slightly surpassing the profitability threshold despite the challenges identified. Adaptation of their decision-making structure allows them to face the changing dynamics of the market. More democratic approaches to decentralization of Mexican forest policy, trust development between social and private enterprises, and an improvement in internal CFEs systems could offer opportunities for improved competitiveness for CFEs. CFE strategies need to be understood as part of a complex rural livelihood where diversification of income generating activities often conflicts with competitive and specialized production.

Keywords: Community forest enterprise, forest products, small scale forestry, secondary wood products, cargo system

ECONOMIC VIABILITY OF NEEM PRODUCTION (AZADIRACHTA INDICA A. JUSS) ON SMALL FARMS OF THE STATE OF SÃO PAULO, BRAZIL

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ABSTRACT

Cultivation of Neem (*Azadirachta indica* A. Juss) has been implemented in several regions of Brazil and the oil obtained from its seeds is the main product. By having multiple uses, the production has attracted the attention of farmers and its products have been increasingly used in agriculture, livestock, medicine and cosmetic manufacturing. The main demand arises from the organic-based agriculture that uses its oil as an important defense against pests and diseases. In this context, this study targeted evaluating the economic feasibility of Neem farming in small farms in the state of São Paulo and characterizing the corresponding productive chain. The economic feasibility analysis method used was the Internal Rate of Return (IRR), calculated from primary data collected in connection with the generation of technical production coefficients, production costs and revenues. The description of the production chain was based on the Manual for Prospecting Technological Demands of the Brazilian Agricultural Research Enterprise – EMBRAPA. The flowchart of the production chain was described and the "markup" of the marketing process has also been calculated. The results indicated that the activity has economic viability with IRR ranging from 15.18% to 23.63% per annum, higher than the minimum rate of attractiveness used as an alternative investment. The analysis of the value-added production chain also indicated the possibility of superior returns for farmers in the event the oil is processed on the property, as shown by the industry, which had an oil marketing markup of 75%. Another important aspect observed is in connection to the generation of jobs and income provided by the crop, since the harvest, similar to coffee, requires more manpower. Neem is a culture that in addition to providing income to farmers also generates employment and environmental benefits for society.

Keywords: productive chain, organic-based agriculture, organic-based pesticides

FARMERS' MOTIVATIONS TO ADOPT TEAK TREE GROWING: A CASE STUDY IN SOUTH KONAWE DISTRICT, INDONESIA

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ABSTRACT

Small-scale teak tree growing has been widely adopted by farmers in the tropics for subsistence and commercial purposes. In Indonesia, demand for teak timber produced from private land is considerably high and promises potential for future expansion. Yet because little is understood about the factors that motivate farmers to integrate teak into their farming system, the promotion of teak tree growing is often ineffective.

This research sought to understand factors that motivate farmers to grow teak trees and it took as a case study the Hutan Jaya Lestari Cooperative (Koperasi Hutan Jaya Lestari-KHJL) in South Konawe District of Southeast Sulawesi Province, Indonesia, which is the first cooperative in Indonesia granted Forest Certification Council (FSC) Certification in 2005 and has been promoted nationally and internationally as a working example of community tree growing management.

The study found that the motivations for farmer members of the KHJL to grow teak are generally a combination of the attractiveness of teak tree growing and incentives and benefits provided by the KHJL. The attractiveness of teak tree growing comprises of direct factors such as higher market price for its timber, the presence of an established market, its role as a means of de-facto saving, its ease of planting and establishing, and indirect factors such as its potential to increase land value, to secure land ownership and to improve environmental conditions. Incentives provided by the KHJL include seed and seedling subsidies, technical and financial support for harvesting and transporting timber from teak farms, and timber marketing facilitation, loan facilities, and dividend/benefit sharing. Benefits of becoming a member of the KHJL consist of simplified timber marketing procedures, potential to secure land ownership, and potential access to additional land offered under the People Plantation Forest program.

Keywords: smallholder tree farming, small-scale teak tree growing, the *Hutan Jaya Lestari* cooperative

SMALL SCALE FOREST OWNERS' RESPONSIBILITIES STAKEHOLDERS' EXPECTATIONS

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ABSTRACT

In Sweden, as in many other Western countries, small scale forest owners play an important role in the roundwood market and for the supply of other forest utilities. A successfully implemented forest policy requires knowledge about the owners' goals for their enterprises and how they are to be accomplished. Knowledge is also needed about the similarities and differences between owners' and interested parties' expectations of responsibilities. Taking responsibility refers to balancing economic, social and environmental concerns. This paper focuses on stakeholders' expectations of small scale forest owners' responsibilities and the potential conflicts between owners and stakeholders and between stakeholders. Results from an explorative study are reported. Interviews were made with a handful of stakeholders (representatives of the ministry of forestry, county administrative board, municipal executive board, Swedish forest agency, WWF, forest owners association, sawmill, "public").

The stakeholders were selected to represent different views and to give a basis for a more general study. The interviews were held during the spring of 2011 in Uppsala county or where applicable in Stockholm or Uppsala. The interviews were recorded and later transcribed to facilitate the analysis. The discussions lasted about one hour. Comparisons will be made with an earlier study of small scale forest owners. The results show that much of the requirements with respect to responsibilities are based on the Forestry Act and the ideology of the organizations. Differences exist between stakeholders' expectations concerning responsibilities and the responsibilities that forest owners take.

Keywords: CSR, corporate social responsibility, sustainable, cutting behavior, supply, non-market utilities, local communities

SOCIAL SYNERGIES AND TENSIONS IN PRIVATE FOREST PROPERTY RIGHTS

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ABSTRACT

This paper analyzes the ongoing transitions in public and private rights related to private forest ownership and management in the United States. The paper begins with a discussion of theories and social trends that have historically influenced American ideas pertaining to property rights. The paper then turns to the concept of 'common' resources in relation to private lands, traces the ongoing social redefinition of these resources, and discusses the related expansion of public influence over them. The authors conclude that many current policymaking efforts in the United States largely neglect the issue of distributive rights. Although policymakers often seek public input in framing desired ecological outcomes, stakeholders are typically left to define and defend their separate rights through litigation or other means as the policies are implemented. We suggest that the emergent trend toward more collaborative policymaking can help resolve this problem if policymakers and stakeholders begin the process with an earlier, more focused consideration of distributive rights and social responsibility.

Keywords: Forest policy; property rights; private forests; environmental rights; common resources

FACTORS INFLUENCING A FARMER'S DECISION TO AFFOREST

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ABSTRACT

To encourage farmers to transfer land into forestry, a generous premium scheme supporting farmers who afforest was implemented in Ireland in 1996. In the period from 1996 to 2006, however, only half of the targeted area was planted. As financial returns for many farmers would improve when joining the scheme a number of studies have been conducted to find out why the response to the scheme was not as expected. However, to date the phenomenon has not been explained.

Amongst the studies undertaken so far a clear lack of qualitative approaches was identified. To understand the farmer's decision-making process regarding farm afforestation in-depth interviews with 63 farmers in the northwest of Ireland were conducted in Winter/Spring 2010/2011. The interviews were based on the theory of behavioural assumptions underlying policy tools developed by Schneider and Ingram (1990). In the paper we present preliminary results of about half of these interviews and focus on the main reasons given for staying in farming and not joining the forestry scheme.

THE PROMISE OF NEW COMMONS – A COMPARATIVE STUDY

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ABSTRACT

As a result of subdividing land in cases of succession and political processes, like the land reform in socialist Eastern Germany, about two million people in Germany own small pieces of forestland. Today the management of these forests is often decoupled from agriculture. Some regions are almost characterised by this structure, which offers unsuitable conditions for sustainable forest management and some ecosystem services. Today several political initiatives, like close cooperation in forestry associations or the regrouping of land, aim to overcome the disadvantages of fragmentation. However, many of them fail when it comes to urban forest owners and extremely small ownership. Therefore the establishment of management regimes across property lines (“new commons”) is often perceived to be an ideal way of achieving far reaching cooperation in small scale forestry. Some regions in Germany have offered specific legal instruments and extension to foster this development for many years. Nevertheless, such projects often fail at an early phase.

The paper describes the successful establishment of two organisations following the idea of “new commons” in two regions in Germany which differ in ownership and forestry conditions and administrative and policy situations. Both projects ended up with very specific organisational and institutional solutions taking into account the interests of the members and their policy environment. A comparative study is done using several empirical data derived from forest owner surveys, personal observation and the analysis of documents. The authors suggest a list of factors explaining the success of these initiatives and compare them with literature explaining the sustainable management of commons.

Keywords: cooperation, small holders, Germany

THE RATIONALITY OF SMALL-SCALE FOREST OWNERS' IRRATIONAL DECISIONS

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ABSTRACT

When viewed through the lens of economic theory or other highly quantitative approaches, the decisions made by individual small-scale forest owners often appear not to conform with the theoretically appropriate or rational behaviors. For example, the decision to harvest a stand of trees can be modeled based on purely financial objectives. An optimal rotation length can be calculated and a “rational” landowner should decide to harvest at this point. One obvious flaw is that many small-scale forest owners own, and manage or choose not to manage, their land based on objectives other than strictly financial reasons. Utility maximization theory can be used to incorporate amenity and other values. This is a partial solution, but it is still far short from being able to fully account for their behaviors. It fails to account for the imperfect information that owners possess, the transaction costs involved, and the trials and tribulations that make up the owners’ lives. While many of these factors can never be modeled, understanding the broad set of factors can help elucidate why the seemingly irrational decisions are in fact rational. This is important for not only academic purposes, but for how we interact with and influence owners’ behavior. Embracing the complexity can lead one to adopt Thaler and Sunstein’s concepts of nudging and paternal libertarianism. Owners’ decisions are complex, but they can be nudged or encouraged to make “better” decisions once we better understand their values and the factors influencing their decisions. This presentation will use forest inventory data coupled with landowner survey data to explore the management decisions of small-scale forest owners in the United States. This analysis will then be used to discuss the broader implications towards landowner decision processes.

LONGITUDINAL STUDIES OF SMALL-SCALE FOREST OWNERS

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ABSTRACT

Small-scale forestry is an important component of many forested ecosystems around the world. The number of surveys of small-scale forest owners is staggering. There is the need for a central repository or archive so that the full depth of this vast body of information can be shared from the study objectives to the methods and survey instruments to the final results. This will facilitate not only sharing of information and meta-analyses, but also has the potential to lead to increased consistency, i.e., the same methods being used and the same questions being asked at different times or in different places. This will allow us to do a better job of addressing one of the emergent themes of these studies: the dynamic nature of forest ownership. Unfortunately, most studies are ill equipped to truly address long-term. There are a handful of long-term studies of small-scale forest owners, such as the accountancy networks that exist in a few European countries. These studies have proven very valuable as both a data source and a model for others to build upon. In the United States, the U.S. Forest Service has been conducting the National Woodland Owner Survey for over two decades, but trend analyses have been difficult to conduct. The next iteration of the NWOS, beginning in 2011, will be attempting to resolve some of these issues. This talk will discuss the advantages of establishing an archive of forest owner survey research and present the historic and planned activities of the NWOS as we try to make it a truly longitudinal study.

INNOVATIVE SMALLHOLDER PRODUCTION STRATEGIES FOR ALTERNATIVE DEVELOPMENT IN AMAZONIA

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ABSTRACT

The smallholder farmers of Amazonia, including Brazil's *caboclos*, and Peru's *ribereños*, have long employed and continue to develop a broad repertoire of resource management knowledge, practices, and institutions. These patterns, integrating diverse models of agriculture and forest management, have allowed Amazonian communities to adapt and in some cases prosper despite social and political disregard and challenging agricultural environments in parts of the region. Smallholder livelihood patterns, including both technological and social patterns, have nonetheless been frequently misunderstood or proved virtually invisible both to national and regional governmental entities and to the many other agencies and agents that seek to bring development and conservation to Amazonia.

In fact, smallholders are the main providers of food and affordable timbers to urban areas throughout much of Amazonia. Their communities, descended from indigenous peoples and early settlers, have resided in Amazonia for many generations, often integrating newcomers from other regions who successfully adopt and adapt their productive strategies and also maintain productive and biodiverse landscapes. However, smallholder models for managing Amazon environments and resources have not been valued as legitimate alternatives to rural development. When trying to establish the resource rights of these groups as Amazonians, both researchers and activists have tended to emphasize the traditional or unchanging aspects of local resource use rather than its dynamism, and the vulnerability of communities when faced with economic or environmental perturbation rather than their remarkable abilities to deal with change.

In this article we suggest that while much smallholder knowledge and practice is locally developed and based upon indigenous Amazonian patterns, its most notable feature is its "hybridity" as well as its flexibility and resilience in dealing with recurrent change. We present several examples of local experimentation, adaptation, and innovation in agriculture, agroforestry, and forest management and timber processing. These examples feature change in both technologies and social and economic arrangements in response to new opportunities and problems. We argue finally that continuing ignorance or misinterpretation of the resource management knowledge, practice, and institutions of Amazonian smallholder farmers and their communities are retarding rather than advancing processes of development as well as effective resource conservation.

EXPLORING FOREST REGENERATION ISSUES ON PRIVATE FORESTS THROUGH THE EYES OF PROFESSIONAL FORESTERS

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ABSTRACT

Forests and woodlands in the eastern United States are changing. Many issues have come together to initiate this change, but some of the primary issues that are commonly discussed at forestry training sessions and landowner “walks in the woods” are invasive species, deer herbivory, and climate change. Most of these discussions are based on observational experiences by professional foresters so no clear understanding of forest regeneration in our state (West Virginia) is known. In this paper, we will discuss the results of a study that we carried out using professional foresters as experts. Our intent in this project was to cast a broad net to glean information concerning issues that are in the forefront of forestry professionals’ minds. Our target population was made up of foresters that have had recent experiences with timber harvesting and subsequently observed regeneration of harvested lands. In this paper we will explore the spatial variability of regeneration issues in WV and discuss potential future policy and research opportunities that might help assure abundant and desirable forest regeneration in the state.

LANDOWNERS' DECISION-MAKING AND SMALL-SCALE COMMERCIAL FORESTRY IN PAPUA NEW GUINEA

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ABSTRACT

The livelihoods of the 85% of Papua New Guineans depend on both subsistence farming and participation in the cash economy. Although trees are grown as part of traditional farming systems, and cocoa and coffee are important cash crops for some landowners, there are few examples of landowners growing trees for commercial wood products. The successful balsa industry of East New Britain province is an exception, and demonstrates the potential of commercial tree growing to improve PNG landowners' livelihoods.

We conducted detailed case study research in three contrasting regions of PNG, interviewing and observing landowners, their households and communities, to explore landowner decision processes relevant to the adoption of commercial tree growing. Despite substantial cultural and regional differences, landowners' decision processes were largely consistent across regions.

The principal outcomes landowners sought from their land management activities were subsistence food production, cash income generation, risk management, fulfilment of social obligations, and pursuit of entrepreneurial opportunities. Landowners' decisions in relation to these outcomes focused on three time horizons: the immediate future, principally in terms of food production; annual or similar cycles, principally in relation to recurring cash requirements; and the much longer-term, which was associated with both intermittent cash requirements and significant legacy dimensions.

Commercial tree growing fits well with the second and third of these time horizons, particularly when labour requirements can be integrated with other work. Our results demonstrate that PNG landowners' decision processes about the adoption of commercial tree growing are largely consistent with those of farmers elsewhere, and that commercial tree growing activities compatible the two longer time horizons would be most likely to facilitate adoption and enhance livelihoods. Contrasting results for adoption of and withdrawal from commercial tree growing in two of the case study regions illustrate these conclusions.

FACTORS PUSHING OR IMPEDING SMALL-SCALE FORESTRY IN GERMANY

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ABSTRACT

The reasons small-scale forest owners are motivated to harvest timber are varied with access to relevant economic data considered of particular importance. It is generally believed that a higher market price for timber leads to increased harvesting behaviour. During 2010, the price for a cubic metre of timber in Germany increased on average from 67 Euro/m³ to 83 Euro/m³. In spite of this growth rate of 24% Black Forest small scale owners only raised their cut from 9.1 m³ (2009) to some 10.5 m³ in 2010.

To find out why the owners did not respond to the timber price increase as expected, semi-structured interviews were held with small-scale forestry owners in the Black Forest. A questionnaire is currently being pre-tested. Anecdotal evidence suggests forest owners are not only influenced by timber market prices, but think in a much more complex framework considering future interests related to the whole farm and the interests of their successors. They weigh many factors, besides timber prices, before starting their harvesting activities.

This leads to the question of if it is possible to estimate the cut rate of private woodland owners in the near future having an idea of the future plans of the farm forest heads as a control sample.

SMALLHOLDER-BASED CLIMATE CHANGE MITIGATION IN THE AMAZON: FORESTRY VERSUS AGRICULTURAL OPTIONS

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ABSTRACT

Reducing emissions from land use, land-use change and forestry (LULUCF) is essential for an effective strategy to mitigate global warming. The required changes in land use and forestry practices, however, often imply foregoing returns from locally more attractive resource use strategies. Payments for Environmental Services (PES), a voluntary and conditional mechanism to compensate land users for the opportunity costs of adopting environmentally more benign practices, are thus often proposed as promising on-the-ground incentive vehicles for LULUCF-based climate change mitigation. This paper looks at the prospects of paying smallholders for carbon storage and sequestration in one specific region: the Amazon. Official statistics and case study material from both old frontiers and more recent agricultural colonization areas are used to identify the scope for smallholder based carbon mitigation, in terms of potential additionality, opportunity costs, technological complexity, transaction costs, and risks of economic and environmental spillover effects. Results are discussed against the backdrop of past and ongoing -- primarily smallholder-focused -- attempts to introduce PES-type incentives in the region. Our findings point to a clear comparative advantage in the Amazon of forest-based over agricultural mitigation options, in terms of higher additionality in emission reductions. Low-cost mitigation options do exist also in agriculture, but forestry options and avoided deforestation in particular are often technologically less complex and demanding, and thus probably more likely to be adopted. While transaction costs can work either way, negative environmental spillover effects tend to be more likely for agricultural mitigation options, with the notable exception of intensive reforestation schemes. We conclude that pilot initiatives to avoid deforestation and to set aside marginal agricultural land would currently appear as most promising for PES-led climate change mitigation in the Amazon.

Keywords: climate change, environmental services, incentives, Brazil, Latin America

MAKING CARBON FORESTRY WORK IN DEVELOPING COUNTRIES: A PHILIPPINES CASE STUDY

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ABSTRACT

Carbon forestry entails managing forests to produce carbon offsets and is a potentially effective means of improving the livelihoods of rural small-scale land holders in developing countries, while simultaneously providing climate mitigation and adaptation benefits. Existing voluntary and regulated market mechanisms offer increasing opportunities for land-based carbon management projects yet proponents face critical challenges. This paper presents a systems analysis of the factors which influence the capacity of small-scale land holders to engage in carbon forestry under international policy mechanisms. The research employs a Bayesian network to integrate economic and biophysical data with expert knowledge, and finds that there are three key actions likely to have substantial impacts on the capacity of smallholders to engage with carbon markets. These are: (1) to secure suitable funding for project development; (2) to enact capacity building programs to promote awareness and understanding of carbon market mechanisms, best practice silviculture and carbon forestry procedures and requirements; and (3) to maintain project management costs at moderate levels. The first two of these strategies should be undertaken by international organisations. The third should be a policy and research priority of domestic agencies concerned with environmental and resource management and the welfare of rural communities. The research also demonstrates that voluntary offset schemes may be most suitable for projects under current conditions. Overall this paper finds there is real potential for smallholders in the Philippines study area to engage with carbon markets, which would have local and global climate benefits and contribute to sustainable development and adaptation in a vulnerable country. The model applied in this paper should be applicable in contexts beyond the initial project study site and will contribute to further research and development.

CHALLENGES IN PLANNING FOREST LANDSCAPES DOMINATED BY PRIVATE LAND OWNERSHIP AND MASS TOURISM - A CASE STUDY FROM NORTH EAST FINLAND

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ABSTRACT

A regional approach is one of the main challenges facing today's forest planning. E.g. ecosystem and nature tourism services call for decision making and planning that coordinates efforts across estate boundaries. In Finland the forest planning system has turned out to be powerful from the large scale timber production point of view but weak from the regional or local multiple-use perspective. The inevitable reason is the fact that to date forest uses other than timber production have not been economically attractive for land owners.

Recently several forest policy instruments have been launched to increase the attractiveness of land-uses which do not have direct economic benefits to the landowner, but still have special importance from the view of society. Many studies have demonstrated how sermon policy interventions – like monetary incentives and information delivering processes - have not always had the anticipated influence. This is due to the underlying conflict over property rights. In other words, there is an enduring tendency among forest owners to react with skepticism towards all processes where outsiders participate in decisions dealing with private property. The content of information delivered via extension or the monetary value of incentives are not the only success factors in such policy interventions, the quality of the process also matters.

In this presentation we will describe a forest owner led regional informing and decision support process. This theoretically justifiable process is now being applied in north-east Finland, near one of the most popular nature tourism areas in North Europe. During the spring of 2011 the pre-designed model will be consistently considered and re-designed with forest owners and other stakeholders. For this presentation we will analyze planning meetings and individual discussions to understand the potential sources of process conflicts which hinder regional cross-boundary considerations in forest decision making in landscapes dominated by private land ownership.

FORGING LINKAGES: THE CASE OF FOREST CONNECT AS A SMALL-SCALE FOREST ENTERPRISE DEVELOPMENT NETWORK TOOL

The Forest Connect International Alliance, in partnership with the Food and Agriculture Organization of the United Nations

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ABSTRACT

Small and medium forest enterprises (SMFEs) are critical for reducing poverty. They generate local wealth, secure local resources, encourage environmental accountability, promote local creativity and can preserve indigenous cultures and market niches. While the number of SMFEs starting up in least developed countries is high, sustaining them is a challenge. SMFEs face problems of heavy bureaucracy, unstable policies, insecure land tenure, insufficient bargaining power, a lack of business knowledge and difficulties in accessing credit, market information and technology. Many SMFEs work together in associations to reduce transaction costs, adapt to new market opportunities and more favorably shape the policy environment. Many developing countries lack support structures for such forest associations or fail to reach the most marginalized. The Forest Connect International Alliance was created in an attempt to help secure local rights, profitability and responsible practice for these enterprises, by linking sustainable SMFEs with one another and with markets, service providers and policy processes such as National Forest Programmes. Interested institutions, individuals and groups can even link globally through a social networking website: <http://forestconnect.ning.com>. Forest Connect currently involves partner institutions in thirteen countries, including Burkina Faso, China, Ethiopia, Ghana, Guatemala, Guyana, Lao PDR, Liberia, Malawi, Mali, Mozambique and Nepal. Country level Forest Connect activities include:

- Diagnostic studies of forest-based SMFEs and associations
- A survey on service providers relevant to SMFEs in each country, identification of gaps in service provision and preparation of a strategy for addressing those gaps based on the existing institutional capabilities in the country
- Collection of information on the main forest decision-making processes in each country and development of a strategy for eliciting the key policy concerns of SMFE members and enabling participatory representation by Forest Connect members in forest decision-making
- Preparation of Forest Connect websites in each country for use as information platforms
- Development of communication strategies based on the information needs of SMFE
- Sharing of Forest Connect experiences between countries

GROWING FOREST PARTNERSHIPS IN GUATEMALA: A COUNTRY-DRIVEN INITIATIVE TO IMPROVE FINANCING FOR SMALL-SCALE FORESTRY

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ABSTRACT

Starting in 2009, Guatemala has participated as a pilot country of the Growing Forest Partnerships (GFP), an initiative aimed at supporting partnerships and initiatives developed for and by forest dependent people, especially those most marginalized, and those who use, manage, or regulate forests. Guatemala provides an exemplary country-driven effort to improve financing for small-scale forestry, and has identified four thematic work areas focused on generating positive economic, social and environmental impacts within the country, including:

Governance

The ‘Alianza Nacional de Organizaciones Forestales Comunitarias de Guatemala’ was created in 2009, and provides a forum for small-scale forest users, communities and indigenous groups in Guatemala to find a common voice and influence formulation of forest policy. This level of coordination amongst indigenous groups and community forest organisations is unprecedented in Guatemala.

National forest finance strategy

Several private and public financing options have been developed. Thanks largely to lobbying by the abovementioned Alianza, a programmed entitled PINPEP was recently passed into law which sets aside 0.05 to 1.0% of the national budget for forest management incentives and which aims to include small holders and inhabitants of community forest lands as participants in forest management.

Institutional strengthening

A National Forest Financing Strategy has been approved by the Board of Directors the Guatemalan Forestry Authority (INAB). Within INAB, a small team was subsequently established called the ‘Unidad de Inteligencia Financiera Forestal’ to implement finance instruments that would benefit the forest sector and especially smallholders and forest communities.

Capacity development

Development of forest value chains is ongoing, including defining financial profiles for small- to medium-scale producers and providing business plan development technical support, particularly to small scale enterprises.