

# **IUFRO 5.10.00 & the UNECE/FAO Team of Specialists on Forest Products Markets and Marketing: Joint Pre-Conference to the IUFRO World Congress in Seoul**

## **Presentation Schedule August 18**

### **9:00-10:20 – Session 1 – Environment and the Green Economy – Moderated by Natalie Noël**

1) The influence of environmentalism on the export performance of export ventures exporting hardwood woodchips from Australia to Japan

Presenting Author: Paul Dargusch (15 minutes)

2) Incorporated Model to Improve Profits of Forest Communities and Non-Governmental Organizations with Application of Forest Certification: Case Study of KOSTAJASA, Central Java, Indonesia

Presenting Author: Mihyun Seol (15 minutes)

3) Does Going Green Improve Business and Environmental Performance of Chinese Forest Products Companies?

Presenting Author: Jeff Cao (15 minutes)

4) How Bioenergy can Drive Sustainable Forest Management and Regional Green Economy – A Synergetic Assessment Approach Based on Field Studies in Japan and Austria

Presenting Author: Florian Kraxner (15 minutes)

Q&A

### **10:30-11:50 – Session 2 – Building Construction – Moderated by Minli Wan**

5) Designers Views of Green Structural Materials: Implications for Wood Science Research

Presenting Author: Chris Knowles (15 minutes)

6) Material Selection for Green Building Design: Measuring Architect Preferences

Presenting Author: Natalie Noël (15 minutes)

7) Industrial Construction Technologies, a New Era for Wood Construction: Lessons from Scandinavia

Presenting Author: Anders Nyrud (15 minutes)

Q&A

### **12:40-14:00 – Session 3 – Markets, Present and Future – Moderated by Xiaozhi “Jeff” Cao**

8) UNECE/FAO Forest Products Annual Market Reviews

Presenting Author: Ed Pepke (15 minutes)

9) Outlook for the tropical timber market to 2020

Presenting Author: James Turner (15 minutes)

10) Econometric Market Modeling of Demand, Supply and Exports of China's Plywood

Presenting Author: Minli Wan (15 minutes)

11) Timber production, prices and end-use in a forest business in central Hokkaido, Japan

Presenting Author: Toshiaki Owari (15 minutes)

Q&A

#### **14:10-15:30 – Session 4 – CSR, Business Practices, and Innovation – Moderated by Mihyun Seol**

12) Deconstruction of Innovation in the US Furniture Industry

Presenting Author: Rich Vlosky (15 minutes)

13) Corporate responsibility and financial performance in the forest industry: explorative analysis based on the Global Reporting Initiative (GRI) frame

Presenting Author: Anne Toppinen (15 minutes)

14) Innovativeness and its impact on social responsibility: comparing U.S. firms with global competitors in the forest sector

Presenting Author: Xiaou Jane Han (15 minutes)

15) Business Alternatives in Africa's Congo Basin: The Case of Cameroon's Forest Sector

Presenting Author: Robert Kozak, University of British Columbia (15 minutes)

Q&A

#### **1) The influence of environmentalism on the export performance of export ventures exporting hardwood woodchips from Australia to Japan**

Presenting Author: Paul Dargusch, University of Queensland ([p.dargusch@uq.edu.au](mailto:p.dargusch@uq.edu.au))

The Australia-Japan hardwood woodchip export industry serves as an interesting exemplar of the influence of environmentalism on forest products export activity. In this paper, environmentalism is presented as a useful construct to consider the influence of a wide range of 'environmental' related issues across a broad spectrum of business activities. Environmentalism is herein defined as *'the social movement concerned with the pursuit (through political and social influence) of perceived improved preservation and/or conservation conditions of the natural state of selected environs and the inferred benefits to human welfare'*. Data is presented from case studies of five export ventures that export hardwood woodchips from Australia to Japan (out of a total of nine such ventures in existence). Analysis of results reveals that export ventures, regardless of ownership type, assess their export performance as a mix of financial and non-financial measures. The notion of 'License to Operate' is found to be the most prominent non-financial consideration. Analysis of results also reveals that the influence of environmentalism on the export performance of export ventures is particularly expressed via three features: (1) the preferences of Japanese buyers for hardwood woodchips sourced from plantations and/or forests certified as being sustainably managed; (2) the impact that changes to the forest resources available as wood supply to export ventures have made on the cost-competitiveness and export reliability of those export ventures; and (3) aspects of the license to operate of export ventures including the requirements of regulatory compliance and how environmentalism shapes stakeholder sentiment regarding the sustainability of export ventures and related forest management activities. The discussion highlights that the strategic outlook for Australian-owned export ventures is one characterised by their diminishing bargaining power. This diminishing bargaining power is a consequence of the likely oversupply situation in the Pacific Rim market and the transfer pricing strategies of the Japanese pulp and paper industry. It follows that the search for feasible alternative markets is a critical strategic consideration for Australian-owned export ventures. The study reveals that environmentalism can act as an impediment to the realisation of some of these alternative markets (e.g. as opposition to a pulp mill development proposal) or as a catalyst in others (e.g. as support for the emergence of environmental markets such as carbon trading).

## **2) Incorporated Model to Improve Profits of Forest Communities and Non-Governmental Organizations with Application of Forest Certification: Case Study of KOSTAJASA, Central Java, Indonesia**

Presenting Author: Mi Hyun Seol, University of Washington ([mistral@u.washington.edu](mailto:mistral@u.washington.edu))

Co-Author: Jung-Nam Chun, Seoul National University

**ABSTRACT:** This case study is written to propose a practical business model for forest communities in Asia and Non-Governmental Organizations (NGOs) who are supporting them via exports of certified forest products. Incorporated Profit Improvement Model, which is applied for this research, is an incorporated model between forest communities and Non-Governmental Organizations (NGOs). Based on a strategic CoC (Chain of Custody) with application of Forest Certification, a win-win strategy that multiple stakeholders can create profits at the same time is suggested in the Incorporated Profit Improvement Model consisting of forest communities and multiple NGOs who help forest certification achievement and profit improvement of the communities. Those stakeholders are, in detail, a forest community (supplier), a manufacturer (processor), NGO1 who connects suppliers and buyers, NGO2 who provides technical support for forest management, and finally NGO 3 who is a certification body for forest certification. Forest communities in Asia have not been able to negotiate a fair price for selling their products because they are usually prevented to find a proper deal by scattered distribution of forest production origins and lack of marketing information, which can be caused by remote distance from markets. On the other side, most environmental NGOs have experienced to secure their fund to support forest communities and sustain themselves. In addition, although it is very crucial to ensure a minimum fund for their ethical activities, pursuing profits makes them who work in the philanthropic field feel guilty. We expect this case study of KOSTAJASA, which is synthesized from a series of audits conducted by Rainforest Alliance SmartWood audit team at Central Java, Indonesia, between October 26 and November 3, 2008, can contribute forest communities in Asia and environmental NGOs to find a profitable business model for advancing forest people's life, suggesting an example of environmental marketing to NGOs, and eventually supporting the environment on the earth. (*This is a published article in the Korean Society of International Agriculture, 21(1): 6~12(2009)*)

## **3) Does Going Green Improve Business and Environmental Performance of Chinese Forest Products Companies?**

Presenting Author: Xiaozhi "Jeff" Cao, University of Washington ([caoxz@u.washington.edu](mailto:caoxz@u.washington.edu))

In contrast with sluggish timber markets worldwide during the past year, demand for legal and certified timber has been ever-expanding. An increasing number of EU member states are adopting green public procurement policies requiring timber and timber products to be from legal and sustainable sources. The recently amended US Lacey Act also makes it a violation of US law to traffic in timber from illegal sources. Meanwhile, a number of EU and US industry associations such as Timber Trade Federation and American Hardwood Export Council have made commitments through Codes of Conduct to eliminate illegally harvested timber from their supply chains. Several major banks such as ABN-AMRO and HSBC, and global retailers such as IKEA and Wal-Mart, have put in place policies to ensure clients and vendors are not associated with illegal logging activities. There is little doubt that this green movement, combined with a growing interest in forest carbon projects, will have a far-reaching impact on the forest products industry in China – the world's leading wood products manufacturer and exporter.

Through managerial interviews and questionnaire survey, this study is aimed to address two important and timely questions: 1) how and how much this green movement may impact business and environmental performance of the Chinese forest products companies, respectively, and 2) under what circumstances companies may generate or regain competitive advantage in international markets by proving their green credentials (e.g., through third-party forest certification)?

Based on resource-based view (RBV) and its extended version - dynamic capabilities view (notably, Teece *et. al*, 1997), this study seeks to make the following contributions:

- Integrate the dynamic capabilities view with forest products marketing literature to increase our understanding of why/how forest products companies may develop and deploy resources and capabilities to pursue both temporary (opportunity) and long-term (sustained) advantages in a changing environment.
- Conceptualizes environmental dynamic capabilities (EDCs) as a specific and idiosyncratic cross-functional business process to deliver superior customer value in response to market changes.
- Improves conceptualization and measurement of export performance construct by incorporating environmental aspects;
- By investigating into boundary conditions, the author of this study provides empirical evidence and argues that the perception that “going green” will offer advantages to home industry against (Asian) imports as claimed by some industry observers and scholars (e.g. Buehlmann and Schuler 2009) may not be correct under certain circumstances.

#### **4) How Bioenergy can Drive Sustainable Forest Management and Regional Green Economy – A Synergetic Assessment Approach Based on Field Studies in Japan and Austria**

Presenting Author: Florian Kraxner, International Institute for Applied Systems Analysis

([kraxner@iiasa.ac.at](mailto:kraxner@iiasa.ac.at))

Co-Authors: Jue Yang, International Institute for Applied Systems Analysis; Kentaro Aoki, International Institute for Applied Systems Analysis; Yoshiki Yamagata, National Institute for Environmental Studies

Renewable energy including forest bioenergy will play essential roles in reducing the carbon intensity of energy and decoupling energy use from CO<sub>2</sub> emissions. Even though Japan is a highly forested country, only a small share of the timber demand is covered from domestic forest and a very minor share of it is used for bioenergy. However, the future forest sector will be strongly influenced by energy policies, which are designed to mitigate climate change and diversify the national energy portfolio to enhance energy security at the same time.

In this study we aim at analyzing Japanese awareness and attitudes towards forest bioenergy in order to discuss in a forward looking manner, how public opinion might influence the implementation of this promising energy sector including its multiple co-benefits in Japan. By using an integrated analysis of Japanese public opinion studies and experiences from forestry, bioenergy and green building from Central Europe we identify crucial drivers for the development, economy and innovative green business in rural areas of Japan. Logit models are used for analyzing the public opinion surveys carried out in two Japanese “Eco Model Cities” – Yusuhara-Town, Kochi Prefecture, and Shimokawa-Town in Hokkaido - in 2007 and 2009 respectively. A qualitative study of the successful implementation of multi-scale bioenergy systems in Austria is used to provide an integrated synthesis view on the sector.

Results show that bioenergy activities can positively impact political and socioeconomic conditions of local communities (carbon-neutral region, sustainable forest management, job creation, increase of community revenue, creation of regional value etc.). Regenerative heat and power production using regional forest biomass creates multiple regional values and might induce new markets, such as one for low-quality timber and wood residuals (e.g. sawdust and bark in the wood industry), which consequently steers vital forest management actions such as thinning. In addition, renewable energy supply systems can create new jobs and innovative green businesses in both feedstock and energy supplies. As a result, the local economy is stimulated and new job markets for additional services, e.g. in eco- and bioenergy tourism, might be created.

The study concludes with advocating a synergetic approach by providing a set of essentials for a successful implementation of a vital and sustainable forest bioenergy sector in Japan, comprising policies, policy tools, public opinion and capacity building, and forest management and certification.



## 5) Designers Views of Green Structural Materials: Implications for Wood Science Research

Presenting Author: Chris Knowles, Oregon State University ([Chris.Knowles@oregonstate.edu](mailto:Chris.Knowles@oregonstate.edu))

Co-Authors: ChristineTheodoropoulos, University of Oregon; Jennifer Allen, Portland State University; Corey Griffin, Portland State University; Brian Lockyear, University of Oregon

The purpose of this research was to discover what limits building design professionals ability to use environmentally responsible materials in structural systems. Expert opinions were the basis for this project. Data was collected via group interviews of building design professionals responsible for different aspects of structural design and material selection. Group interviews included Oregon based material specifiers who represent major construction markets, projects of different scales, and professionals responsible for different aspects of the specification process. A semi-structured questionnaire focusing on structural systems of green buildings was used. Key results include that the selection of materials for a building's structural system is driven by building code and cost. The environmental impact of the material does not factor into the decision. Once the structural system has been selected, the design team attempts to improve its green aspects by maximizing material efficiency, using less material, considering carbon footprint, using Forest Stewardship Council (FSC) wood, using high recycled content steel, and using high fly ash content concrete. Meeting a green building standard had little impact on material selection. Several themes specific to wood products were identified. First, the FSC certification system was preferred over the Sustainable Forest Industries (SFI) system, based on perceptions that the SFI system is biased. Second, design professionals are concerned about indoor air quality, specifically wood products with formaldehyde based adhesives. Third, design professionals view wood as the building material of choice often pointing to lower embodied energy, low carbon footprint, low cost, and local availability as the strongest selling points. This research shows that when code allows wood is often the material of choice in Oregon. Many design professionals are interested in using more wood. However, there are concerns about wood including sustainable sources and formaldehyde based adhesives.

## 6) Material Selection for Green Building Design: Measuring Architect Preferences

Presenting Author: Natalie Noël, University of British Columbia ([noelnat@hotmail.com](mailto:noelnat@hotmail.com))

Green architecture is an increasingly lucrative segment of the building industry, which has created a market opportunity for construction materials that successfully promote themselves as sustainable building materials. Although wood is recognized by the scientific community as a sustainable building material, architects, the foremost specifiers of building materials, remain confused as to the role of wood in green design.

In identifying opportunities to improve the marketing of wood products, it becomes critical to understand what architects look for in the sustainable materials they specify. This project examines current practice in green building to identify how priorities in sustainability are affecting material selection.

A web-based questionnaire was designed to obtain firsthand feedback from a random sample of North-American architects (n=223). Respondents were queried on the following four topics with respect to non-residential, new construction, green buildings: Comparing Green to Conventional Building, Selecting Structural Materials for Green Building Design, Use of Green Materials and Products, and Wood Use in Green Building Design. Various question types (Likert scale, open ended questions, ranking, etc.) were used to measure and prioritize sustainability issues, probe for material preferences, and reveal designer attitudes with respect to desirable product attributes.

When examining the factors that influence architects in their choice of building materials, the local availability of materials was clearly identified by respondents as being "much more important" for green building design. Factors such as installed material costs, lead time, experience using the material, and brand, were rated as having the "same importance" for green design as for conventional building design.

Preliminary data analysis shows that the choice of materials remains largely attribute-based, as indicated by a generalized non-use of decisional-aid software. Respondents revealed that their preferred means for identifying green materials was through environmental attributes (preceeding product design, brand/certification label, and green directories). The environmental product information rated “most useful” when specifying materials destined for green buildings included durability, quantified health impacts, salvaged/recycled content, and geographic origin of the resource.

As for the specific use of wood, respondents felt that both structural and non-structural wood products had the potential to reduce the environmental footprint of green buildings. Among other results, the majority of respondents indicated that adhering to LEED had “no effect” on their wood specification habits; a third of respondents reported increased wood use. Our examination suggests that wood is perceived by architects as a material that can contribute positively to the value of green buildings.

## **7) Industrial construction technologies, a new era for wood construction: lessons from Scandinavia**

Presenting Author: Anders Nyruud, Norsk Treteknisk Institutt ([anders.q.nyruud@treteknisk.no](mailto:anders.q.nyruud@treteknisk.no))  
Co-Authors: K Bysheim, Norsk Treteknisk Institutt; G. Glasø, NTI

Industrial wood construction is becoming more common in Scandinavia. New technologies in industrial wood construction can be an opportunity to provide affordable housing and infrastructure in urban areas as well as providing sustainable building and construction systems. In the study, ten case projects are examined. The projects are less than ten years old, they represent different concepts of industrial building and are also different building technologies. The study evaluates the planning and construction process for each case with respect to building technology, impact of building codes, decision making in the planning and construction processes and economic viability. Building owners' satisfaction with the construction process and indoor environment is also studied. Data is collected by interviewing decision makers in the construction process as well as current building owners. The study provides an overview of advantages and disadvantages of the various industrial building solutions that are evaluated. Furthermore, the study evaluates the business models in use by suppliers of industrial wood construction solutions with emphasis on how these models can be used to promote sustainable construction. Results are of relevance for both public decision makers as well as decision makers in forest industries.

## **8) UNECE/FAO Forest Products Annual Market Reviews**

Presenting Author: Ed Pepke, UNECE/FAO Timber Section ([ed.pepke@unece.org](mailto:ed.pepke@unece.org))

The UNECE/FAO Timber Section in Geneva, Switzerland has just published its 100th forest products market review in 2010. Based on the most up-to-date statistics submitted by the 56-member countries of the UN Economic Commission for Europe, plus a wealth of additional information, the Forest Products Annual Market Review, 2009-2010 is the earliest comprehensive market analysis available for the UNECE region, and its trading partners. The UNECE region includes Europe, North America and the Commonwealth of Independent States. The Review analyzes traditional market sectors such as sawnwood (lumber), panels, roundwood and pulp and paper. It also covers these market sectors: wood energy, carbon markets, value-added products and certified forest products. The Review also includes a chapter on government and industry policies impacting the markets, and since a key client group is government policy makers, the policy thread is followed throughout the publication. It is the background document for the annual UNECE Timber Committee Market Discussions. It has wider value for industry and trade associations, research institutions and universities and other market analysts. Members of the UNECE/FAO Team of Specialists on Forest Products Markets and Marketing contribute to its production. This presentation will include a short background on the annual production, and then cover the major findings from the 2010 study.

## 9) Outlook for the tropical timber market to 2020

Presenting Author: James Turner, New Zealand Forest Research Institute Ltd  
([james.turner@scionresearch.com](mailto:james.turner@scionresearch.com))

A recent International Tropical Timber Organization work activity was undertaken to develop forecasts of tropical timber production, consumption, trade, prices and forest resources to 2020. Scenario planning methods were used to identify long-term trends and drivers of change in tropical timber markets, and to develop four alternative futures for these markets. This included structured interviews with key experts in the tropical timber trade and environmental scanning of social, technological, economic, environmental and political trends in tropical timber markets. The four alternative futures formed the basis for forecasting tropical timber consumption and trade using a spatial equilibrium model of global timber markets, which incorporated tropical and non-tropical hardwood and softwood products, as well as secondary processed wood products. The *Tropical Timber – Symbol of Tropical Forest Livelihoods* and *Tropical Forests – Tackling Climate Change* futures have similar outcomes, but differ in key drivers. The former is driven by recognition of the role of tropical timber in forest community livelihoods, the latter by the role of tropical forests in mitigating climate change. Both lead to expansion of tropical forest area and growth in consumption of tropical timber, particularly in China and India and other emerging economies. A key difference between the futures is the expansion of bioenergy demand under the *Tackling Climate Change* future. The other two futures see a retraction of the market for tropical timber; *North & South* sees an alignment of Brazil-Russia-India-China (BRIC) and developing economies, while *Tropical Timber – Symbol of Tropical Forest Destruction*, sees declining acceptance of tropical timber. The former supports modest growth in tropical timber consumption due to continued growth in emerging economies, while the latter leads to forest loss and declining tropical timber consumption due poor perceptions of tropical timber in emerging markets.

## 10) Econometric Market Modeling of Demand, Supply and Exports of China's Plywood

Presenting Author: Minli Wan, University of Helsinki ([wan@mappi.helsinki.fi](mailto:wan@mappi.helsinki.fi))

China's primary wood processing industry and wood consuming sectors have experienced rapid growth in recent years. Plywood is the most important and promising primary wood products in China in terms of its consumption, production, exports and pace of development. However, the production of plywood was on a low level before the 1980s. In the 1980s, China began to import plywood. With China's incentive policies on forestry development and a growing demand for low-cost wood industry products in the developed world, many companies have invested in China's wood processing industry in late years. From 1993 to 2007, China's plywood industry developed at a frantic pace. China has now become the world's "wood workshop" and it has exported high-quality and price-competitive value-added wood products, primarily furniture (49% of global exports) and then plywood (30% of global exports).

Due to limited availability of reliable time-series data, the Chinese woodworking market and China's most important wood products, for instance, plywood, have scarcely been studied so far. The present study tries to fill this gap for some small part.

It analyzes the development of China's plywood industry since the 1990s. Given annual time-series data from 1993 to 2007, econometric models are developed in the study to investigate the economic factors affecting the demand, supply and exports of China's plywood. The results show that over the period 1993-2007, Chinese plywood demand seems to be income elastic but price inelastic, Chinese plywood supply is found to be highly elastic with raw material price but scale inelastic, Chinese plywood exports appear to be highly income elastic. The information, analyses and findings presented in this study can give a useful reference for the plywood firms, government agencies and public authorities acting as decision makers.



## 11) Timber production, prices and end-use in a forest business in central Hokkaido, Japan

Presenting Author: Toshiaki Owari, University of Tokyo ([owari@uf.a.u-tokyo.ac.jp](mailto:owari@uf.a.u-tokyo.ac.jp))

Co-Author: K. Okamura, University of Tokyo

Sustainable forest management is practically feasible with a firm economic basis. Under the biological constraints of timber yield from a forest, landowners should pursue maximizing the economic value of forest products. Since wood is often regarded as “commodity” attributed with a low price, to create and implement value addition strategies is important for sustainable forest business. In Hokkaido, northern Japan, multi-aged and mixed forest management produces both softwood and hardwood timber. Some tree species and assortments are extremely valuable in the specific markets, while others trade at a low price. To explore value addition possibilities in the marketplace, this study examines timber production, timber prices, and the end-use in a forest business in Hokkaido. A case analysis was conducted at the University of Tokyo Hokkaido Forest, which owns and manages 22,733 ha of forestland in central Hokkaido. The forest management mainly uses single-tree selection cutting, and approximately 30,000 m<sup>3</sup> of trees are harvested each year. Stumpage sales are a major form of transaction, and the contract price in 2009 was 3,000 JPY m<sup>-3</sup> at a stand dominating Sachalin fir (*Abies sachalinensis*) and 6,000 – 7,000 JPY m<sup>-3</sup> at the secondary forest with monarch birch (*Betula maximowicziana*). 2,500 m<sup>3</sup> of harvest is directly undertaken by the University Forest. Yezo spruce (*Picea jezoensis*) was the main species of softwood, and the log price was 17,000 JPY m<sup>-3</sup> for sawlog and 4,000 JPY m<sup>-3</sup> for pulpwood. Softwood sawlog is mainly used for structural applications such as post and beam. Hardwood includes Japanese linden (*Tilia japonica*) and Mountain birch (*Betula ermanii*), and the price was 15,000 JPY m<sup>-3</sup> for sawlog and 7,000 JPY m<sup>-3</sup> for pulpwood. A small amount of hardwood logs are displayed at the auction market for fancy wood. Monarch birch (*Betula maximowicziana*) is the most expensive species, and the highest price in December 2009 was 1,564,000 JPY m<sup>-3</sup>. Caster aralia (*Kalopanax pictus*) is the second most expensive, and the price was 546,000 JPY m<sup>-3</sup>. These two species are sliced to face veneer for decorative purposes. High quality Japanese oak (*Quercus crispula*), which is often used for furniture, was also put up for sale, but the price was 146,000 JPY m<sup>-3</sup>. Not only market preference and resource scarcity, but also high yield of final products and brand image may contribute to value addition at the University Forest.

## 12) Deconstruction of Innovation in the US Furniture Industry

Presenting Author: Richard Vlosky, Louisiana State University Agricultural ([rvlosky@agcenter.lsu.edu](mailto:rvlosky@agcenter.lsu.edu))

Co-Author: Andreja Pirc, University of Zagreb

Over the past decade, the U.S. furniture industry has lost considerable domestic market share and has experienced an overall decline in competitiveness. Although the U.S. is the biggest furniture consumer in the world, domestic market share has declined to around 25% of consumption. A deep recession has exacerbated this situation with an acceleration of U.S. furniture company closures. In fall 2009, we conducted a mail-based study of 430 randomly selected members of the U.S. furniture manufacturing sector with the objectives of better understanding the current industry structure and business dynamics, identifying company propensity to engage in innovation behaviors, and identify corporate behaviors linked to innovation and competitiveness. Ten internal firm characteristics and three external characteristics were measured using Likert-type scales. Each characteristic was tested for its relationship to three multiple-item innovation constructs; Product, Process, and Business. Results suggest which internal and external firm factors companies should focus on in order to maximize innovation and, in turn, competitiveness.

### **13) Corporate responsibility and financial performance in the forest industry: explorative analysis based on the Global Reporting Initiative (GRI) frame**

Presenting Author: Anne Toppinen, University of Helsinki ([anne.toppinen@helsinki.fi](mailto:anne.toppinen@helsinki.fi))

Co-Authors: N. Li, University of Helsinki; A. Tuppura, Lappeenranta University of Technology; Y. Xiong, University of Helsinki

In a current challenging economic situation, forest-based industry is increasingly trying to differentiate its products through attributes related to the responsible use of renewable natural resources. Pressure for corporate responsibility (CR) has also placed the forest based industry in a wider context of sustainable development. With the growing demand for corporate accountability, environmental and social reporting has become a necessity, and CR disclosure has developed towards standardised reporting guidelines similar to corporate governance reporting systems. The Global Reporting Initiative (GRI) is globally recognized as the most dominant reporting regulation today, and also a growing number of large forest industry companies have declared voluntary adoption of GRI guidelines to avoid the lack of verification in reporting and to alleviate current criticisms of CR practices faced by some of the firms. However, while previous literature on the role and impacts of CR in the forest-based industry exists, it is heavily dominated by qualitatively-oriented case studies. To fill this gap, in this study we use a quantitative multivariate analysis of CR disclosure in the global forest-based industry. Our data set is unique, comprising extensive content analysis of annual and sustainability reports of 66 major companies in the industry. Iterative K-Means clustering on GRI performance indicators was used to group the firms into proactively, neutrally and defensively oriented firms, followed by financial performance analysis of these groups. Our main result is that in the forest-based industry, 82 % of the major companies are following what could be called as a relatively defensive approach to CR, while proactive and neutral companies towards CR represent a clear minority in the sample, 5 % and 13 % respectively. Regarding the main GRI reporting domains, proactive firms were found to outperform the rest of the industry especially in environmental issues such as energy and water saving improvements, GHG reduction initiatives and recycling of the materials, whereas in terms of human rights, labour practices or product responsibility the whole industry is fairly uniform and the level of activities leaves room for further refinement. Despite substantial differences between three groups also in terms of average company turnover or number of employees, financial performance differences between proactive, neutral and defensive companies was found to be small. In conclusion, the impact of varying contextual backgrounds seems to dominate industry performance over CR. Also lack of customer driven pressures to CR may partially explain slow diffusion of responsible business orientation in the forest industry.

**Keywords:** forest-based industry, corporate responsibility, disclosure, financial performance, GRI, cluster analysis

### **14) Innovativeness and its impact on social responsibility: comparing U.S. firms with global competitors in the forest sector**

Presenting Author: Xiaoou Jane Han, Oregon State University ([Xiaoou.han@oregonstate.edu](mailto:Xiaoou.han@oregonstate.edu))

Co-Authors: Rebecca Hamner, Oregon State University; Eric Hansen, Oregon State University

Innovation is important for the competitiveness of industry and can take the form of new products, processes and business systems. Innovation and innovativeness are important themes in modern forest sector research. Innovativeness can be understood as the measure of a company's intention of adopting and/or creating something new. Market and learning orientations are two important antecedents to innovativeness. A market-oriented company places its focus on the market and can easily adapt to its changes while a learning-oriented company has a strong intention to learn new things. Another theme becoming increasingly important in the global forest sector is corporate social responsibility (CSR). CSR is an issue that most large companies are currently grappling with. The basic idea is that a corporation has not only economic but also social and environmental responsibilities for society. Connecting these concepts leads us to hypothesize that more market and learning oriented organizations are more innovative. Also, more innovative firms are more likely to embrace and implement CSR activities.

This research investigates market orientation and learning orientation as key antecedents to firm innovativeness. Also, it examines the current situation of reported CSR implementation in the 100 largest global forest, paper and packaging companies as identified by PricewaterhouseCoopers in order to develop a measurement of CSR. Finally, we test whether more innovative firms are likely to be more active in implementing CSR practices.

## **15) Business Alternatives in Africa's Congo Basin: The Case of Cameroon's Forest Sector**

Presenting Author: Robert Kozak, University of British Columbia ([rob.kozak@ubc.ca](mailto:rob.kozak@ubc.ca))

Co-Authors: Dieudonné Alemagi and Joleen Timko, Africa Forests Research Initiative on Conservation and Development (AFRICAD)

Tropical rainforests in Africa comprise approximately one-quarter of the world's total. In this region, forests – and the wide range of products and services that they provide – have traditionally played a significant role in the health, vitality, and wellbeing of innumerable communities. Nowhere is this truer than for the forest-dependent communities that reside within the dense rainforests of Africa's Congo Basin. And yet, amidst this source of wealth and natural capital, abject poverty is pervasive, with the majority of rural dwellers living well below the poverty line.

There seems to be general agreement that one of the key issues revolves around the dominance of large, multinational corporations operating under some form of long-term lease arrangement on publicly-held forest lands. While these so called 'concessions' have led to some positive outcomes in the region with respect to rural development, employment, and wealth generation, there is mounting evidence to suggest that local communities generally see little, if any, of the economic gains and employment opportunities trickle down to them. This situation has led to widespread impoverishment, social exclusion, community erosion, and even violent conflict. Furthermore, the sustainability of this concession business model is increasingly being called into question.

There is a pressing need to revisit the dominant modes of business practice in the forests of Africa's Congo Basin and to consider alternatives which more effectively contribute to poverty alleviation, local economic prosperity, community wellbeing, and sustainability. For example, there is increasing recognition among stakeholders and policy-makers that decentralized approaches like community forest enterprises and small- and medium-sized enterprises may lead to more equitable outcomes for forest-dependent communities. This paper summarizes findings from a number of studies on these topics, with a focus on Cameroon's evolving and dynamic forest sector. It also highlights the challenges that still exist in Cameroon and that need to be overcome in order to ensure success for these business alternatives.