PROCEEDINGS

FAO Advisory Committee on Paper and Wood Products

Forty-eighth session

Shanghai, China, 6 June 2007

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
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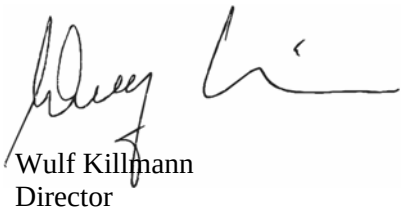
FOREWORD

The Advisory Committee on Paper and Wood Products (ACPWP) is a technical statutory body of the Food and Agriculture Organization of the United Nations (FAO). It was originally established in 1959 as the Committee on Pulp and Paper, and later, in 1996, merged with the FAO Advisory Committee on Wood-based Panels.

The Committee is FAO's main contact with the private forest industry. Its mandate is to advise the FAO Director-General on activities that industries consider could usefully be undertaken by the Organization in the forestry sector. Furthermore, the Committee provides a privileged avenue of communication between FAO and the private sector, ensuring both that activities undertaken are relevant to the current issues faced by industry and that the information presented is accurate and useful.

The Committee is composed of a maximum of 25 members, appointed by the FAO Director-General, based on their experience and knowledge of the industry. Typically, senior executives of companies or associations, the members come from all regions of the world and currently represent over 90 percent of the global pulp and paper industries sector. FAO gratefully acknowledges the contribution made by Committee members who so generously donate their time and their organizations' resources in support of FAO's work.

This year's Session took place in Shanghai, the People's Republic of China, and FAO expresses its gratitude to the Government of the People's Republic of China and to the China Paper Association for their most generous invitation and their help in ensuring the success of the meeting.



Wulf Killmann
Director
Forest Products and Industries Division
Forestry Department i

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ACRONYMS

ACPWP	Advisory Committee on Paper and Wood Products
ADB	Asian Development Bank
AFA	Abundant Forests Alliance (United States)
APAFRI	Asia-Pacific Association of Forest Research Institutions
APFC	Asia-Pacific Forestry Commission
APFSOS	Asia-Pacific Forestry Sector Outlook Study
APP	Asia Pulp and Paper
APP	Permanent Preservation Area (Brazil)
AR	Afforestation Reforestation
BEF	Biomass Expansion Factors
CDM	Clean Development Mechanism
CEPI	Confederation of European Paper Industries
CER	Certified Emissions Reduction
CIFOR	Center for International Forestry Research
COC	Chain of Custody (China**)**
COFO	Committee on Forestry
COP	Conference of the Parties
DBH	diameter at breast height
DFID	Department for International Development (UK**)**
DIY	do-it-yourself (China)
DNA	Designated National Authority
DOE	Designated Operational Entities
ERPA	Emissions Reduction Purchase Agreement
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAQ	frequently asked questions
FPAC	Forest Products Association of Canada
FSC	Forest Stewardship Council
FTN	Forest & Trade Network (China)
GDP	gross domestic product
GEF	Global Environment Facility
GFTN	Global Forest & Trade Network
GHG	greenhouse gas
GIFDCP	Guangxi Integrated Forestry Development and Conservation Project (China)
GIS	Geographical Information System
ICFPA	International Council of Forest and Paper Associations
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change (UN)
ITTO	International Tropical Timber Organization
LFC	Low Forest Cover
MCPFE	Ministerial Conference for the Protection of Forests in Europe
NAFI	National Association of Forest Industries (Australia)
NEETF	National Environmental & Training Foundation
NGO	non-governmental organization
PDD	Project Design Document
QA/QC	Quality Assurance and Quality Control
SBSTA	Subsidiary Body for Scientific and Technological Advice
SFM	Sustainable Forest Management
SPC	Secretariat for the Pacific Community
SPWP	secondary processed wood products
STCP	Sustainable Tree Crops Program (Brazil)
SWOT	Strengths, Weaknesses, Opportunities and Threats

TFT	Tropical Forest Trust
UFS	United Fiber System (Indonesia)
UNECE	United Nations Economic Commission for Europe
UNFCCC	United Nations Framework Convention on Climate Change
WBCSD	World Business Council for Sustainable Development
WWF	World Wildlife Fund

EXECUTIVE SUMMARY

The Forty-eighth Session of the Advisory Committee on Paper and Wood Products was held on 6 June 2007 in Shanghai, in the People's Republic of China, with a follow-up meeting held on 5 October 2007 in Rome, Italy.

This report presents the subjects discussed by the Committee in both meetings and their respective recommendations made to FAO for the period covered between June 2007 and June 2008.

The various recommendations made at both meetings called for FAO to highlight the industry's contribution to social aspects and to sustainable forest management and carbon sequestration. In particular, the Committee recommended FAO to:

1. Jointly organize a side event at the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP 13), to be held in Nusa Dua, Bali, Indonesia, from 3 to 14 December 2007.

   The side event was organized by the International Council of Forest and Paper Assiociations (ICFPA), FAO and the World Business Council for Sustainable Development (WBCSD). The Confederation of European Paper Industries (CEPI), as the organization chairing ICFPA, has taken the lead. It will take place in Bali, as part of the "Forest Day" organized by the Center for International Research (CIFOR), on 8 December 2007.

2. Further document the social contribution of the forest products industry.

   The Committee took note that the study on GDP contribution of the forestry sector is being updated. It was recommended to highlight not only the economic aspect but also the industry's contribution to people's well-being. Wealth and the forest industry are strongly related.

   It was further recommended to produce a brief country report on the impact of the forest industry to people's well-being. FAO will produce a set of questions and outline of the report. Title of the report: *Social contribution of the forest industry.*

3. Contribute to clarifying UNFCCC accounting rules for carbon sequestration by forests.

4. Actively promote understanding of the causes of deforestation.

   This issue is closely related to public perception of the role of the forest industry. The Committee should highlight the main causes for deforestation, which are often related to land-use change, in particular to cattle raising and large-scale agriculture.

   The Committee recommended producing a short paper including the ten most frequently asked questions about the causes of deforestation.

   Two different versions should be produced: (1) frequently asked questions (FAQ) for journalists and (2) FAQ in a language that farmers and the general public will understand.

5. Continue to work on the nexus of forests and energy, building on the results of the IEA-FAO-ICFPA energy conference in Rome, October 2006.

6. Undertake an analysis of the relationship between water and forestry, in the context of the increasing scarcity of water.

REPORT

The FAO Advisory Committee on Paper and Wood Products held its Forty-eighth Session in Shanghai, the Peoples Republic of China, on 6 June 2007. Mr Avrim Lazar chaired the session, which was attended by 38 participants from 20 countries.

Item 1. Opening of the Session and welcome address by the ACPWP Chairperson, FAO, the Government of China and the China Paper Association

Mr Avrim Lazar, Chairman of the Committee, opened the Session and Ms Hongyan Zhang, Deputy Director-General, Department of International Cooperation of the State Forest Administration, welcomed the participants.

Mr Wulf Killmann, Director, Forest Products and Industries Division, welcomed the participants on behalf of Dr Jacques Diouf, Director-General of FAO. He expressed the Organization's appreciation for the hospitality offered by the host government and the China Paper Association.

Item 2. Adoption of the provisional agenda

The Agenda was adopted.

Item 3. Review of actions taken by FAO on the recommendations made at the Forty-seventh Session of the Committee

Mr Wulf Killmann presented this agenda item. At its Forty-seventh Session, the Committee made a number of recommendations to FAO, which are reviewed below.

FOREST RESOURCES FOR FIBRE SUPPLY

FAO was recommended to assess the forest resources available for fibre supply of the wood and paper industry, with particular emphasis on raw material flows.

IMPLEMENTATION

- A study on global wood and wood products flows will be presented under Item 5;
- A global planted forests thematic study was prepared;
- A global plantation outlook, including fibre supply from forest plantations, is under preparation and expected to be finalized by end of 2007;
- A global study on fibre supply from natural forests will follow, once the plantation study is finalized. It will build upon the Global Fibre Supply Model developed about ten years ago.

ENHANCE DIALOGUE WITH CIVIL SOCIETY

FAO was requested to contribute to the enhancement of the dialogue between private sector and civil society on the contribution of the paper and forest industry to social development and poverty alleviation.

IMPLEMENTATION

- The dialogue on wood energy related issues has been facilitated at three meetings: in October 2006 in Rome, in January 2007 in Geneva and in May 2007 in Hannover;

- The dialogue on public procurement issues was raised in October 2006 at the policy forum on public procurement policies in Geneva.

BOTTLENECKS UNDER CDM

FAO was requested to analyse bottlenecks in the acceptance and implementation of forestry projects under the Clean Development Mechanism (CDM), and to propose solutions.

IMPLEMENTATION

- A study has been undertaken, which is available in your documents.

PUBLIC PERCEPTION OF PRIVATE SECTOR

FAO was requested to contribute to the dialogue on the public perception of the role of the paper and forest products industry for sustainable development, building on the United Nations Economic Commission for Europe (UNECE) report and advice on how to take this forward.

IMPLEMENTATION

- FAO is one of the sponsors of the forest communicators' network in Europe, which is also addressing this issue;
- A study undertaken jointly by CEPI and FAO will be presented under agenda Item 8.

COUNTRY INFORMATION

FAO was requested to continue collecting country information as inputs to annual ACPWP meetings.

IMPLEMENTATION

- This year's reports will be presented under agenda Item 9.

FOREST PLANTATIONS

FAO was recommended to continue its work on the code of best practices for planted forests and to present this to the Committee on Forestry (COFO) for consideration and further action.

IMPLEMENTATION

- The code was presented at the various regional forestry commissions that met during 2006, and at the 2007 session of COFO. Upon request from some countries, the word "code" was replaced by "guidelines". Next step will be the implementation of the guidelines.

OTHER RELEVANT FORESTRY WORK OF FAO

Some important fields not included in ACPWP recommendations but where FAO Forestry Department has been active are:

ENERGY

FAO, in collaboration with ICFPA, IEA, ITTO and UNECE, has addressed wood energy issues at a number of meetings:

- International Seminar on Energy & the Forest Products Industry, Rome, October 2006;
- Wood mobilization workshop, Geneva, January 2007;
- In three sessions during COFO 18, Rome, March 2007;
- International Seminar on Wood-based Bioenergy during Ligna, Hannover, May 2007;
- Policy Forum on impacts of bioenergy policies and targets in the forest sector, Geneva, October 2007.

FOREST CERTIFICATION AND PUBLIC PROCUREMENT

- Policy forum on public procurement policies, Geneva, October 2006.

FIRE MANAGEMENT

- The guidelines were finalized and presented at an international conference in Seville, Spain, last month.

CLIMATE CHANGE

- Continued support to the United Nations Framework Convention on Climate Change (UNFCCC);
- Training workshops on climate change;
- Hosting and technically supporting UNFCCC workshop on reducing emissions from deforestation, August 2006;
- Lead and collaborating authorship in Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report;
- Other activities.

FOREST SECTOR OUTLOOK STUDIES

- Study for West and Central Asia published;
- Study on Asia/Pacific restarted (see agenda Item 4).

PUBLICATIONS

- State of the World's Forests;
- Forest Products Yearbook & Trends;
- Many technical publications.

FAO ALSO CONTINUED TO HOST THE FOLLOWING SECRETARIATS:

- Collaborative Partnership on Forests;
- National Forest Programme Facility;
- Mountain Secretariat;
- Poplar Commission.

Item 4. Asia-Pacific forestry sector outlook study II: issues of interest to the forest and paper industry

Presented by Mr Patrick Durst, Senior Forestry Officer, FAO Regional Office for Asia and the Pacific, Bangkok, Thailand.

THE RATIONALE: UNDERSTANDING CHANGE

The Asia-Pacific forestry sector is undergoing unprecedented change, as economies grow rapidly and demands on forests to provide a broad range of goods and services accelerate. The impacts of escalating demands are being felt within and outside the region, undermining long-term sustainability. A better understanding of what is likely to happen in the context of larger societal changes is imperative to identify the options available. The future is arriving more quickly than ever, and the decisions and compromises that are made during the next decade will determine the course of forestry in the coming century.

FAO has undertaken a series of global and regional outlook studies in response to requests from its Committee on Forests and Regional Forestry Commissions. The first in this series was the Asia–Pacific Forestry Sector Outlook Study (APFSOS), completed in 1998. Since then, the Asia and Pacific region has undergone unprecedented change and the pace of change is accelerating. Effective planning and decision-making will be crucially dependent on sound understanding of how the sector is likely to develop in the next two decades. In this context, the Twenty-first Session of the Asia-Pacific Forestry Commission (APFC) held at Dehradun, India, in April 2006 recommended revisiting this outlook study to assess the likely changes to the year 2020, focusing on policy options and implications.

APFSOS II OBJECTIVES

The key question addressed by the study will be *how to put the sector on a path that is relevant and appropriate to emerging needs?* As social, economic and technological changes accelerate, forests and forestry will confront a complex array of opportunities and challenges – some familiar, while others will be very different from what are currently faced. APFSOS II aims to summarize this broad picture of change, enabling more informed decision-making at various levels. The specific objectives of APFSOS II are to:

- identify emerging socio-economic changes impacting on forests and forestry;
- analyse probable scenarios for developments in the forestry sector to the year 2020;
- outline priorities and strategies to address emerging opportunities and challenges.

KEY OUTPUTS

The main outputs from APFSOS II will be:

- country outlook papers and thematic studies on selected topics of broad interest;
- sub-regional reports that capture commonalities and challenges faced among neighbouring groups and clusters of countries;
- an overarching regional report outlining the scenarios of forestry development in Asia and the Pacific region that elaborates options, priorities and strategies;
- policy briefs indicating priorities and strategies.

The processes designed to conduct the study will also enhance capacity in strategic planning in the sector and help to enable development of a collective vision of shaping the future of forests and forestry.

THE PROCESS AND PARTNERS

The outlook study is being implemented through a highly participative approach involving all the countries of the region and other stakeholders, including bilateral and multilateral development agencies, international organizations, civil society organizations, industry, and academic and research institutions. A number of organizations including the Asian Development Bank (ADB), Department for International Development United Kingdom (UK DFID), International Tropical Timber Organization (ITTO), Secretariat for the Pacific Community (SPC), Asia-Pacific Association of Forest Research Institutions (APAFRI), and the Government of Norway–FAO Partnership Programme have already committed support to the study.

The 31 participating APFC member countries have nominated a national focal point (in their government forestry agency) which is coordinating the preparation of a country outlook paper. In addition, a number of thematic studies addressing cross-cutting topical issues will be undertaken. National and regional workshops are being organized to facilitate exchange of information and to develop coherent scenarios relating to forestry development. The country outlook papers, thematic studies, discussions during the national, sub-regional and regional meetings and information from the wealth of current literature will form the basis for preparing the draft sub-regional and regional reports. An expert advisory committee has been established to provide guidance and technical oversight.

OPPORTUNITIES FOR PRIVATE SECTOR PARTICIPATION AND COLLABORATION

FAO and its collaborative partners welcome and strongly encourage private sector participation in all levels of the outlook study process. In seeking private sector participation, a variety of opportunities have been created:

1. At national level: Each participating country has been asked to implement highly consultative processes to develop their country papers. Where FAO (and partner) funding has been provided to prepare country papers, the funding is contingent on holding broad-based, stakeholder consultations to

garner perspectives, ideas and information that contribute to development of how forestry scenarios will unfold in each country.

2. At a regional level: Private sector participation is welcomed and encouraged at the forthcoming conference entitled *The future of forests in Asia and the Pacific: outlook for 2020*. The conference has been widely publicized including a call for papers. Private sector speakers have also been targeted for specific invitations. Private sector representation is also invited and welcomed at sessions of the Asia-Pacific Forestry Commission (APFC), where outcomes will be discussed.

3. In terms of specific private sector focus: Conjointly with APFSOS II, the FAO Regional Office for Asia and the Pacific is implementing a policy study in collaboration with the New Zealand Forest Owners Association on removing unnecessary constraints to private sector investment in forestry in Asia and the Pacific region. The results of this study will be synthesized into the regional and subregional reports of APFSOS II. It is anticipated that the private sector will be widely consulted or, in some countries, implement these case studies itself.

Policy study on removing unnecessary constraints to private sector investment in forestry in Asia and the Pacific region

This topic lends itself to the comparative, multicountry policy study approach used that has previously been successful in completing studies on logging bans, plantation incentives, institutional restructuring and forest tenure. It is proposed to commission 8–10 national case studies looking at the broad range of policies, issues and factors that are impeding private sector investment in forestry (including natural forest management, plantation establishment and processing facilities) in each country, and to analyse these to identify commonalities, differences, and lessons that might be learned by governments hoping to encourage responsible investment in forestry.

4. Other collaboration: A range of specific APFSOS II activities are also being conducted in collaboration with the private sector, or with private sector participation including: preparation of specific thematic studies; private sector representation on the APFSOS II expert advisory committee; and, in a number of countries, through private consultants assisting in drafting APFSOS country studies and facilitating consultations.

TIME FRAME FOR APFSOS II

The study commenced in October 2006 and is expected to be completed by December 2008. Preliminary findings will be presented and discussed during the Twenty-second Session of the Asia-Pacific Forestry Commission, planned to be held in Hanoi, Viet Nam, in April 2008.

Item 5. Global wood and wood products flow trends and perspectives

Presented by Mr Ivan Tomaseli, General-Director of STCP Engenharia de Projetos, Brazil.

SUMMARY

Globalization and economic growth are corroborating to increase international trade of wood and wood products and the flow of capitals into new investments in the forestry sector of emerging economies. Over the last 20 years international trade of forest products (including pulp and paper, solid wood products and secondary processed wood products [SPWP]) increased from US$60 billion to US$257 billion, an average annual growth of 6.6 percent, with wood panels and especially SPWP, growing above the average.

Wood supply from plantations is already quite important. In Latin America and Caribbean region the pulp and the reconstituted panel is almost entirely supplied with plantation wood. Eucalyptus is the most planted species and largely used for pulp production. At the moment, eucalyptus wood pulp represents around 50 percent of all short fibre pulp traded in the international market, and this share is expected to increase to 60 percent within the next few years.

In the future, most of the wood supply will come from plantations. Forest plantations in the tropics are expanding rapidly and if current trend is maintained the annual potential sustainable production capacity of plantations will reach in the year 2020 around 1.8 billion cubic meters per year, with more than 80 percent of this potential located in the tropics and other countries located in the southern hemisphere. This volume would be in principle sufficient to supply most of global wood demand of the industry.

During the last decades, production and trade of wood and wood products have been mostly in the hands of European and North American countries, but this is changing. In the last 15 years China has increased its share in the international trade of wood products from 1.5 to 7.2 percent mainly because of exports of SPWP. In wooden furniture, China displaced Italy, a long-time leader in furniture exports. China together with Brazil and Russia are expected to continue to gain market share and most probably will be among the major players in the international market by the year 2020.

Under a conservative scenario wood and wood products trade in the international market will reach around US$450 billion by the year 2020. This means that countries and companies willing to maintain their market share in the international market will need to double exports in the next 10–15 years. In 2020 a large portion (40 percent or more) of the international trade is expect to be SPWP.

The general trends and perspectives identified point out that a successful strategy to gain market will need to consider investments in fast growing plantations and value added products, with a focus in the international market. Winners will be those operating in regions where wood can be produced at a lower cost and efficient logistics are available.

INTRODUCTION

Globalization and the economic growth of the recent years have contributed to increase global trade and flow of capitals around the world, and this has been important in the development of several countries. In the forestry sector the increase in the international trade and in investments, together with the environment concerns and other factors, were important in the development of new emerging players.

With the economy growing faster, more investments (domestic and foreign) are flowing into the forestry sector of emerging economies. Traditional players of the forestry sector have identified that moving into other regions opens new market opportunities, if this can be combined with the production of wood at a lower cost and gains in competitiveness. This helps producers to maintain their market share in traditional markets and contributes to diversity wood supply sources. On the other hand, as global players are involved, it is changing the wood and wood products flows.

This paper was prepared based on a FAO request, to be presented and discussed at the Advisory Committee on Paper and Wood Products (ACPW meeting to be help in Shanghai on 6 June 2007. The paper analyses some relevant trends in the international wood and wood products trade, and is expected to help in the identification of medium-long term perspectives. To support the identification of perspectives, it also analyses changes on forest resources and industry supply, and the impact of emerging new players in the global wood products market.

It is expected that the information presented and the perspectives identified will contribute to the discussions of the ACPWP meeting, and also in the efforts of policy makers and of the private sector in developing their strategy and long term programmes.

INTERNATIONAL TRADE

As a result of globalization, improvements in logistics and other factors international trade is growing for practically all products. In the early 1980s total international trade was around US$2 trillions and in 2005 it surpassed US$10 trillions. International trade is accelerating, and when the last ten years is considered, the average growth rate reached more than 8 percent per year.

Forest products play an important role in the international trade. When considering together, pulp and paper, wood products (logs, wood chips, sawnwood and wood panels) and SPWP international trade reaches US$257 (FAO, 2006; ITTO, 2006). Taking this value into consideration, forest products as a group is placed in the eighth position after fuels, transport equipment, office and telecom equipment, chemicals, iron and steel, and clothing.

The total value of forest products (wood products) traded in the international market increased from around US$60 billion to US$257 billion, an average annual growth rate of 6.6 percent. The fast growth was mostly a result of the developments in the international trade of SPWP (an average increase above 8 percent per year), particularly wooden furniture. In spite of the high growth rate, forest products' share in the total international trade declined over the years. In 1983 forest products contributed with 3.3 prcent and is now around 2.5 percent.

Notwithstanding the relatively small size of the productive forest plantations area, supply of industrial wood is now largely dependent on this timber source Most of the wood pulp (over 95 percent), and also of the reconstituted wood panels (over 85 percent) currently produced in the tropics is based on plantation timber. The share of plantation in the supply of the tropical plywood and sawnwood industry is still small (under 30 prcent), but is growing fast.

Within the tropics the share of plantation timber used by the industry varies. The Latin America and Caribbean forest products industry is largely concentrated in plantation timber, mainly because of developments in Brazil. In this region practically all pulp production is based on plantation timber, and also at least 97 peracent of the reconstituted wood panels; 70 percent of the plywood and 30 percent of the sawnwood are also based in this wood source. On the other side, Africa forest products industry is still largely dependent on wood supply from natural forests, especially the plywood industry (100 percent) and the sawnwood industry (85 percent).

WOOD AND WOOD PRODUCTS TRENDS

In this paper the analysis of wood and wood products trends is based on two basic aspects: wood consumption and international trade of wood products. It is recognized that there are several other relevant aspects that need to be analysed. In any case for the purpose of this paper, it was considered that these two aspects provide sufficient elements for identification and discussions of the main perspectives. Global wood consumption is increasing but at a relatively low pace. In the last 20 years the average global consumption of wood increased on average only 0.3 per cent per year, and the estimated annual wood consumption is now around 3.5 billion cubic metres (FAO, 2006). Out of this total volume approximately 50 percent is classified as industrial logs.

The total volume of industrial wood consumed in 2005 achieved around 1.55 billion cubic metres, being around 530 billion cubic metres of pulp logs (34 percent) and around 1.020 billion of sawlogs and veneer logs (66 percent). Over the last 20 years, pulpwood logs consumption increased on average of 1.7 percent per year while sawlogs and veneer logs increased only 0.6 percent per year.

In fact, the increase in industrial roundwood is below projections made in the past. A FAO study (Whiteman, Brown and Bull, 1999) estimated that the global consumption of industrial roundwood would achieve around 1.9 billion by the year 2010. This most likely will not happen.

As stated above, international trade of wood and wood products is growing at an average rate of 6.6 percent per year. The growth rate is not even among the the different products. When analysing value

traded in the international market,the rapidly growing products are wood panels (6.9 percent per year) and SPWP (8.7 percent per year). Logs and wood chips and wood pulp are growing well below the average (2.0 percent). When the analysis is made based on value terms, price fluctuations of individual products affect the analysis, and conclusions can change substantially when volumes are taken into consideration. This is particularly the case of wood pulp, a product that faced a significant price fluctuation over the period. When volumes of wood pulp traded in the international market is considered, market increased on average 3.6 percent per year over the period (against 2 percent in value).

This paper does analyse in detail each individual group of products, but within the groups significant variations can take place when a specific product is considered. For instance, plywood has lost market shares to reconstituted wood panels, and in the wood pulp group some types of short fibre gained more importance.

Eucalyptus pulp shows a growing share in the international trade. Early last decade eucalyptus wood pulp had a share of around 30 percent and is now around 50 percent. Producers are projecting, based on the on going and announced investments that eucalyptus wood pulp will have around 60 percent of the total international short fibre pulp market by the year 2012 (Bracelpa, 2007).

EMERGING AND TRADITIONAL GLOBAL PLAYERS

During the last decades production and trade of wood forest products have been mostly in the hands of European and North American countries. Countries such as Canada, United States, Finland, Germany and Japan have been large producers and important players in the international market.

In spite of the fact that the traditional players are still important; some new emerging players have gained importance in the international market. Table 3 presents information on total exports of wood products of some selected countries (emerging and traditional players) and also their share in the international market considering the last 15 years (1990 to 2005).

As can be observed from the data presented, the countries listed as emerging have together increased their share in the international trade of wood products from around 11 to 21 percent in the last 15 years. Among the emerging global player countries listed, the most relevant is China that has increased its share in the international market from around 1.5 percent in 1990 to 7.2 percent in 2005. The country is now exporting over US$18 billion, mostly represented by SPWP (over 70 percent). As stated above, for example, regarding wooden furniture, China has displaced Italy, a long-time world leader in furniture exports.

Brazil and Russia did not have the same performance as China, but were able to increase quite substantially their share in the international market of wood products over the last 15 years. In the case of Brazil, exports are more evenly distributed among the products (pulp and paper, solid wood primary products and SPWP), while Russia exports is largely concentrated in logs, sawnwood and wood panels.

All other emerging countries have increased their share in the international market. For some emerging countries, such as Viet Nam, exports of wood products are still relatively small, but the gains in the international market share have been important. Viet Nam, particularly in the last five years, has expanded exports of wood products mostly based on SPWP. In 2005, Viet Nam exported five times more than in 2000.

On the other hand, traditional players have lost shares in the international market of wood products. Canada and Finland are just examples. In 1990 these two countries together had around 23 percent of the total international trade and now have a participation of approximately 18 percent.

PERSPECTIVES

In a conservative scenario, wood and wood products trade in the international market will reach over US$450 billion in 2020, but most probably will be even higher. This basically means that countries willing to maintain their market share will need to be prepared to almost double their exports in the next 10–15 years.

Products share in the international trade will change over the following years. Pulp and paper now represent 42 percent of all exports, but considering the recent trends the share of SPWP will increase, and most probably will represent over 40 percent of the total wood-based products exports by the year 2020. In the future most of the wood supply to the industry will came from plantations. Taking into consideration the recent trends in forest plantation areas (ITTO, 2006a), it is expected that total planted area will reach around 450 million hectares by the year 2020, with most of the area expansion in tropical countries and other countries of the southern hemisphere.

Not all plantations will be for timber production, but considering that only 50 percent will be productive industrial plantations, the area expansion, together with gains in productivity, will permit a potential sustainable production capacity of around 1.8 billion cubic metres of wood per year. This means that in 2020 wood plantations could, in principle, cover the global demand for industrial wood.

Eucalyptus is currently the main tree planted species in the tropics and is also among the most productive. The importance of the species for the pulp industry, its potential for the solid wood industry and also the possibilities of further increase in the productivity of plantations, indicates that eucalyptus will be the first selection for several investors. By the year 2020 most probably eucalyptus pulp will have over 60 percent of the international trade of short fibre pulp. Also, eucalyptus logs from plantations will have a larger share in the sawnwood and plywood industry, and will take market shares of tropical timber from natural forests.

By the year 2020 emerging countries will have taken over a substantial share of the international trade of wood products. In principle Brazil, China and Russia are expected to be among the world leaders. Other countries that will have their relative importance substantially increased are India and Viet Nam.

There are not many new frontiers for large-scale forestry developments. Most probably over the next 10 to 15 years investors will look for forest development in new countries, and this will be an opportunity for some African countries.

Other important changes will be driven by increasing energy costs. Wood demand for energy is expected to grow rapidly over the following years, and this is expected to have some effect, especially on the wood pulp and reconstituted wood panel industry, as the competition in wood supply will increase and thereby affect log prices and the profitability of these industries. On the other hand, energy is also an opportunity for the forest industry, which is expected in the future to increase its contribution to energy generation based on biomass. There are still other changes expected within the next 10 to 15 years. Aspects such as forest certification and social responsibility will gain more importance, and investments to achieve the increasing standards will require cultural changes and new investments. In emerging countries this will be, to some extent, facilitated by an ongoing process of consolidation and investments by new national and international players.

CONCLUSIONS

All indications are that production of wood products will continue to grow over the next 10 to 15 years at around 1 percent per year, but international trade of wood products is expected to grow much faster and will most probably double in the next 10 to 15 years.

Emerging countries are gaining shares in the international market, and this trend is expected to continue over the next years. Brazil, China and Russia are expected to have their share substantially increased and will probably be among the most important players in the international market by the year 2020.

Pulp and paper are the main product traded in the international market at the moment, but SPWP (wood furniture and other value-added wood products) are growing faster. By the year 2020 the participation of SPWP in the international market will be most probably greater (in value terms) than pulp and paper.

A successful strategy to gain market share in the international market – or even to maintain the current market share – will be most probably associated with investments in fast growing plantations, value-added products and international market development. This applies not only to countries but also can be considered in the definition of strategies at company level.

Winners of the future will be located in countries that have appropriate conditions to produce timber at low costs, and this is largely associated with investments in highly productive plantations and good logistics to reach main markets.

Investments come from the private sector, but considering the perspectives discussed in this paper, governments will have an important role in investment attraction. Investments will flow to those countries that will be able to create a good investment climate for the forest industry.

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Item 6a. Facilitating Reforestation for Guangxi Watershed Management in Pearl River Basin Project

by Zhuping Mo – Guangxi Forestry Inventory & Planning Institute

BACKGROUND

In 2003, the Guangxi Government applied for a US$100 million loan from the World Bank for implementing the Guangxi Integrated Forestry Development and Conservation Project (GIFDCP).

In order to achieve the multigoals concerning economic, social and environmental benefits, the project included 200 000 ha of timber plantation, the promotion of forest regeneration and vegetation rehabilitation in approximately 100 000 ha for multiple-use protection forests, the establishment of a biocarbon pilot project of approximately 4 000 ha for carbon sequestration. The latter is the so-called "Facilitating Reforestation for Guangxi Watershed Management in Pearl River Basin Project".

The project included activities to strengthening biodiversity conservation in five nature reserves with global significance, supported through a GEF grant of US$5.25 million.

Facilitating reforestation for Guangxi Watershed Management in Pearl River Basin, is the first forestry project under the CDM of the Kyoto Protocol. A methodology on reforestation on degraded land based on this project is the first approved Afforestation/Reforestation (A/R) methodology validated by the CDM Executive Board.

OBJECTIVES

The main objectives of the project is to sequester CO2 through forest restoration in small watershed areas, to enhance biodiversity conservation by increasing the connectivity of forests adjacent to nature reserves, to improve soil and water erosion control and to improve income generation of local communities.

ACTIVITIES

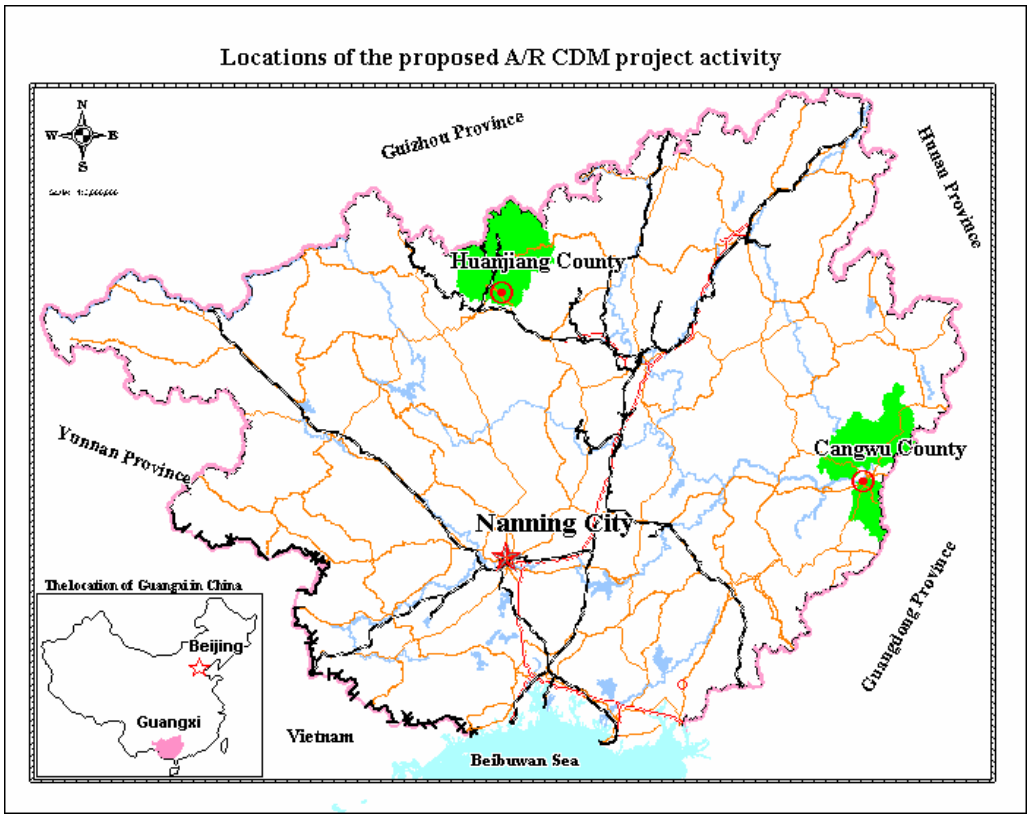
The project is located in Cangwu County, in the eastern part of map shown below, and Huanjiang County, in the northern part of map, of Guangxi Zhuang Autonomous Region, in southern China.

In Huanjiang County, 2 000 ha are distributed in 830 ha on sites neighboring Mulun National Nature Reserve and Jiuwanshan National Nature Reserve, and around 1 170 ha on sites between them.

The species selected are *Pinus massoniana* mixed with *Liquidambar formosana* (1 050 ha); *Cunninghamia lanceolata* mixed with *L. formosana* (450 ha) and E*ucalyptus* sp. (500 ha). The expected harvesting cycles are for *Eucalyptus, 9 years;* for *Liquidamba,* 17 years; and for *Cunninghamia, Pinus*, over 30 years.

In Cangwu County a 2 000 ha plantation has been established on sites where severe soil and water erosion are frequent. The selected species are *Pinus. massoniana* mixed with *Quercus griffithii* (600 ha), *Pinus massoniana* mixed with *Schima superba* (900 ha) and *Eucalyptus* sp. (500 ha). The expected haverting cycles are for *Quercus,* 7 years; for *Eucalyptus,* 9 years; for *Schima,* 17 years; and for *Pinus,* over 30 years.

For the species selection, the following factors were taken into consideration: farmers and communities interests (surveyed); company's interests (value of associated forest products); carbon sequestration rates, biodiversity enhancement, and water and soil erosion control. All species are native to the area except eucalyptus.



One of the main technologies to be applied under this project is reforestation through direct planting with environmental-friendly techniques on degraded lands. Good practice guidance and successful national and international technologies, as well as experiences gained from the World Bank financed forestry projects, will also be adopted. The national technical standard will be strictly followed.

Geographical Information System (GIS) and Geographical Positioning System (GPS) will be employed in the verification and monitoring of the implementation of the project activity. The local forestry agencies will provide technical support and guidance, including training courses, and conduct quality control to the preparation and implementation of the project activity.

Lands are owned by the local villages or communities and subcontracted to farmers for plantation establishment management. The farmers or communities and forest company manage 3 560 ha and the farmers group 440 ha.

The project preparation started in 2004. Afforestation activities are completed and monitoring will start from 2009.

APPLICATION OF A METHODOLOGY

The methodology applied is “Reforestation of degraded land” (AR-AM0001), and it was derived from the project activity. The project activity complies with the conditions under which the chosen methodology applies in the following ways:

- The project activity will not lead to a shift of pre-project activities outside the project boundary.
- Lands to be reforested have been severely degrading over the last decades and are degrading.
- Unavailability of natural seed sources, and environmental conditions, do not permit the encroachment of natural forest vegetation.
- Lands will be reforested by direct planting in the project activity.
- The site preparation will not cause significant long-term net emissions from soil carbon.

- Plantation will be harvested with a minimum rotation of seven years and will be regenerated by direct planting or natural sprouting.
- Carbon stocks in soil organic matter, litter and deadwood will decrease more or increase less in the absence of the project activity, relative to the project scenario.
- Because of the degraded feature of the lands, economical unattractiveness, identifiable barriers and remote feature of the lands, investors or local communities are prevented from using the land for economic revenue. Without the proposed A/R CDM project activity, the lands to be reforested will continue to degrade. Therefore the baseline approach of the methodology is the most appropriate choice for determination of the baseline scenario.

As regards to the demonstration of the land eligibility and additionality of the project, the lands to be planted in the project activity have been non-forested lands since at least 1989. The forest definition complies with the UNFCCC definition, non-performance afforestation activity, land not likely to become forest.

Eligibility of land was proven by using land cover maps and interviews with land owners. The steps as outlined in the additionality tool are followed to demonstrate that the project activity is additional and not the baseline scenario. This includes identification of alternatives to the project activity, investment analysis, barrier analysis – including investment barriers, technological barriers, institutional barriers and market risks and impact of CDM registration.

MONITORING

Monitoring the overall performance of the project activity includes monitoring actual project boundary, monitoring the areas and quality of forest establishment to ensure the technical design and monitoring forest management.

Regarding the monitoring, the actual net greenhouse gas (GHG) removals by sinks data, permanent sampling plots are used for sampling over time to measure and monitor changes in carbon stocks of the relevant carbon pools. This is performed through systematic sampling with a random start position. The total sum of samples (n) is estimated as per criterion of Neyman of fixed levels of accuracy. The size of plots is 400 m2 (20m×20m), while the growth of the diameter at breast height and height (DBH and H) of individual trees on plots shall be measured at each time interval of monitoring. The carbon stock changes in above- and below-ground biomass of living trees on each plot are estimated through the Biomass Expansion Factors (BEF) method.

Monitoring GHG emissions by sources as the results of the project activity includes decrease in carbon stock in living biomass of existing non-tree vegetation and N_2O emissions caused by nitrogen fertilization application.

Monitoring the leakage of GHGs generated by fossil fuel combustion from vehicles using for transporting seedling, labours, fertilizer, harvest products, etc., to and/or from project sites, as a result of the project activity, include a +/-10 percent error at 95 percent confidence level.

Quality Assurance and Quality Control (QA/QC) procedure will be implemented to ensure the net anthropogenic GHG removals by sinks to be measured and monitored precisely, credibly, verifiably and transparently.

ESTIMATION OF NET ANTHROPOGENIC GHG

The net anthropogenic GHG removals by sinks as a result of the proposed A/R CDM project activity is anticipated to be over 770 000 tons of CO_2 equivalent during the crediting period between 1 April 2006 and 31 March 2036. By the year 2017 it is estimated at 462 013 t CO_2-equivalent.

BENEFIT OF THE PROJECT

About 20 000 local farmers of 5 000 households will benefit from the project. The total income is estimated at US$21.1 million within the crediting period, including US$15.6 million from employment; US$3.5 million from sales of wood and non-wood products US$2.0 million from sales of CERs.

The project activity will create about 5 million person-days of temporary employment opportunities. It will also create 40 long-term job positions during the crediting period, sustainable fuelwood supply, strengthening social cohesion and provide technical training and demonstration opportunities.

The environmental benefits include enhancing biodiversity and ecosystem integrity, controlling soil erosion, regulating hydrological flows that in turn alleviates drought risk and reduces flooding risks, improving environmental services, building incentives to people to invest in sustainable land use, improving watershed management and contributing to the outside of the project boundary and the ecosystem improvement along the Pearl River, through demonstration and extension of the project experience to other areas.

As described above, the methodology used "Reforestation of degraded land" (AR-AM0001) can be found under http://cdm.unfccc.int/EB/Meetings/022/eb22_ and the project design document is under the UNFCCC website.

Item 6b. Obstacles and opportunities for afforestation and reforestation projects under the Clean Development Mechanism of the Kyoto Protocol

INTRODUCTION

For the first commitment period (2008–2012), the Kyoto Protocol targets measures to mitigate climate change only within developed countries. There is an important exception: the Clean Development Mechanism (CDM), one of the Protocol's flexibility mechanisms that negotiators created to reduce costs of emissions reductions. Public or private entities may fulfil their obligations under the Protocol through investing in "Clean Development" projects in developing countries. While reducing emissions, CDM projects aim to promote sustainable development in the host country.

The mechanism is estimated to generate around two billion tons of carbon credits by the end of 2012, an amount that corresponds to the present annual emissions of Russia[1]. Although more than 600 CDM projects are registered, those involving AR are proving slow to become operational. Project developers seem to have difficulties in presenting methodologies and project proposals acceptable to the Executive Board of the CDM. Only since last year has AR CDM actually passed the stage of methodology development. Subsequently, the first project was registered (Nov. 2006), and several other projects should be approved soon.

This paper provides an analysis of the current obstacles to and opportunities for successful development of AR CDM projects. Considering the progress made, the paper highlights the potential and opportunities for AR CDM. A summary of the first registered project (discussed above), "Facilitating Reforestation for Guangxi Watershed Management in Pearl River Basin, China," illustrates the possibilities.

MODALITIES AND PROCEDURES OF FORESTRY CDM

The AR CDM is a mechanism to credit carbon sequestration by forests. Within the negotiated modalities and procedures, the options for project developers are varied: the established forests may be

[1] UNFCCC website > CDM > CDM statistics; UNFCCC website > GHG emission data

managed, harvested and used for agroforestry, bio-energy, timber production or even urban forestry[2]. Objectives such as environmental protection and poverty alleviation give support to the claim of sustainable development.

RATIONALE

The rationale of CDM projects and methodologies is generally based on two scenarios: The *baseline scenario* describes the development of carbon stocks without the CDM project. Project developers may choose between several approaches to characterize the baseline scenario: most commonly described through the existing or historical changes in carbon stocks in the vegetation. The *project scenario* estimates the effect of forest establishment, i.e. the increase in carbon stocks.

The difference between the baseline and the project scenario indicates the carbon sequestration achieved through the reforestation activity and the resulting amount of tradable carbon credits. CDM project design also includes an approach for periodic monitoring of carbon stocks to verify the achieved emissions reductions.

Emission caused by the implementation of the project (e.g. from vehicles used for transport of seedlings), or shifts of emissions to outside the project boundary ("leakage", e.g. because of the displacement of grazing animals) have to be monitored and subtracted.

When considering the development of A/R CDM projects, the project developer may want to check the following **PREREQUISITES**:

Additionality. The project has to be additional to what would have happened without the CDM: To prove this, project developers have to show that *either* the project is not the most economically or financially attractive option, *or* without the income of carbon credits it would not be able to overcome legal, technological or ecological barriers.

Institutional prerequisites. To serve as a host for CDM projects, countries must have ratified the Kyoto Protocol, established a *Designated National Authority* and determined criteria for sustainable development.

Land eligibility. Land is eligible (1) for *reforestation* activities, if there has been no forest since 31/12/1989 or (2) for *afforestation* activities if there has been no forest for at least 50 years. The forest land may not be temporarily unstocked as a result of human intervention such as harvesting, nor have the potential to revert to forest without human intervention.

Forest definition. Under the CDM, forest consists of trees with at least a height of 2–5 metres, crown density between 10 and 30 percent, and area of 0.05–1 hectare. Countries choose values for these parameters[3].

PROJECT CYCLE AND ACTORS

To qualify under the CDM, afforestation and reforestation activities must be in accordance with the CDM project cycle (see Figure below) and apply an approved methodology. Achieved carbon removals are then issued as carbon credits so they can enter the carbon market for compliance with reduction targets.

The Executive Board acts as a supervisor for the mechanism and decides about the registration of projects and carbon credits. The Designated National Authority (DNA), often an agency within the relevant ministries, acts on behalf of the host country. The Designated Operational Entities (DOE) are the intermediaries in the project cycle.

[2] Neeff *et al*. 2006
[3] Neeff *et al*. 2006

After screening basic requirements, the next step is to complete the Project Design Document (PDD), which includes information on the expected emissions reductions, objectives of the project activity, as well as on the approaches for baseline and project scenario. The form requires a description of environmental and socio-economic impacts, and the considerations of a local stakeholder consultation. In the event the available methodologies don't capture the project situation, a new methodology can be proposed to the Executive Board.

A DOE will independently validate project design against CDM requirements. If the host country (i.e. its DNA) approves, the project can be registered through formal acceptance by the Executive Board. The monitored emissions reductions are subject to verification, i.e. independent review and retrospective determination, by the DOE. A different DOE will certify the achieved emissions reductions, so the Executive Board can issue them as carbon credits.

The credits may then enter the carbon market to be bought by governments or funds. Private sector companies may also seek to buy credits, either to comply with emissions reductions obligations or for voluntary reasons. Several brokers/traders help to facilitate the demand and supply chain.

Because the established forest will eventually release the once sequestered carbon through forest decay or harvest, A/R projects only result in so-called *temporary or long-term Certified Emissions Reductions* (tCERs and lCERs). These carbon credits expire after a certain period, which means they will have to be replaced by other credits in the future.

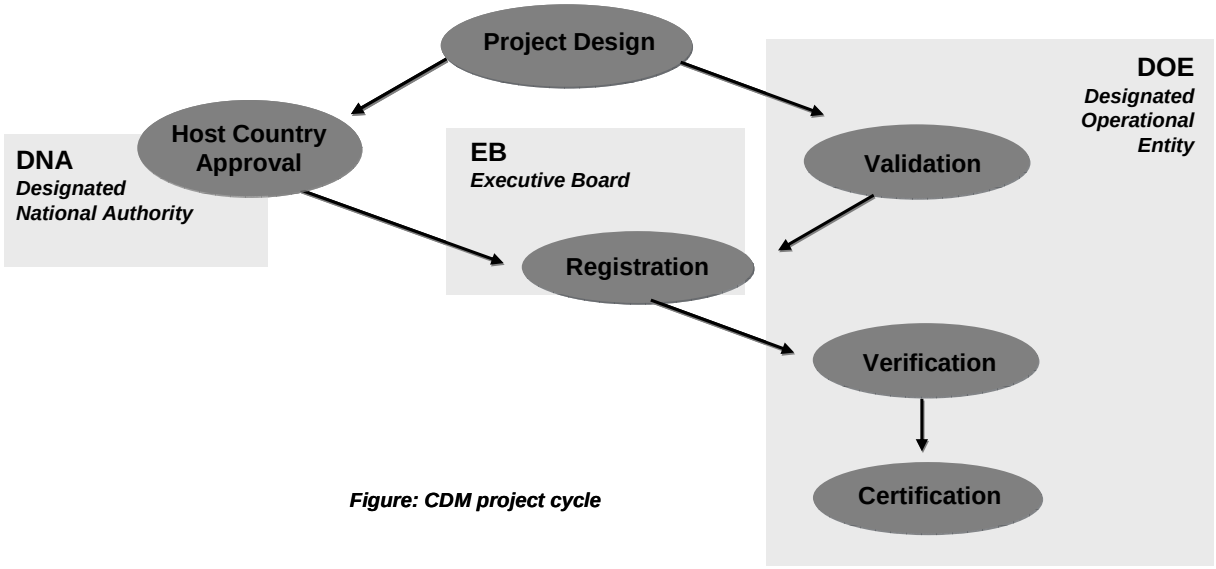


Figure: CDM project cycle

The *BioCarbon Fund*, as one existing example, administered by the World Bank, purchases carbon credits from CDM projects, and finances demonstration projects for carbon sequestration and conservation in forest and agro-ecosystems outside the Kyoto market. The main contributors to this public/private partnership are governments, such as Canada and Italy, and companies, e.g. Japanese power companies. Projects that seek qualification under the BioCarbon Fund, apply the Fund's own procedures, including the submission of a Project Idea Note and a subsequent detailed Carbon Finance Document. The fund's goals are more specific than the CDM: cost-effectiveness of emissions reductions while promoting biodiversity and poverty alleviation[4].

Several similar funds exist: the World Bank initiated the *Community Development Carbon Fund* that buys carbon credits from forestry projects with a special focus on poverty alleviation and the involvement of local communities[5].

[4] Website of the World Bank Carbon Finance Unit > Carbon Funds > BioCarbon Fund
[5] Website of the World Bank Carbon Finance Unit > Carbon Funds > Community Development Carbon Fund

SMALL-SCALE PROJECTS

The purpose of small-scale AR CDM is to enable the participation of low income communities and individuals. To make these activities viable, simplified modalities and procedures were designed, which are expected to reduce the high transaction costs usually associated with A/R CDM.

To qualify as small scale, projects have to comply with the following conditions:

- Projects may be carried out only by low income individuals or communities, as defined by the host country.
- If carbon removals exceed an annual limit of 8 000 tons of CO_2, these are not eligible as certified emissions reductions. This limit implies a maximum area ranging from several hundred hectares for plantations, to several thousand hectares for agroforestry or forest restoration projects[6].
- Projects must not be a de-bundled larger-scale activity. To register a set of small-scale A/R CDM project activities, these have to be at least one kilometre apart.

CHALLENGES AND OBSTACLES

POLITICAL BACKGROUND[7]

The inclusion of forest sinks in mitigation activities has been one of the most controversial issues in climate change negotiations: Accounting for forest sinks was frequently viewed as a "loophole" policy to sidestep serious measures for emissions reduction. Several parties stressed the potential risks of forestry projects: Carbon removals by forests are considered to be only temporary. Moreover, the establishment of plantations could contribute to deforestation, loss of biodiversity and harmful impacts on local livelihoods. These risks and related scepticism have, to a certain degree, impaired the political process as well as the potential of forestry CDM.

Because of the resulting methodological and technical uncertainties, negotiators had great difficulty in agreeing on a scheme to account for carbon sequestration by forests. Only AF activities were identified as qualifying for the CDM. The negotiation of modalities and procedures for forestry CDM took two years longer than for other CDM sectors (e.g. energy), which also caused some delay in investment in this sector. The temporary nature of carbon sequestration by forests was taken into account by special types of expiring carbon credits. To address the "loophole" risk, negotiators limited the amount of allowable emissions reductions through forestry to 1 percent of countries' 1990 emissions for the first commitment period of the Kyoto Protocol.

MARKET FOR FORESTRY CREDITS

Compared to regular carbon credits, the market for temporary credits from forestry is limited. One major obstacle for AR CDM is the European Union's (EU's) decision to exclude forestry credits from the EU Emissions Trading Scheme, which currently holds the majority of the overall carbon market. The legal directive gives as the reason for exclusion the Community's differing priorities for climate policy, as well as the above-mentioned risks of forest sinks[8]. Because the trading scheme covers much of the European private sector, this EU policy keeps forestry credits out of reach of one of the major demand groups.

Governments, including the EU members, may still achieve part of their obligations through forestry credits. The 1 percent-cap of the Kyoto Protocol is actually not a quantitative obstacle: So far, transactions cover only 6 percent of tradable credits under the allowable 1 percent-cap[9]. This limitation might, however, alienate investors and credit buyers – as supposedly does the EU policy. Similarly, as

[6] Robledo and Tippmann, 2004
[7] Hunter *et al*. 2002, Streck and Scholz, 2006
[8] Commission of the European Communities, 2003
[9] World Bank, 2007

a recent survey[10] shows, the temporary nature of credits and the risks attached to forestry credits are seen as reasons not to buy them.

Despite the resulting competitive disadvantage for AR CDM, there is significant demand for forestry credits, even if at relatively low value. Given that the first commitment period in 2008 is imminent and that governments need to comply with their reduction targets, the demand for carbon credits, including temporary credits from forestry, is apparently increasing. Several governments, for instance Japan, Italy and Spain, are likely to engage in AR CDM projects[11].

To date, most forestry credits (several million) have been put forward and purchased by the BioCarbon Fund: Emissions Reduction Purchase Agreements (ERPAs) for more than a dozen of projects are already signed and more await approval in the second phase project pipeline. The price paid by the BioCarbon Fund may be taken as a first signal to estimate the value of temporary credits (tCERs): around US$4 per ton CO_2.[12]

INVESTMENT, TRANSACTION COSTS AND RISKS

AR CDM implies a typical long-term investment in a forestry project: Requiring high rates of financing at the beginning, forests take some time to deliver revenues and benefits. Likewise, the delivery of carbon revenues can occur only according to CDM procedures and after fulfilling the project cycle. As a result, investors face high initial costs and delayed returns, which demands the availability of initial investment capital and the ability to wait for revenues.

In any case, projects need some sort of upfront financing to bear transaction costs for AR CDM, very roughly estimated at around US$150 000[13]. Apart from payment of fees or the 2 percent contribution of carbon credits to fund climate change adaptation in developing countries, the expenses depend on various factors: local circumstances, complexity of the project idea, consultant input as well as the costs for services by the DOE, etc. Projects can be designed and managed so the established forest provides early (and continuous) income, e.g. through diversification of forest uses and mixture of tree species.

Because transaction costs depend very much on the scale of the project activity, simplified modalities and procedures were created for small-scale projects. However, many experts stress that the carbon credits available under the small-scale limit of 8 000 tons CO_2 are barely enough to make a project viable. This is a disadvantage for those regions where small-scale approaches would be particularly appropriate for poverty alleviation, because there project developers usually lack financial capacity.

Aside from the risks typically associated with forestry projects (e.g. natural hazards), investment in AR CDM is also perceived as uncertain because only one project proposal was approved. This risk lowers the price paid by the carbon market depending on the stage of project development. Similarly, future developments of the climate regime (“post-2012”) and value for temporary credits are difficult to estimate, even if promising.

Some brokers create portfolios of projects and carbon credits, which can help to mitigate some of the risks perceived by credit buyers. Several insurance companies offer schemes for forestry risks, non-approval under the CDM, and the delivery of carbon credits. Standards, e.g. the "Climate, Community & Biodiversity Standard", can increase the value of credits at an earlier stage of project development, minimize the risk of non-approval as a CDM project, and certify contributions to sustainable development[14]. Forest certification (e.g. Forest Stewardship Council) enhances credibility of AR projects in terms of sustainable forest management.

[10] EcoSecurities, 2006
[11] Neeff and Henders, 2007
[12] Website of the World Bank Carbon finance Unit > Carbon Funds > BioCarbon Fund
[13] estimate based on Neeff and Henders, 2007
[14] Neeff and Henders, 2007

METHODOLOGICAL AND PROCEDURAL ISSUES

More than other CDM sectors, AR has been technically challenging to formulation of methodologies acceptable to the Executive Board. The effort to develop a new methodology seems considerable, as approved methodologies often cover more than one hundred pages. Methodologies might not be applicable or adaptable to specific local situations, which would sometimes appear only during the course of project implementation.

The project cycle for AR CDM is described as very challenging[15] and requires input by CDM experts *and* foresters. In particular, the handling and writing of technical documentations demands qualified consultants. Compared to other CDM sectors, AR projects are involved in features unique to forest or land management: e.g. biodiversity, hydrology or land ownership. The procedures require a data background (e.g. proof of land eligibility) that might be costly to obtain under some circumstances[16].

At first glance, the additionality concept seems to impair forestry CDM. Additionality and its proof are certainly a difficult issue for the CDM and not only for forestry projects. However, this ensures that the project delivers real benefits for climate change mitigation. In practice, it means that commercial large-scale plantations that would be economically viable and don't face any other barrier or laws stipulating other land uses, are not eligible under the CDM. A project might be considered additional if it comprises a mix of activities with low financial indices that would not be possible without carbon finance, e.g. a combination of agroforestry, community forestry and conservation[17].

SOCIAL AND LEGAL ISSUES

Forestry projects often involve a strong social and participatory component, which becomes even more important in view of the development objectives of the CDM. The legal background is a crucial element to ensure equitable benefit sharing and to avoid social conflicts[18], which could impair the permanence of carbon sequestration. Contractual agreements for joint-management and shared benefits can build the legal back-up. For this reason, it is essential to consider all local interests and rights during the planning process, although it can be expensive and has conflict-potential. Some experiences report the integration of local people in monitoring procedures as highly beneficial[19].

Tenureship has to be clear and structured for the implementation of a CDM project. One of the underlying problems is the conflict between customary and official law, where several users may have different rights for different types of land use[20]. Another source of conflict is the displacement of pre-project land uses and in some cases also land users. Restriction of access and rights might not be effective and leads to conflicts.

PROGRESS

There has been considerable progress during the last year, as methodologies have been developed to fulfil the AR-specific criteria and procedures. One project, using the first approved methodology, was registered in November 2006. Seven other proposals are currently in the process of validation, proposing emissions reductions of around 0.8 Megatons of CO_2.

SCOPE OF APPROVED METHODOLOGIES

Since the first large-scale methodology was accepted in November 2006, some basic issues have been overcome and the process has gathered speed. Methodologies have evolved through a learning-by-doing process, where project developers submit proposals to the Executive Board. The key questions are addressed by improving and building on previously submitted methodologies. With several proposals still pending, up to now (May 2007) seven, out of more than 30 submitted, large-scale methodologies for AR CDM have been accepted. The Executive Board has also developed a methodology for small-scale projects.

[15] World Bank, 2007 *inter alia*
[16] Fadda 2006, presentation
[17] Streck *et al*., 2006b
[18] Jindal, 2006
[19] Skutsch and Murdiyarso, 2006
[20] Jindal, 2006

Though the project developer cannot combine these features as may be necessary, the approved methodologies offer a broad scope of possible baseline and project scenarios (see Appendix for details). Methodologies currently allow pre-project land uses, such as pasture, agriculture, grazing and fuelwood collection, or just abandoned land. Forests are established by planting or by natural regeneration. One methodology also foresees control of grazing and fuelwood collection. Another targets establishment of commercial and industrial plantations (reference number AR-AM0005); yet another (AR-AM0006) allows agricultural intercropping and forage production for feedstock. Project emissions and leakage are accounted for: fossil fuel consumption because of the project implementation, displacement of grazing and fuelwood collection, displacement of agriculture, burning of biomass, or farming and pastoral activities undertaken by displaced people.

Facilitating Reforestation for Guangxi Watershed Management in the Pearl River Basin, South China

Objectives and project description. The 4 000 ha of multifunctional forest established by this project will act as buffer and corridor for protected areas, and contribute to erosion control. Commercial forestry and carbon credits provide income to local farmers, including both temporary and permanent employment opportunities. The reforestation aims to promote management models for watersheds and erosion control. The project will deliver around 25 795 tons of CO_2 per year, valued by the BioCarbon Fund at US$3 per sequestered ton.

Tree species selection was based on several criteria depending on risks, delivery of income and other environmental functions. Reforestation mainly relies on native tree species, such as *Pinus massoniana* or *Quercus griffithii*. Part of the reforestation will use *Eucalyptus*, which requires the application of fertilizers, but provides early income for farmers.

Contractual arrangement. In accordance with the results of participatory processes, the legal arrangement is mostly based on shareholding agreements between local farmers/communities and the forest company: Farmers and communities contribute land and labour. The forest company invests in planting activities, provides technical inputs, manages the plantations during the crediting period, and bears the natural and investment risks. While farmers will be paid for their labour, income from forest products will be shared in proportion to performed input. Carbon revenues will be distributed more than proportionally to the farmers. A small part of the project will be managed by so-called farmer groups: Contracting the land owned by communities, farmers independently manage the reforestation, while local forestry agencies provide assistance. Only the farmers will own income from carbon credits as well as from forestry activities.

Umbrella project. The reforestation project is part of a larger World Bank project entitled, Guangxi Integrated Forestry Development and Conservation Project, which has four components to: expand timber plantations to reduce pressure on natural forests, increase forest cover in watershed areas, strengthen management of nature reserves, and enhance institutional and management capacity for the forestry sector.

Approval process. The process from project idea to registration in November 2006, including the submission of a new methodology (the first approved methodology AR-AM0001), took little less than two years. The project is part of the BioCarbon Fund portfolio, i.e. the project is approved under the fund's own project cycle and the World Bank is the main buyer of generated credits.

Methodological and procedural approaches. Additionality could be proved because the project site is a remote and degraded area, where any land use change for commercial motivations or natural regeneration to forests is very unlikely. Neither the World Bank nor relevant governmental programmes have funded reforestation activities in the region. The methodology accounts for project emissions due to the loss of non-tree biomass (e.g., the shrubs that were displaced by the planted tree), vehicle use and fertilizer application for the planting of *Eucalyptus*. It does not account for leakage, i.e. the shift of agriculture or grazing to other places due to the reforestation on the project site. Monitoring is based on stratified permanent sample plots measuring diameter and height. National default factors are used to calculate the biomass volume, in order to estimate the carbon removed from the atmosphere.

THE FIRST REGISTERED PROJECT:

First of all, the project presented the first methodology acceptable to the Executive Board. Some other factors leading to the success for the Guangxi project are:

- strong combination of objectives, all promoting sustainable development: biodiversity enhancement, erosion control and poverty alleviation;
- participatory approaches for project design and management;
- clear contractual arrangements and legal structure prior to project design;
- support and sponsorship by the World Bank, also through the umbrella project.

PROMOTING EQUAL REGIONAL REPRESENTATION OF THE CDM: THE NAIROBI FRAMEWORK

The CDM appears unevenly distributed not only among sectors but also regions. Natural resources typically present one of the main economic opportunities for less developed countries, whereas the potential to reduce emissions in the energy sector is quite low. Therefore, less developed countries are disproportionally affected by the relative complexity of AR CDM. Unfavourable investment climate and the higher risks prevailing in less developed countries aggravate the obstacles for CDM. Aside from barely functional institutional pre-requisites, the lack of capacity at all levels – the lack of resources to even become aware of the process – is assumed to be one of the main reasons for Africa's under-representation in the CDM market.

To enhance CDM participation of least developed countries, especially Africa and Small Island Developing States, the former UN Secretary-General announced the *Nairobi Framework*: a UN-led partnership linking government action to the private sector. The objectives of this capacity building initiative include:

- capacity building for host country institutions and for project development;
- information exchange and compilation, e.g. a web-based CDM Bazaar;
- promotion of investment opportunities;
- coordinated work of different UN agencies.

Lessons learned: developing AR CDM in Central Asia

Based on field experience in developing AR CDM projects in Central Asia, the following recommendations can be given from FAO's perspective:

- Collaborate with committed implementing organizations and individuals that understand the legal implications of carbon finance. The particular nature of the CDM, which has to generate and deliver carbon credits as a new commodity in order to enable project revenues, needs to be understood.
- Look for situations where a need for reforestation is expressed, but barriers (e.g. ecological, financial, investment related) prevent implementation.
- Tree growth in planted forests translates directly into carbon sequestration rates and accordingly to carbon revenues. For example, in areas with low growth rates (e.g. drylands, mountainous sites) carbon revenues are less, but environmental and socio-economic objectives may become very important.
- Availability of forest growth data, forest inventory data and aerial images facilitates project documentation.
- Carbon finance can add about 20 percent additional revenues to the cash flow table of a project.
- Identify carbon buyers prior to, or at a very early stage of project development. Institutional buyers tend to pay less for carbon credits, but represent low risks.

The last UNFCCC conference encouraged countries to give financial support for identification and development of projects. This includes indirect financial support through intergovernmental and non-governmental organizations such as FAO.

FAO INVOLVEMENT IN AR CDM

According to CDM modalities, carbon credits should not be financed by money that would otherwise fund official development assistance. The role of international organizations and donors is therefore restricted to facilitating and financing projects up to the stage of registration. FAO has been engaged in a range of different activities:

- **Regional workshops on AR CDM**
- **Capacity building seminars** on the rules and modalities for AR CDM, intensive and over several days (e.g. Ecuador, Nov. 2005)
- **Facilitation of AR CDM projects:** technical assistance, formulation of projects, investor linkages, advice to project developers and governments
- **Support to small-scale AR CDM** and pilot project activities
- **Methodological guidance and information dissemination**

OPPORTUNITIES

CDM claims a contribution to sustainable development, where in particular forestry activities have huge potential: Reforestation can have various and far-reaching benefits for local people and their environment, which are in many instances not monetarily evaluated. It has the potential to enhance the supply of forest resources for subsistence, regular markets and energy needs. As illustrated by the Guangxi River project, AR CDM can contribute to the exchange of better practices for forestry and environmental management.

The potential of forestry CDM is even more important in face of climate change related events such as droughts, heat waves and floods. Therefore, the development dividend and carbon finance are especially appropriate where poverty alleviation and environmental protection suggest themselves as priorities of the forestry sector. As a project-based mechanism the CDM can specifically target local circumstances and needs.

On the one hand, CDM adds its own procedures to verify carbon removals and development benefits; on the other hand it can make investments profitable. The question is if carbon revenues and social or environmental achievements can balance the procedural effort.

At first, the lengthy decision-making process, restrictions and complex procedures have alienated potential project developers and investors. Considering the scope of AR methodologies and the progress in the project pipeline, AR CDM seems to have passed this pilot phase. As intended, the Guangxi Reforestation project demonstrates that AR CDM can generate "high-quality emissions reductions in greenhouse gases that can be measured, monitored and verified".. Initial challenges, such as methodological, technical and procedural complexity, can be overcome by routine and lessons learned through first experiences. Thus, transaction costs for forestry CDM will further decrease.

The successful pilot project and the proposals still awaiting approval attach great importance to development objectives as well as the social dimensions of reforestation activities. Apparently, AR CDM does not reward mere carbon sequestration by forest establishment. It is not necessarily a business opportunity in itself but specifically targets those investments that would not happen without carbon finance, i.e., where carbon finance can tip the balance by making forestry projects economically viable. In accordance with the objectives of the BioCarbon Fund and similar schemes, the social and environmental benefits seem to be essential criteria for project approval.

Seen in this light, AR CDM presents an opportunity for the forest industry, because carbon credits within the Kyoto framework can act as financial incentive to enhance the social and sustainable development component of forestry activities. Drawing on its own experience with such typical forestry issues, AR CDM is justified and highly suitable for public relation purposes of the forestry sector. Investments can be linked with other objectives and relevant efforts, for instance good-practice codes and poverty alleviation.

Finally it should be mentioned that besides the sequestration activities, i.e, afforestation and reforestation, bio-energy options in the forestry sector are also currently eligible under the CDM, including the use of wood residues and energy plantations for the production of energy feedstock.

SWOT ANALYSIS OF FORESTRY PROJECTS UNDER THE CDM

The synoptical table shows the strengths, weaknesses, opportunities and threats (SWOT) of afforestation and reforestation projects under the CDM. Strengths and weaknesses are internal factors, opportunities and threats external factors.

STRENGTHS	***WEAKNESSES***
• Projects have multiple benefits for local people and their environment. • Sound and verifiable monitoring approaches ensure transparency. • Pilot projects demonstrate feasibility, credibility and benefits. • Routine and experiences increasingly facilitate project development. • Carbon finance can enhance sustainable development components of forestry. • Approved methodologies present broad scope of possible project types (e.g. timber, bioenergy, agro-forestry).	• First generation CDM methodologies and procedures are still complex and time-consuming. • If marginalized, social issues may threaten project success. • High upfront financing and late returns. • Projects bear risks of non-approval under the CDM, forestry and non-permanence risks.
OPPORTUNITIES	***THREATS***
• Demand for carbon credits by governments (including EU members) is increasing. • Certification schemes enhance value of carbon credits and credibility of environmental and socio-economic benefits. • Under the 1 percent-cap of the Kyoto Protocol, 94 +percent of transactions are still tradable. • Insurance schemes can address risks. • Brokers facilitate demand and supply of credits and institutionalized carbon funds finance dozens of pilot projects. • Political commitment to mitigate climate change and increasing public awareness of forests' crucial roles in it.	• Temporary credits face competitive disadvantage and relatively low value. • EU Emissions Trading Scheme excludes forestry credits (valid for European private sector). • Kyoto Protocol imposes 1 percent-cap on transactions creditable from forestry activities. • Future CDM regime (post-2012) still remains uncertain. • If poorly designed, plantations can cause harmful environmental and socio-economic impacts (e.g. through large-scale monoculture plantations, exclusion of local stakeholders).

OUTLOOK: INVESTMENT WITH A VIEW TO THE FUTURE

Currently negotiations for a subsequent commitment period of the Kyoto protocol are underway. Although it can be expected that the CDM will continue beyond 2012, the exact modalities and procedures could change, as well as the list of eligible activities.

Some major institutional credit buyers already purchase forestry credits for the period post-2012. However, it might be an option to develop pilot projects in the following areas:

- Reducing emissions through avoided deforestation in developing countries
- Combined bioenergy and afforestation and reforestation projects
- Soil carbon management in crop- and grasslands
- Harvested wood product management
- Revegetation and forest management
- Energy efficiency projects leading to less deforestation and forest degradation

Developing such projects entails the risk of non-eligibility, but could lead to valuable experience in terms of emissions reductions and sequestration potential, cost efficiency and methodology development. In its latest assessment report, the IPCC (2007) softens possible future concerns by reconfirming that forest related mitigation activities can considerably reduce emissions from sources and increase CO_2 removals by sinks at low costs. Depending on model parameters and level of emissions reduction targets, the same report states that prices for carbon credits might rise to US$20 to US$80 /tCO_2 and US$30 to US$155 /tCO_2 in order to attract investment in mitigation projects.

PROGRAMMES AND POLICIES UNDER THE CDM

According to UNFCCC, a public sector measure, such as a failed national reforestation programme or a private initiative, might be eligible under the CDM. In the forest sector such activities are characterized by various and dispersed reforestation sites, which are not necessarily planted at the same time or location. The submission of such activities occurs jointly through one single PDD. It is assumed that the types and sizes of activities may not be known at the time of project registration, though must be identifiable *ex-ante* of the expected activities. This *sectoral approach* to CDM has major implications: Potential carbon revenues present an incentive to develop new and to implement existing policies or programs in the forest sector. Sectoral CDM would lead to lower transaction costs, baseline setting on national level, and large-scale monitoring and verification. However, specific guidance and decisions by the CDM Executive Board are not issued yet.

Appendix

APPROVED METHODOLOGIES

Reference number	***Overview: http://cdm.unfccc.int/methodologies/ARmethodologies/approved_ar.html***
AR-AM0001	Reforestation of **degraded land** – Version 2
AR-AM0002	Restoration of **degraded lands** through afforestation/reforestation
AR-AM0003	Afforestation and reforestation of **degraded land through tree planting, assisted natural regeneration and control of animal grazing** – Version 2
AR-AM0004	Reforestation or afforestation of **land currently under agricultural use**
AR-AM0005	Afforestation and reforestation project activities implemented **for industrial and/or commercial uses**
AR-AM0006	Afforestation/Reforestation with Trees **Supported by Shrubs on Degraded Lands**
AR-AM0007	Afforestation and Reforestation of **Land Currently Under Agricultural or Pastoral Use**
AR-AMS0001	***Simplified baseline and monitoring methodologies for selected small-scale afforestation and reforestation project activities***

SCOPE OF APPROVED METHODOLOGIES

	Baseline scenario	***Project scenario/ Forest plantation type***
1	Degraded and degrading land below forest threshold	Harvesting in short or long rotation, with regeneration through natural sprouting No grazing
2	Degraded and degrading land	No grazing
3	Degraded and degrading land includes grazing and fuelwood collection	May be established through assisted natural regeneration or the control of grazing and fuelwood collection
4	Degraded and degrading land includes grazing and fuelwood collection	
5	Grasslands, unmanaged or extensively managed	For commercial or industrial use
6	Degraded or degrading land below forest threshold	Agricultural intercropping forage production to feedstock
7	Abandoned, pastoral or agricultural land	Harvesting in short or long rotation, with regeneration through planting, sowing, coppicing or assisted natural regeneration

PROJECT PROPOSALS IN THE PROCESS OF VALIDATION

(small-scale proposals in *italic*)

Project title	**Host**	**Methodology**	**Amount of estimated reductions (CERs**
Reforestation of severely degraded landmass in Khammam District of Andhra Pradesh, India, under ITC Social Forestry Project	India	AR-AM0001 version 1	49 484
Bagepalli CDM Reforestation Programme India	India	AR-AM0001 version 2	346 701
Small-scale Reforestation for Landscape Restoration	*China*	*AR-AMS0001 version 2*	*5 966*
Moldova Soil Conservation Project	Republic of Moldova	AR-AM0002	181 592
Uganda Nile Basin Reforestation Project No.3	*Uganda*	*AR-AMS0001 version 2*	*5 579*
Small-scale Reforestation for Landscape Restoration	*China*	*AR-AMS0001 version 3*	*5 585*
PROCUENCA: Forestry Project to Restore the Watershed of the Chinchiná River, an Environmental and Productive Alternative for the City of Manizales and the Surrounding Region	Colombia	AR-AM0004	221 251

CER: Certified Emissions Reduction

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Item 7. Reducing emissions from deforestation in developing countries: recent developments in UNFCCC

Presented by Mr Wulf Killmann, Director, Forest Products and Industries Division, Forestry Department, FAO, Rome

BACKGROUND

Deforestation accounts for an estimated 18 percent of global human-induced greenhouse gas (GHG) emissions. It is the second largest source of anthropogenic emissions, behind energy consumption. Most deforestation is occurring in developing countries. Reducing emissions from deforestation could significantly contribute to overall efforts to stabilize GHG concentrations in the atmosphere and to mitigate climate change. However, no provisions have been made in the Kyoto Protocol of UNFCCC to address this source of emissions.

In December 2005, at the eleventh session of the Conference of the Parties (COP 11) of UNFCCC, Papua New Guinea and Costa Rica, with the support of many developing countries, proposed that emissions from "avoided deforestation" be included in an UNFCCC compensation scheme. Under such a scheme, developing countries would be provided financial incentives for reducing emissions from deforestation.

An instrument aimed at reducing deforestation would provide an important opportunity for developing countries to contribute significantly to emission reduction efforts under the international climate regime. In addition, many co-benefits from reducing deforestation could be expected to materialize. These include environmental services – including erosion control, stabilization of water supply, the conservation of biological diversity among others, and material benefits through maintaining sources of wood and non-wood forest products. Furthermore, efforts to reduce deforestation and forest degradation could significantly contribute to the achievement of the Millennium Development Goals, in particular the eradication of poverty and hunger and ensuring environmental sustainability.

UNFCCC DISCUSSIONS

Ever since the proposal was tabled at COP 11, the parties of UNFCCC have been engaged in intensive discussions about an instrument for reducing emissions from deforestation in developing countries. Parties will report to COP 13 in December 2007 on their deliberations and recommendations.

Parties and accredited observers were invited on two occasions to submit their views on this issue; the first submission was due by 31 March 2006 and the second by 23 February 2007. In addition, two UNFCCC workshops on reducing emissions from deforestation in developing countries have been convened to exchange experiences on relevant policy approaches for reducing deforestation; to discuss possible mechanisms for delivering positive incentives; and to address relevant scientific, technical and methodological issues. The first workshop was held from 30 August to 1 September

2006 at FAO Headquarters in Rome. The second workshop was held in Cairns, Australia, from 7 to 9 March 2007.(See: http://unfccc.int/methods_and_science/lulucf/items/3896.php) In the submissions and the workshops, countries – individually and in groups – proposed various options for a UNFCCC instrument on reducing emissions from deforestation. (These countries include Brazil; Central African Republic on behalf of a group of Congo Basin countries; Costa Rica, representing a group of Latin American countries; European Union; India; Papua New Guinea on behalf of a group of countries belonging to the Coalition for Rainforest Nations; Tuvalu; and Vanuatu.) They also addressed technical and methodological requirements related to the implementation and assessment of the instrument. At the workshops, parties showed clear commitment to develop an instrument that would provide financial incentives for developing countries for reducing emissions from deforestation on a voluntary basis. It was equally clear that most parties did not envision an instrument to take effect until after the first commitment period of the Kyoto Protocol and that it would be negotiated as part of the overall post 2012 arrangements. Parties also indicated support for "early action" before 2012 in the form of capacity strengthening and pilot activities to prepare for implementation of an instrument after 2012.

The twenty-sixth session of the Subsidiary Body for Scientific and Technological Advice (SBSTA), held from 7 to 18 May 2007 in Bonn, Germany, reviewed the findings of the workshops and prepared a draft decision reducing emissions from deforestation in developing countries for the consideration of COP 13. Despite intensive discussions at the SBSTA session on this agenda item, parties were unable to reach consensus on many issues, and a bracketed draft COP decision was annexed to the SBSTA conclusions. In its conclusions, SBSTA invited parties to make submissions by 15 August 2007 on issues related to further steps under the Convention and to continue its work on an instrument on reducing emissions from deforestation at SBSTA 27 (held in conjunction with COP 13) on the basis of the draft COP decision and in consideration of the above-mentioned submissions.

KEY ISSUES

The draft decision for COP 13 indicates areas in which the parties agree. In it, parties: express concern with emissions from deforestation; acknowledge the need to also address forest degradation; and recognize efforts already being taken, the need to increase their effectiveness and that doing so can promote co-benefits and complement the aims and objectives of other international conventions and agreements. Furthermore, the draft decision invites parties to strengthen ongoing efforts, support capacity building and technical assistance, and encourages the use of the most recent reporting UNFCCC guidelines as a basis for reporting.

Bracketed text in the draft decision reflect areas where consensus has not been reached and issues that still have to be addressed. Among the paragraphs that remain bracketed, there is text referring to undertaking pilot project activities, mobilizing resources, undertaking further methodological work, inviting relevant organizations and stakeholders to participate in and/or support these efforts, and deciding to address the range of policy approaches and positive incentives.

Major issues on which there are divergent views include the following:

- whether credits from reduced emissions could be used by parties to meet their reduction commitments;
- whether market-based mechanisms should be used, alone or in combination with non-market based financial resources, to provide positive incentives;
- whether the instrument should also compensate countries for conserving forests and carbon sinks (i.e. benefit countries that don't have a recent history of deforestation);
- whether financial incentives would cover reduced emissions from forest degradation as well as from deforestation;
- whether gross or net emissions and whether non-CO_2 emissions will be included

A number of methodological issues need to be addressed, including related to monitoring and verification of emissions from deforestation (and perhaps degradation), setting of a baseline or

reference scenario, the scale of implementation (national only or also project level), definitions, permanence and leakage.

SUPPORTING INITIATIVES

In recognition of the importance of reducing emissions from deforestation and forest degradation to climate change mitigation efforts, and anticipating a related decision for the post 2012 international climate regime, countries and organizations have initiated programmes to support efforts to reduce emissions from deforestation. These include the following:

- On 29 March 2007, the Australian Government announced the establishment of the "Global Initiative on Forests and Climate", a fund of Aus $200 million to support efforts to reduce global GHG emissions through: reducing destruction of the world's remaining great forests; increasing new forest planting; and promoting sustainable forest management practices worldwide.
- Also in March 2007, the World Bank set up the "Forest Carbon Partnership Facility", which includes capacity-strengthening and pilot activities on reducing emissions from deforestation.
- Various bilateral and multilateral organizations, including FAO, are supporting normative and field activities related to reducing emissions from deforestation. These include field pilot activities as well as strengthening capacity in data collection and monitoring of deforestation and carbon stock changes.

Item 8. Public perception of forestry industry and environment

BACKGROUND

During recent decades, discussion about the causes of deforestation and about ecological risks have taken place in many fora. Environmental groups claim that the forest products industry is one of the sectors most responsible for high deforestation rates, particularly in tropical countries. Press articles, reports and other documentary material make a direct link between environmental risks and the forest products industry. As a consequence, the public perception is that the more paper or wood products are consumed, the more deforestation is going to take place. This conclusion is not correct in many cases. The forest products industry has not been very successful in communicating with the public about their efforts to conserve and forest resources and use them sustainably, not only conserving existing resources, but also rehabilitating degraded lands and converting them into planted forests.

There is a need to correct this public perception. The forest industry sector is aware of this and corporate publicity strategies have been developed accordingly.

OBJECTIVE

The overall aim of this paper is to provide an understanding of the strategy of communication used by forest industry stakeholders and of the current "public" perception of the relationship that exists between forestry industry and the environment. This paper will review public perception of deforestation and environmental risks and recommend further steps required to improve the industry's image.

I. Public perceptions of forests and forest-related products and industries

FOREST VALUES AND ATTITUDES

The importance of some forest values derives not simply from direct benefits the value object generates, but also from the symbolic or identity-creating value that they impart both to individuals and to society. Aesthetic and spiritual values and certain types of recreational activities are often

associated with large trees, mature stand structure and vistas of forest. Forests have many values for modern industrial societies, ranging from industrial raw materials to employment, but they also have values for indigenous peoples.

SPONTANEOUS PERCEPTIONS AND KNOWLEDGE OF THE SECTOR

CANADA

Survey. People believe industries have a significant negative impact on the environment. This perspective varies by industry, and the forest sector continues to have the highest profile, with more than four in ten (43 percent) saying that significant environmental damage is being caused by its operations, while another third (34 percent) consider it is responsible for at least moderate damage. Moreover, there is a growing public consensus that forest management practices, such as clear-cutting and over-cutting, are the single greatest threat to the country's forest resources. Public expectations about industry management of the environment are being driven in part by the belief that reducing environmental impacts makes sound economic and business sense. A strong majority of Canadians continue to believe that industry investment in pollution reduction would make it more competitive (45 percent) or make no difference on competitiveness (33 percent) (Natural Resources Canada Report, 2002). Part of the reason for the diminishing priority given to this sector could well be a lack of progress in changing its image as traditional and reliant on "old fashioned" technology. Consistent with this opinion, the public is now placing less importance than before on the contribution they expect this sector to make to the Canadian economy over the next ten years.

Forestry is now a knowledge-based industry but this message has not reached the general public. Modern forest products industry uses the latest technology to grow, manage, harvest and process its renewable resource. Nevertheless, negative perceptions persist about forestry, forest products and the forest products industry.

J.K. Rawat, Indian Forest Service, noting that many stakeholders – not just foresters – could benefit from a greater understanding of forest issues, stressed the importance of knowledge distribution. Emile Mokoko Wongolo, Secretary-General of the African Timber Organization, indicated that research, information dissemination and financing are key to improving future forestry work. Henri Boukoulou, Manieu Ngonabi University, noted that previously excluded groups are now recognized as stakeholders and said participatory management in rural areas can promote accountability and improve sustainable forest management (SFM) in the future.

The industry urgently needs to gain the public’s trust. The major environmental activist organizations are focusing on forests, biodiversity and climate change. They work to make people feel guilty about using wood. Meanwhile, the substitute product industries (metals, plastics and cement) are capitalizing on these negative perceptions to gain market share. These twin threats to the forest products industry work in concert. The forest products industry has long been plagued by negative public perceptions.

These perceptions influence laws and regulations, availability of public timber, private property rights, wood costs, profitability, and competitiveness in a global market. Negative perceptions can result in a decision to purchase substitute products made from metal, plastic or cement. Substitute products are often seen as environmentally benign. An important instrument to address negative perceptions is education.

Credible communicators must convince the public that sustainable forestry is today’s reality. The public can be convinced that wood is truly a unique resource. As already widely recognized, it is renewable, recyclable, biodegradable, versatile, beautiful and extremely energy efficient.

The forest can be seen as a factory where trees use free solar energy and carbon dioxide to produce wood in a magnificent process known as photosynthesis. By weight, wood accounts for approximately 50 percent of all building materials consumed, but only 4 percent of the energy needed to convert raw materials into useful products goes into wood. The rest goes to metal, plastic and cement. Most energy

is created by fossil fuels producing GHGs and responsible for global warming. Once wood is in use, wood conserves energy through its superior insulating properties.

Creating a positive perception of forestry, forest products and the forest products industry requires a two-pronged approach. On one hand, a massive promotion campaign is needed to address consumers.

The choice between wood and substitute products is a real choice, with huge social, economic and environmental consequences. The industry needs to gain a generic competitive advantage for wood before fighting it out for internal market share among competing regions, products and companies. On the other hand, the industry needs the discipline to sustain long-term public education initiatives, which will create positive perceptions in malleable young minds. Robert Legg, President and CEO of the Beaverton, Oregon-based Temperate Forest Foundation, noted that one of the long-term solutions to public perception problems is education. The Temperate Forest Foundation's experience over ten Teachers' Tours has shown that it only takes a couple of well-planned days in the woods and mills to convert a teacher from a sceptic to an industry advocate. Sustainable forestry must be socially acceptable, biologically sound and economically feasible. Sustainable forestry requires long-term investment and therefore predictability in the future.

The public is not always well-informed about environmental issues either. Each year, The National Environmental Education & Training Foundation (NEETF) issues a ten-question survey on environmental awareness; in a typical year, Americans averaged fewer than 25 percent correct answers to basic environmental literacy questions. Furthermore, myths and misconceptions persist. According to NEETF president Kevin Coyle, people are much more likely to understand an environmental issue when there's a single, direct cause-and-effect relationship. (Source: http://www.rand.org/).

A review of representative public opinion surveys in Europe was put together in 2003 by the FAO and UNECE Forest Communicators Network.

The key findings of these surveys related only to general and overall European perceptions. Exceptions to the general statements according to countries are signalled in the report. Most of the information was collected in central, western and northern parts of Europe. The rest of the input originates from southern and eastern Europe.

The significance of forests to Europeans is strongly influenced by personal impressions and feelings. Forests are seen as a symbol of nature:

- There seems to be a social norm that makes it inappropriate to express overt disinterest in forests.
- A majority agrees with the notion that "forests should be used by man" and that "forests are natural, but also a source of production at the same time". People see multiple roles for forests, but preservation and protection are the most important ones.
- The statement that "the use of wood helps nature" is clearly rejected by a majority.
- It is not clear to what extent the concept of sustainable forest management is understood by the public. Very little information is available from the south.
- The term is largely associated with something positive, beyond balanced wood removal, including maintenance of biodiversity and social dimensions. However, it remains rather controversial.
- Europeans are divided over whether or not sustainable forest management should be applied. One general pattern is that overall sustainability is generally assessed worse than when people are asked to assess concrete forest management measures.
- People rate domestic forestry better than that of other countries. Nordic countries are believed to apply sustainable management most. Eastern European forestry is generally evaluated badly, sometimes even worse than tropical countries. This is a gross misperception as almost all indicators for sustainable forest management show no clear differences between Eastern

Europe and Western Europe (Ministerial Conference for the Protection of Forest in Europe – MCPFE, "State of Europe's Forests 2003").

Forest resources are measured by the public mainly in terms of the amount of, and changes in, forest area. Little information is available from the southern countries:

- Forest area is believed to be in decline (almost) everywhere. The MCPFE report "State of Europe's Forests 2003" shows that in practically all countries in Europe forest area actually increased.
- Clear-cutting and environmental destruction are blamed for decreasing forest area, i.e. human interference, for example construction and tourism.
- There is growing awareness of forests as carbon sinks
- Forest health and vitality is one of the most important issues for the European public; it is estimated to be fairly poor in Europe, and deteriorating further.
- Europeans are not satisfied with the overall condition of forests, but forestry is only partly blamed for the dissatisfactory conditions of forests.
- Environmental pollution by industry is given the greatest share of blame, followed by traffic exhaust fumes and construction activity.

Over the past decade, European society has increasingly changed its view of the most important goods and services to be provided from forests:

- A majority thinks that increment and fellings in Northern Europe are balanced.
- Wood is seen as "the" environmentally friendly product, but there is no link between forests and forest products and harvesting and wood processing, the latter having often negative associations.
- People enjoy recreation as a service provided by forests – and see it to be free. However, the economic sector of forestry, meaning wood production and provision of jobs, is viewed in a positive way. But tree felling for timber production is only accepted when combined with afforestation.

Public perception of the relationship between forests and nature emphasizes the importance of environmental aspects in managing and utilizing forests:

- Most Europeans in all geographic areas think that forest biodiversity is decreasing in spite of being an absolute necessity.
- Preserving plants and animals living in the forests is much more important to the public than any economic notion or even sustainable forest management.
- Other socio-economic functions and conditions comprise a wide variety of broader economic aspects, such as forest ownership, contribution of the sector to providing income and employment, and free services to society.
- Forest ownership often seems to be misjudged or unknown.
- The forest industry is seen as highly important in Nordic countries
- While foresters are seen as competent and credible stewards of nature, rationalization measures, such as the introduction of mechanization and the replacement of foresters by heavy machinery, is firmly rejected by the public.
- In all countries, the most credible source of information are considered to be foresters, scientists, environmentalists and representatives of outdoor organizations. There is limited confidence in journalists, civil servants, politicians and industry.

CONCLUSIONS

- The European public has many controversial, and sometimes even contradictory, opinions about forests and forestry. In some areas their views are quite accurate, whereas in others they do not correspond to reality.
- The public approves the multifunctionality concept and values the sustainability principle as a good basis for forest management. It strongly supports policy measures to protect forests as a central part of its natural heritage.

- However, it is still unsatisfied with the situation of forest health and the perceived threat of forest biodiversity loss in many regions. The European public will give its approval to utilizing forests economically and harvesting wood if it sees that foresters regard themselves as nature's stewards. Many Europeans seem to disapprove of forest management concepts that disregard natural dynamics in forests and see them as production areas for raw material.

BRAZIL

Unfortunately, both the historical lack of environmental impact knowledge, the overall degradation of Brazil's Atlantic forests by urbanization and the conversion of forests into pastures have been used as negative arguments against the pulp and paper sector in Brazil. Lately, the industry has united to focus on changing the public's perception of this sector. It is crucial for the industry to measure and present information to the public, using general indicators that are recognized globally, and that can be compared to similar cases elsewhere. The high standards used by Brazil's pulp and paper sector is directly dependant on how effective and traceably the sector can demonstrate the many benefits that it brings to the development of the country.

CIVIL SOCIETY

Civil society and the public at large can also be very important targets of influence, especially where there are well-developed and articulated "counter-views" to that of the private sector.

The need to proactively convey a message and image to the public is now widely recognized within the forestry private sector, which has made increased efforts to shape the public's view in a way that accords with its own practices and perceptions. "Public relations" is increasingly seen by the private sector as providing the catalysing element in the political process; "*(Politics) provides the packaging and the vehicle to achieve the industrial objectives...There are two elements to the political subsystem...the message and the target. The message needs to be short; for example, 'Trees are good. We need more trees not less'. Our objective should be to create and move inside an ever-increasing friendly circle of public opinion*" (Fernandez Carro and Wilson, 1992). The promulgation of particular perceptions of forests has been necessary as a means of marketing forest products, as well as maintaining public support within the political process.

SOCIAL ACCEPTABILITY

"Social Acceptability in forest management results from a judgemental process by which individuals 1) compare the perceived reality with its known alternatives; and 2) decide whether the real condition is superior, or sufficiently similar, to the most favourable alternative condition. If the existing condition is not judged to be sufficient, the individual will initiate behaviour – often, within a constituency group – that is believed likely to shift conditions towards a more favourable alternative", (Brunson 1996). Judgements of acceptability are based on the individual's perceptions. Perceptions are influenced by science, experience, knowledge, ethical concerns, values, attitudes, beliefs, and an individual history with the landscape. Simply providing information on forest management and threats to forestland will not necessarily change perceptions. In fact some research suggests that aesthetic judgements are highly effective (emotion-driven), and thus cognitive evaluations of different silvicultural treatments may play a limited role. People do not necessarily interpret information in the same way or draw the same conclusions about appropriate management from information presented to them (Murray S. and Nelson P., 2005).

II. PUBLIC ATTITUDES AND VALUES ASSOCIATED WITH THE ENVIRONMENT

PLANTATION

Plantation is a bone of contention between foresters and environmentalists. Research from countries where plantation forestry is more advanced indicates that citizens are worried not only about the loss of productive agricultural lands, but also about off-site impacts. Central concerns involve the use of chemicals, declines in water quality, changes to biodiversity, fragmentation, and impacts on tourism

because of changes in landscape. Each of these concerns can be exacerbated by a lack of understanding about the methods and outcomes of plantations. It is important to recognize that not all public sentiment toward forest plantations is negative. Many of the positive views stem from beliefs that high-yielding plantations will: a) enhance a region's competitiveness in an increasingly global forest products market; b) play an environmentally beneficial role by reducing harvest pressures on other natural forests; and c) generate positive ecological effects as they replace degraded or marginal agricultural lands. From a community perspective, plantation forestry also has been seen as contributing to a more diversified economy. Evidence from Australia, however, suggests that attitudes toward plantations differ among communities. Rural communities with more diversified commodity conditions, are less likely to express concerns about plantations than those with a narrower economic base.

DEFORESTATION

Deforestation (FAO). The conversion of forest to another land use (agriculture, pasture, water reservoirs and urban areas) or the long-term reduction of the tree canopy cover below the minimum 10 percent threshold. The term specifically excludes areas where the trees have been removed as a result of harvesting and logging, and where the forest is expected to regenerate naturally or with the aid of silvicultural measures. To simplify reporting of such areas, the net change over a larger area is typically used.

Contrary to popular belief, deforestation in developing countries is only partly the exploitation and exports of timber:

- in 1994, of the US$114 000 million of forest products traded internationally, developing countries only accounted for less than 20 percent or US$22 800 million of both exports and imports; total forest plantations in the developing countries more than doubled from 40 million ha in 1980 to 81 million ha in 1995.

Recent studies on the nature and causes of deforestation in the developing countries indicate that factors external to the forestry sector, such as demographic pressure, changing consumption patterns, expansion of subsistence agriculture in Africa and Asia, and large economic development programmes involving resettlement, agriculture and infrastructure in Latin America and Asia, are likely to continue to have more impact over the extent and condition of the global forest resources than factors internal to, and directly controlled by, the sector itself. In fact, the sustainability of the agricultural sector is increasingly being recognized as a key to sustainable forestry.

In this context, the following actions should be taken to address the issue on deforestation, namely:

- a complete historical perspective regarding global deforestation in order to facilitate a better and accurate understanding of the processes of deforestation particularly in developed countries, rather than just presenting a snapshot situation for specific periods;
- targets on "forest replacement" should be agreed by developed and developing countries;
- planned conversion of forests within the context of national socio-economic development should not be considered as deforestation *per se*; and developed countries with "Low Forest Cover (LFC)" and endowed with suitable land and climate, should take a firm lead in efforts towards the greening of the world in accordance with Principle 8(a) of the Forest Principles.

Developed countries with LFC but with limited land and/or unsuitable climatic conditions should assist developing countries with LFC to increase their forest cover through adequate and appropriate transfer of technology and financial resources.

LOGGING, POLLUTION

A recent website posting illustrates the current public concerns:
"The United States is a disproportionate user of wood. With only 5 percent of the population, the United States consumes approximately 20 percent of the world's wood. This consumption of wood

causes environmental problems at every step from logging of natural forest and destroying watersheds to the pollution that results in transporting and manufacturing forest products to the dumping of useful materials in landfills."

Numerous polls over the past decades have indicated the growing environmental awareness of the consumer. These polls, taken by Gallup, Wirthlin, Roper, and others present sobering conclusions:

- Loss of habitat and species is a worry, and forest cover is disappearing at an alarming rate.
- The environment is so important that continuing improvement must be made regardless of cost.
- More government regulation will provide a better environment.

Within these concerns, it is readily apparent that achieving public acceptance is essential to protect our raw material source, the forest. Public acceptance, or the lack of it, will define what products we make and how we operate our mills.

Environmental organizations enjoy more public confidence in their ability to protect the environment than do other institutions and individuals. From a poll taken in 1996, a third of the American public expressed a great deal of confidence in environmental organizations to protect the environment. This was almost twice as many as those who had a great deal of confidence in state and local governments (Belden & Russonello, 1996).

Polls consistently demonstrate that Americans care about the environment, but the environment means many things to many people.

“As the forest industry evolves into the twenty-first century, what is the role of the industry professionals and the forest products companies in achieving public acceptance? What should be the role of the Forest Products Research Society, given its vision "to be the world leader in technical information transfer to further the socially beneficial use of wood and fiber resources." How does this vision play out within the Society's more traditional role as a technical information transfer agent?

Clear answers to these and other hard questions begin to emerge as we examine our past, evaluate our culture in dealing with problems, and hone in on events and trends that will shape our future (Baldwin, Richard F., 2004).

ILLEGAL LOGGING

Illegal logging stems from a variety of factors that are often interrelated. These can include – but are not limited to – overcapacity in the forestry industry, abuse of property rights of local communitie, and a lack of transparency in the forestry sector. Illegal logging is also a profitable activity because there is such high demand for timber in the European Union (EU) zone and in countries such as Japan and the United States, and in emerging economies such as China.

In 1997, a survey was administered to 183 lay subjects in four communities within the Lower Basin of Western Canada. The results show that lay respondents generally perceive that clear-cut logging and effluent from pulp mills pose a high degree of risk, while selective logging poses a lesser degree of risk. Forest industry is seen by many observers as a source of substantial ecological risk. It is easy to understand why this is the case: visual images of clear cuts and forest processing mills provide a stark contrast to pristine mature forests. It is an overstatement to say that public perceptions are one of the most important factors affecting the future of the forest industry in North America and elsewhere. Clear-cut logging activity is perceived as creating high potential for species loss, affecting a large number of people, impacting on water environments in a short time frame and creating little benefit for society (Forest Science, 46 (3) 2000).

Energy. Energy conservation and the use of fossil-fuel alternatives play an indirect, but significant, role in environmental stewardship in the forest products industry. The standard practice of using bark and wood waste and black liquor as fuel eliminates about 54 percent of the demand for fossil fuel in the United States forest-products industry as a whole, including integrated pulp and paper and non

integrated mills (American Forest and Paper Association, 1994). Modern craft pulp mill operations, with the exception of the lime kilns, can satisfy their total steam and electrical energy requirements using black liquor and wood residues and therefore do not require fossil fuels. Wood residues and black liquor are carbon neutral; that is, when burned they cause no net change in the carbon content of the biosphere over the harvest cycle and, therefore, do not contribute to the formation of so-called greenhouse gases. Other key energy conservation measures commonly used today involve reduced water usage; energy recycling and reclaiming in digester areas; systems to improve management and reclamation of low-level heat, for example, from recovery systems; and improved insulation.

Water. The pulping industry has long been considered an intensive user of water. From a water-use perspective, there are few financial, legal, or physical reasons for the industry to lower water use in paper mills. In some situations, water conservation has been pursued to reduce the costs of waste treatment, which is largely a function of the volume of water treated. The main impetus behind conservation efforts to date, however, has been the general principle of environmental stewardship that "less is better".

BRAZIL

The pulp and paper industry is potentially a large generator of air and water pollutants, waste products, and the gases that cause climate change. The major potential environmental impacts of wood pulping come from its effect on forest resources and from the effects of its waste by-products either on effluents or on air. However this polluting potential, environmental concern, manifested in changing market demands and more stringent environmental regulations, was and still is among the most important drivers of technological change in pulp and paper industry. Brazilian pulp and paper industry developed more recently than most of the global competitors and this permitted to the biggest companies to make strategic technology investments to adequate productive processes to the most advanced international standards.

The totality of the wood used by the Brazilian pulp and paper industry comes from planted forests. The forest plantations for pulp and paper production are located far from the Amazon forest. However the higher attention paid by the domestic and international public to the problem of deforesting in the Amazon, the biome of Atlantic Forest is in much worse conditions.

Introduced in big scale in Brazil in the beginning of the twentieth century, the eucalyptus expanded based on advances genome studies of the region, despite the critics of the environmentalists. There is a controversy around the introduction of the eucalyptus and the sustainability of planted forests. Some environmentalist NGOs (such as the World Rainforest Movement) protest saying that planted forests are not real forest mainly because in some countries they substitute the existing native forests or cause local people to move to other areas where they start a new process of deforestation. They also point at the desertification of forests, saying that the monoculture is a danger for biodiversity and causes damage on soil and water sources as well.

The Brazilian law requires that 20 percent of the total area owned by the Forest Products companies is reserved for preservation of the native vegetation. Besides this, is forbidden by the law the deforesting of Permanent Preservation Area (APP). Between Brazilian companies, the most diffused certification is the Forest Stewardship Council (FSC). During FSC forest-management assessments, teams of foresters, ecologists and social scientists visit forestry operations and inspect their practices for compliance with FSC standards. Brazilian companies are moving towards getting internationally recognized certifications. Klabin has 95 percent of its forests FSC certified and stands out for being one of the first companies in the world to have a Non-Timber Forest Products operations FSC certified.

Water usage. Brazilian pulp and paper companies are trying to save on water usage, limiting it whenever possible and introducing closed-loop systems in the production process.

Environmental regulation and market demand for chlorine-free products have driven the pulp and paper industry to find alternatives to chlorine, such as Elemental Chlorine Free and Totally-Chlorine Free technology. These technologies reduced the amount of chlorinated compounds released into the environment.

Energy efficiency. The pulp and paper industry has made important strides in reducing total energy and in increasing the fraction energy provided from self-generated biomass sources, decreasing the use of fossil fuels. The industry is pursuing the concept of "closed cycle" operation as it relates to the bleaching cycle to minimize liquid and gaseous emissions. The pulp and paper industry is in the unique position of being able to rely on its own internally generated fuels from renewable biomass sources for more than half of its energy requirements.

III. ABOUT THE IMAGE OF FOREST PRODUCTS INDUSTRY

Many of the problems afflicting the industry are rooted in a deeply ingrained image problem. To many, the forest industry lacks the sophistication required to be a successful modern industry; they consider it to be reckless and uncaring about the environment, valuing short-term profit over longer-term resource stewardship. Coming back to the forest industry, the image problem has weakened its "social licence". A poor image leads to public mistrust that, in turn, encourages government to intervene with a costly, heavy hand. This image problem will also take far more than a clever advertising campaign. It will take a penetrating and substantial reconciliation of science, economics and public policy.

The real trick will be to apply good science and advanced technology to forest management, and do so in a way that creates value for shareholders. To accomplish this reconciliation will call for a supportive public policy environment. For example, too many forest tenures are geographically patchy, and renewal terms are far too short for a really powerful resource management framework.

Further, the method of regulating the industry is far too cumbersome and inefficient. The government should establish the public policy framework, define the desired outcomes, and establish a system of independent checks and balances to ensure standards are being met.

Certification of forest and environmental practices is desirable, and inevitable. With these building blocks in place, a communications strategy can have more substance – going beyond clichés and spin doctoring.

EUROPE

A qualitative study has been carried out by the Enterprise DG of the European Commission (Directorate–General for Enterprise. European Commission, 2002) on the image of the forest-based industries among the general public of the 15 Member State of the EU. The results of the study show there is great lack of knowledge on the part of the public and an image that leaves room for improvement, particularly as regards respect for the environment, the modernity of the sectors and their importance regarding employment and job attractiveness.

Regarding the environment, there is need for more information and explanation about the important legal measures taken by the EU. Sustainable forest management is often doubted by Europeans and this particularly affects the image of forestry. The idea that certain sectors of the industry are highly polluting is generally accepted (in particular the pulp and printing industries), however efforts to improve this are not known or recognized to the same extent.

The paper pulp and paper and board industry seemed unknown as a specific sector, yet paradoxically had an image of environmental harm and destruction. The environmental impact of this industry was in most cases felt to be negative or very negative: there was a strong perception in some groups that it was destroying forests through its enormous consumption of wood and in particular as a result of the water and air pollution.

Apart from Finland and Sweden, and to a lesser extent, Austria, forestry was also seen as traditional and not very innovative. This negative stereotype is obviously a problem for forestry sector communications. This also affected the sectors downstreams of this sector, which people tended to feel were just responsible for destroying forests.

People felt that industries were important because of the usefulness of their products, but their importance for the national economy was perceived in very different ways in different countries.

As a place to work, the industry is not very attractive. The findings have led the various associations of the forest-based industries to consider what information and communication measures they could develop.

The industry's various sectors seem to have image problems that are to some extend shared:

- The lack of understanding or the low-level credibility of the argument of sustainable and responsible management of forests by enterprises
- The image of polluting activities
- The lack of innovative image or image as modern industry with little appeal
- The lack of awareness of their enterprises and the actual nature of their work (with the exception of Finland)

PULP AND PAPER INDUSTRY

As other industries, the pulp and paper industry has come under increasing scrutiny for its potential environmental impacts. More than many other industries, however, this industry plays an important role in sustainable development because its chief raw material – wood fibre – is renewable. The industry provides an example of how a resource can be managed to provide a sustained supply to meet society's current and future needs.

The industry believes that its current industrial operations affect the environment minimally, because of the many improvements the industry has made to its environmental practices. However, as consumer and government concern about environmental impacts grows, the industry's environmental performance will be increasingly scrutinized. This scrutiny and the industry's commitment to improving its practices on the basis of good science and sound economics suggest possible changes in environmental practices on several fronts.

Intensive forestry, or silviculture, involves the efficient production of wood resources and has features in common with agriculture. Forestry, however, uses land far less intensively than agriculture, because the growth rotation cycles of trees require years, not months.

Reforestation results in more trees being planted, by a wide margin, than are harvested.

Sustainable development, based on good science, is a goal that now guides the industry's practice. The principles of sustainable forestry adopted by members of the American Forest and Paper Association (AFPA) show the industry's commitment to the environment (American Forest and Paper Association, 1995).

IV. FORESTRY INDUSTRY AND SOCIAL RESPONSIBILITY

In the past two decades forestry has been affected by a variety of social forces. One of these forces has been a marked change in values, attitudes, and public opinion about forestry. Citizens no longer view forests merely as repositories of timber resources, but are concerned with ecological values, as well as other non-economic values. A second force, has been the growing recognition of aboriginal rights. Increasingly, the public has questioned negative environmental impacts of conventional industrial practices. These concerns have become translated into a variety of protests by environmental organizations against forestry operations. In recent years, First Nations in Canada have demonstrated a growing ability to assert the legal and moral legitimacy of their rights. First Nations, often in alliance

with environmental groups, have increasingly been able to influence land-use decisions and affect the bottom line of industry. These changes have coincided to create a unique set of circumstances that may lead the way towards a new model of socially sustainable forestry. Consequently, the recent past has been witness to a growing phenomenon of joint ventures and innovative partnership designed in response to these issues: National Aboriginal Forestry Association – Canada. The aim of NAFA is "to promote and support increased aboriginal involvement in forest management and related commercial opportunities, while staying committed to holistic or multiple-use forestry, to build sustainable aboriginal communities" (Pechlaner and Tindall, 2003).

"Providing opportunities for First Nations Aboriginal People". The British Columbia government is committed to increasing opportunities for First Nations participation in the forest economy, and has developed a strategy to negotiate agreements that provide access to timber and revenue sharing for First Nations.

This will help increase economic and job opportunities for First Nations as well as encouraging their involvement in the forest sector and strengthening their relationships with forest companies. It will also bring more operating certainty to other industries, such as mining, oil, gas and tourism. Forest companies must consult the public and consider all forest values before beginning any forest activities in British Columbia. On a local scale it is important that private forestry, whether large or small scale, is well integrated into and accepted by local communities. To achieve this, a range of community stakeholders must see direct benefits to themselves. Thus, it is important that several community development projects should be undertaken in which private forestry plays a significant part. (Source: http://www.afandpa.org/).

The Australian Plantation Products and Paper Industry Council (A3P) released (May 2006) a Sustainability Action Plan, entitled Performance, People and Prosperity. A Memorandum of Understanding (MOU) has been signed to focus on indigenous employment and skills shortages in the forest industry, and on opportunities to encourage indigenous business in regional Australia.

The MOU aims to advance the implementation of the National Indigenous Forest Strategy. Actions will help members to identify and develop employment and business opportunities for indigenous groups. (Source: http://www.a3p.asn.au/)

On 8 February 2007, A3P launched guidelines that demonstrate the legality and sustainability of its member's product and call for a crack-down on illegal timber imports into Australia. A3P chairman Mr Kim Creak said "today we commit to playing our part in the illegal logging debate". "Illegally logged forest products compete in the market against the companies who meet the highest standard of environmental and corporate performance" (Global Forest & Trade Network. WWF, online press releases).

"The Australian Government will spend $200 million over five years planting trees and aiming to end deforestation, mainly in Indonesia. The Prime Minister says the Government's plan to help Southeast Asia reduce deforestation will have a greater impact on climate change than the Kyoto Protocol." The Government is under pressure from the opposition party as well as climate change economist Sir Nicholas Stern to do more to tackle global warming. (Deforestation plan better than Kyoto: PM. ABC NewsOnline. 29 March 2007).

THE TASMANIAN COMMUNITY FOREST AGREEMENT

"An Agreement between the Australian and Tasmanian Governments that builds on the Tasmanian Regional Forest Agreement, securing the future of Tasmania's forest industries and providing enhanced protection for its unique forests. As a result of this Agreement, forest related industries will remain a large part of Tasmania's economy in the decades ahead. The Tasmanian Community Forest Agreement includes several significant changes that will ensure its timber industry leads the world in

environmental best practice standards, thus securing its future." (source: http://www.daff.gov.au/, May 2005. Australian Government, Department of Agriculture, Fisheries and Forestry).

Forest certification schemes were founded to help change forestry practices and the relationships between the forest industry in general and indigenous peoples throughout the world.

Certification schemes require that forest companies interested in certification receive the full and informed consent of indigenous peoples (Aboriginal Strategy Group) in the area in which the company operates.

This requirement provides indigenous peoples with a way to include their beliefs, knowledge and practices in the forest management. With its strong commitment to advancing indigenous peoples' interests in its principles and criteria, certification schemes ensure that indigenous communities can be involved in the decision-making in the management of the forest they live or are dependent upon.

"Environmental sustainability is a business and consumer issue. Companies that do not adequately address environmental challenges could face limits on growth and suffer serious, negative reputation consequences" says Bruce McIntyre, leader of PwC's Forest, Paper and Packaging industry practice in Canada (2007, Vancouver). The changing environment is also changing customer demands on the Forest, Paper and Packaging Industry. Companies are now expected to provide an "environmental pedigree" for their products, detailing the supply chain from which the wood was harvested to the way in which it was manufactured. They are also expected to communicate this information to their stakeholders, for example, through a sustainability or corporate social responsibility report. Certification standards are another way companies can demonstrate and communicate to their stakeholders that they have the systems and controls in place to meet stated environmental objectives in a responsible, transparent and accountable manner. Independent certification of responsible forest management and manufacturing practices ensures accountability of forest products suppliers and allows credible claims regarding the environmental attributes of the products. McIntyre: "There is a tremendous demand for transparency and good corporate citizenry regarding environmental issues today. Shareholders, investors, employees, the public and regulators are now expecting companies to go above and beyond meeting the challenges of a changing environment to protect society's interests overall," (PricewaterhouseCoopers, May 2007).

Liz Alden Wily, independent land tenure and natural resources management specialist, discussed community forestry as an instrument of good governance. She identified the importance of achieving harmony between forest conservation and people's needs. She recommended moving from a paternalistic to an empowering FPACroach. Wily explained that, as a result of legal reforms, more local communities manage a wider class of forests on longer-term contracts. She underlined the importance of legal recognition of community forest ownership. Wily noted that in many states, customary land rights are now recognized and legally enforceable. She called for a focus on immense unreserved estates, a rigorous evaluation of approaches, and the consideration of communities as shareholders and not stakeholders.

V. INFORMATION AND COMMUNICATIONS STRATEGY AND METHODS USED BY THE FORESTRY INDUSTRY

Information can be used to influence public perceptions, but as some of the literature demonstrates, it is important to tailor the information to the audience to be addressed. Brunson (1996) recommends targeting both individuals and groups for the most effective strategy. Bliss (2000) notes that while the "disinterested public" is more likely to make affective judgements in terms of practices such as clear cutting , the "interested public" tends to evaluate forest practices more cognitively and thus possibly be more receptive to new information, and consider the practices in light of other values important to them. Some findings seem to indicate that members of the public would accept messages coming from particular groups (such as the Washington Forest Protection Association); the issue is one of trust. Who the messenger is can be important in how people perceive information. If the individual or group

delivering the information does not have credibility, the message will fall on deaf ears. In disseminating information about working forests and forest conversion, it is important to consider who is the appropriate messenger for each target audience. All of this may provide some guidelines for how to best publicize information about forestry industry. Working through key groups within the "interested public" segment and researching what arguments might be most relevant to individuals with different experiences and values could help make messages more effective and more likely to influence perceptions (Murray S., 2005).

Foresters talk to each other in forestry language. If any public group needs to understand the reasons for logging, it is absolutely essential that the reasons be translated into language understandable to non-foresters. It is also necessary to be careful in presenting information: it is not advisable to use normative science, which is information that is presented or interpreted based on an assumed, unstated preference for particular policy choices. To avoid normative language, one should present science words, which are unbiased by policy information (Mater J., 2005). Often organizations try to develop a comprehensive communication strategy for reporting issues to a broad client base of land managers, forest industries and general public. However, to communicate to the public requires a different strategy than communication with land managers and forest industries.

The March 2005 annual Redwood Region Logging Conference held in California included the subject of public relations. The conference organizer stated "This industry needs to work on building community support. The community doesn't understand us because we don't talk to them and so we are trying to do that" (Mater J., 2005).

UNITED STATES FORESTRY INITIATIVES

The year 1991 marked the first year of the America the Beautiful programme by which the Forest Service worked with state foresters to plant a target number of 970 million trees in rural areas and 30 million trees in urban areas. In March of 1991, the National Tree Trust, a private non-profit group designed to raise funds for tree planting. In October of 1993, President Clinton announced the recognition of National Forest Products Week, a period during which Americans were invited to participate in ceremonies and activities calling attention to the need for healthy and productive forests. And following a programme calling for "New Perspectives," or "New Forestry," from the 1990s on, the Forest Service tried new ways of incorporating the concept of biodiversity into national forestry management. Healthy Forests Initiative, Initiative for kids, The Forest Service "More Kids in the Woods" pilot programme aims to build meaningful and lasting connections with nature and re-establish the relevance of the nation's forests and grasslands to all Americans, especially young people and urban populations (Source: USDA web-site).

SOUTH AFRICA

A leading paper manufacturer and WWF in South Africa established a partnership in 2000: Tree Routes. The aim of the Tree Routes Partnership is to conserve indigenous forests and wetlands near the paper manufacturer operations through the development of eco-tourism projects. The partnership meets several key developmental challenges facing South Africa including the alleviation of poverty, skills transfer and the preservation of natural resources.

In April 2006, a global pulp and paper group, announced land-based empowerment transaction, as part of its ongoing support of the South African government's Broad Based Black Economic Empowerment objectives, 25 percent of its South African plantation land portfolio would be sold to an empowerment consortium.

AUSTRALIA

"World Forestry Day". Australian Government funding of $350 000 to establish an industry skills communications strategy." The funding from the Department of Education, Science and Training (DEST) will assist NAFI and A3P to increase their members' understanding of the National Training System and the opportunities it provides to attract new employees and participants into the forestry, wood and paper industries (wood and paper industry welcomes federal government funding for future skills needs, March 2007, NAFI web-site).

The communications strategy will also assist forest industry companies in attracting new employees by providing information materials to the careers advisers networks and schools in key areas of forestry operations, including Southern WA, Tasmania, regional Victoria and NSW.

PROJECTS

Environment Canada launched a Smart Regulations Project on Pulp and Paper Environmental Effects Monitoring and Water Quality in early 2005. In March and April, FPAC joined policy experts from the federal government, aboriginal and environmental communities to represent industry interests and explore critical issues related to environmental effects monitoring regulations, including how the industry can leverage an effective environmental effects monitoring programme into competitive advantage and how to improve the programme's overall efficiency.

A Canadian Forest Association focuses on increasing communications activities to create a distinctive brand and policy voice. The communications strategy has incorporated "Embracing a New Vision – Rebuilding Forest Industry" as the foundation for "From Crisis to Collective Action – A New Vision Emerges." The report defines ten main objectives strives toward:

- World-class mills
- A vibrant, growing, value-added industry
- Brand-name products and expanded markets
- Worldwide respect for environmental leadership
- Successful resolution of land-use issues
- World-class safety performance
- More full-time stable jobs
- Workers leaving the industry are treated with dignity and respect
- More opportunities for small businesses

The association works with the provincial and federal governments to develop and implement policies, programmes that ensure business certainty, business continuity, reduce costs and protect tenure rights. The association engages government on land-use and environmental policies with these current priorities:

- Completion of land-use plans
- Sawmill Codes
- Species at Risk Act and its recovery plans

The association focuses on communicating clear and concise messages to:

- Brand the industry as world leaders in forest stewardship and forest certification
- Promote advances in land-use planning
- Counter ENGO marketplace campaigns
- Promote new and innovative approaches to sustainable forestry
- Promote industry achievements in environmental protection

THE KATOOMBA GROUP: A FOREST TRENDS' INITIATIVE

The Katoomba Group is an international working group composed of leading experts from forest and energy industries, research institutions, the financial world, and environmental NGOs – dedicated to facilitating strategic partnerships that can launch green forest products in the marketplace. Serving as a source of ideas for and strategic information on ecosystem service markets, the Katoomba Group provides an array of market analyses and tools.

ABUNDANT FORESTS ALLIANCE

The Abundant Forests Alliance (AFA) is an organization formed by American leading companies of the wood and paper products industry. The aim of this coalition is to inform consumers and their customers about sustainable forestry practices, new technologies, increased recycling and other advances made by the industry that make it possible to have the wood and paper products needed and a healthy forest resource.

AFA COMMUNICATION STRATEGY

The mission of the Alliance is to proactively address arguments against forest products and customers and engage customers in a dialogue about North America's forests. The theme of many of customer communications materials is "Come in Under Our Canopy".

AFA objectives are to change the public opinion by:

- becoming more proactive;
- being more strategic and aggressive about getting out our environmental stewardship messages;
- highlighting wood and paper as renewable resources;
- demonstrating our commitment to solutions that preserve balance;
- being open and transparent in our dialogue and approach to solutions.

The target consumer audience determined by AFA, after a consumer research, is a group called "Legacy Moms , women age 35–54 with children at home. Women like and use AFA products, but they are concerned about the environmental legacy they leave their children.

AFA used a wide variety of activities with key elements to reach people: Targeted Advertising (Print and Online), Cause Marketing Program/Literacy, Consumer PR/Ongoing Media Outreach, Consumer website (www.abundantforests.org), Costumer website (www.abudantforests.net), Sharing Information (Report), Facts.

Advertising (print and online) is an important component because of the control it gives the alliance for getting its messages out without distortion. Its messages will help tap into what consumers care about (i.e., benefits) while providing information about our industry.

While advertising gives AFA maximum control over the content and placement of its message, it is also looking to extend messages about its products and its environmental stewardship through third parties and partnerships with forest farmers, such as Rolling Stones' keyboardist Chuck Leavell and highly visible causes like First Book.

ADVERTISING PROGRAM

"The images in the advertising capture Legacy Moms' attention and remind them how much they enjoy the beauty, comfort and innovation that wood and paper products bring to their lives, not to mention the beauty of the forests that provide them. The ads reassure Legacy Moms that using these products does not diminish today's forests, or tomorrow's, because the forest industry is working hard to maintain balance" (www.abundantforest.net).

AFA COMMUNICATIONS TIMELINE 2005–2006

Print Advertising Country Home Better Homes & Gardens Ladies Home Journal Child Parents Scrapbooking, Etc. Family Circle Real Simple Oprah	**Consumer PR** Media Pitching Chuck Leavell Book Tour in New York City The Tree Farmer On-Sale Chuck Leavell Book Tour in Los Angeles Chuck Leavell Book Tour in Dallas Chuck Leavell Book Tour in Chicago First Book Cause Marketing Partnership Family Trees Program Scrapbooking Campaign & 500 Retail Events Mother's Day Program Back to School, Literacy Program
Consumer Website abundantforests.org	**Customer Tools** abundantforests.net Ongoing Training and Response Webinars
Online Advertising HGTV.com iVillage.com FamilyFun.com American Greetings BHG.com, Countryhome.com, Child.com, Familycircle.com, LHJ.com, parents.com	**"State of the Forests" Report** Research/Development Publication & Promotion

ONE WAY AFA IS COMMUNICATING RENEWABILITY

THE TREE FARMER BOOK

Cover of Chuck's children's book

This book, written by Chuck Leavell and Nicholas Cravotta and illustrated by Rebecca Bleau, aims to educate children about the environment and each of our roles as environmental stewards. AFA is looking to extend its messages about its products and its environmental stewardship through third parties and partnerships with forest farmers such as Rolling Stones' keyboardist Chuck Leavell and highly visible causes such as First Book. Rolling Stones keyboardist Chuck Leavell's released the book and children's website www.thetreefarmer.org. AFA conducted three local events, corresponding with Rolling Stones' tour dates (November 2005–January 2006) to promote the book and further generate media. (http://www.abundantforests.net).

PLANT IT FORWARD INITIATIVE

Plant it Forward is a program that helps build positive consumer associations with wood and paper products, it educates consumers about what the industry is doing to keep forests healthy and thriving, and it contributes to a network of environmental responsible individuals and businesses.

AFA is promoting *Plant it Forward* through Ads in ten of the nation's top magazines that reach its Legacy Moms. The microsite is also being promoted through earned media and an increasing number of Web outlets, such as AmericanGreeting.com. Source: www.abundantforest.net

FIRST BOOK AND AFA

"AFA has partnered with First Book, a national non-profit with the mission of providing children from low-income families the opportunity to own their first new books. This is a long-term partnership that will enable the distribution of millions of books to children across the country.

First Book has launched Book Relief in response to the Hurricane Katrina disaster. The goal is to distribute at least 5 million books to displaced children and adults, to schools and literacy programs embracing the evacuees, and eventually to schools and libraries in the Gulf Coast as they are rebuilt. AFA is honored to be on the steering committee of this initiative, which includes major publishers, the Children's Book Council and the Library of Congress.

Book Relief involves a public call to action. The public is being asked to "sponsor" books. Every donation of 50 cents will sponsor one book.

AFA also will work with First Book to make other major book donations and distribute books across the country over the course of the upcoming year"(source: www.abundantforests.org).

VI. NEGATIVE ASPECTS OF FOREST INDUSTRY COMMUNICATION TO THE PUBLIC: WHAT MESSAGE IT GIVES TO THE PUBLIC

Industry claims about the sustainability of forests and forest products have become ubiquitous. These often include simplified statements such as "we plant two trees for every one we fell", which clearly reflect a set of values reducing the role of forests to fibre factories, and implicitly promoting perceptions that support these values. Such perceptions might include, for example: that forests are de facto defined by the presence of trees; that plantations and forests are equivalent and transposable; that "forests' can be re-created through planting; that forests have to be replanted otherwise they senesce and die; that forests can be harvested in a way that evokes the perennial sustainability of agricultural systems. Terminology such as "tree farms", introduced by the private sector and governments into popular vocabulary, with the help of public relations' companies, has tended to reinforce such perceptions.

In the context of multipurpose management of forests, there are obvious inconsistencies and contradictions in such a set of perceptions. As Carrere and Lohmann point out, these inconsistencies require the promoters of such perceptions to address different audiences with different messages. Thus, while spokespeople for the forest industry may be keen to promote to undiscerning audiences the simplistic notion that "trees are good", they are quick to disavow such confusions with more sophisticated audiences, with whom it is argued that industrial plantations should be regarded in the same way as agricultural crops. The connection between public perception of forests and forestry policy, as well as the differences in perceptions of forestry among different sections of society, has been recognized by Cubbage (1991): "People living in cities, and the more affluent and educated, generally favour increased regulation. Forestry is still viewed favourably by rural residents, and by the poorer and less educated, but the number and influence of these people are declining ... Foresters may practice good forestry, but if the general public believes otherwise, laws to regulate forest management and logging can and will be passed".

A PULP MILL CONTROVERSY AND ENVIRONMENTAL RISK, CANADA

In July 1990 the pulp mill (Daishowa) of Alberta province began operation. The Friends of the Peace group was formed in direct response to the building of the pulp mill. Later another environmental group called Northern Light rallied public support against pulp mills, river pollution and unsustainable forest practices. Daishowa's position has been consistent with their original commitment to equip the pulp mill with the Best Practical Technology required by the provincial environmental arm: oxygen delignification, chlorine substitution and extended delignification for effluent discharges. The company further instituted a detailed programme to ensure that the Peace River quality, fisheries and downstream users would be protected.

Analysis of the company's communication efforts with the public showed that the company's efforts were more reactive than proactive. This was most in evidence in their reliance on public meetings, knowing well that attendance at these meetings was going to be limited. Furthermore, specific environmental problems were addressed after the fact. During a meeting, prior to the building of the mill, the company understood it could be a problem, but no other information was released. There was also considerable scepticism about the environmental analyses conducted on the project. Not surprisingly, the public and environmental groups were more concerned about wildlife and the loss of natural resources. The company's position was that they were practising logging and reforestation based on sustained yield. However, the fact that there was no precedent and no tested regulatory procedures on how to manage and sustain the forest resource attracted a wide range of opinions about forestry resource development and protection.

In considering the various ways in which public understanding of specific issues occurs, it is important to understand that there is differential learning about science concepts. Despite information availability, risk estimations do not always coincide with actual estimations. People often overestimate or underestimate severity of risks and this may have something to do with similar presentations by the media. The dimensions about risk issues as an avenue for public understanding of science afford a different opportunity for communicating. Communication strategy needs to take into account the process and context within which public understanding may occur. There is an information environment available to the public and, at the same time, there may be more active information-seeking among some segments of the more involved publics.

It should be considered that sometimes, public choices may be made on the basis of social and cultural values that have little to do with scientific assessment.

Expertise is not resident only among experts. For too long, the public has been treated with condescension by the communication professionals.

The Brazilian Forest Product Industry has often been attacked by NGOs for not improving social conditions of the regions. The view supported by companies and Brazilian government is that the sector is a significant agent for social and economic development.

CONFLICTS WITH INDIGENOUS COMMUNITY: ARACRUZ CASE

In September 2004, about 700 people, indigenous people and members of the Movement of Landless Peasants (MST) destroyed 4 ha of Aracruz's eucalyptus plantations. In November 2004, the International Finance Corporation, part of the World Bank Group, approved a US$50 million loan to Aracruz. In May 2005, indigenous people started cutting thousand of eucalyptus trees to define the boundaries of their land as a protest for this credit line.

Many NGOs protested that IFC policies and decisions are not environmentally and socially correct and the Aracruz case is an example. This fact shows how it is important to dialogue with communities.

The damage caused by the company consists mainly in: 1) lack of juridical certainty on the company land's borders, 2) impact on the certification process and 3) effect on the reputation.

VII. POSITIVE COMMUNICATION STRATEGY OF FORESTRY INDUSTRY

All the major firms in the Brazilian market pulp sector have incorporated an environmental and -to a lesser extent- social discourse in their ongoing activities. Their organization has produced and distributed a booklet (ABECEL) which explains the environmental and social advantages of eucalyptus cultivation by the industry.

ARACRUZ CELULOSE

The company produces printed and visual materials aimed at different audiences and is carrying out research on potential environmental impacts of its activities, all aimed at proving that "all of the Company's activities are carried out under the principles of sustainable development, which involves promoting social and economic growth in harmony with nature".

FOREST PARTNERS PROGRAMS

Brazilian Companies developed a kind of forest partners programs, plans of familiar or semi-familiar silviculture development, where the company offers technical assistance to local farmers and sometimes financing, the culture of trees by small farmers, often guaranteeing the purchase of the wood at a pre-established prices. (Banco Real ABN AMRO. Equity Research-November 2005. Sustainability Report: Brazilian Forest products sector). Aracruz maintains a posture of ethical behaviour with the partners in the program, constantly reviewing the prices of wood, adjusting the contracts to the needs of the farmers – including regarding the liberating of funds – and assuring excellence with regard to technical assistance (source: http://www.aracruz.com/home.do?lang=2).

SCHOOL OF LIFE PROJECT

Developed by Celulose Nipo-Brasileira – Cenibra in collaboration with the Ipatinga's Relictos foundation, the project promotes environmental awareness and knowledge of nature among municipal elementary school.

BRACELPA CAMPAIGNS

"Folding Box Board Campaign. The Folding Boxboard Campaign, one of the winners of the *Top de Marketing de 2001/2001 Marketing Top Award*, is a pioneer campaign. Historically, this is the very first time (1999) that the Brazilian pulp and paper industry promotes an institutional campaign, with informational, educational and commercial actions, encompassing public relations efforts, publicity and advertising, public opinion, billboards, TV advertisements, promotional events and awareness activities, followed by press release support" (source: http://www.bracelpa.org.br).

Bracelpa Stamp called "FOLDING BOXBOARD FOR PACKAGING, APPROVED BY NATURE".

EXEMPT PAPER CAMPAIGN

The industry endeavoured to support the federal government to assure the constitutional guarantees to the accredited companies and, by doing so, pushed away the tax evaders, who not only do not pay the due taxes but who were forcing a disloyal competition as well (source: http://www.bracelpa.org.br).

I want more Brazil. The initiative was launched recently and its aim is to mobilize society in the quest for transparency in public and private business, an efficient management of public affairs and the generation of a favourable environment for investments.

The goal is to make society aware of the main issues in the nation and try to identify and propose solutions to solve the problems (source: http://www.bracelpa.org.br).

Pulp and paper industry is the most advanced part of the Forest and Paper sector in Brazil. The Clean Development Mechanisms Market in Brazil has increased significantly in the last few years. Brazil has the first methodology for a CDM project approved by the Methodology Panel of the United Nations Framework Convention on Climate Change and has several other methodologies under validation.

UNITED STATES

Negative focus on industry forest management practices by environmental groups, local, state and federal regulators/legislators and the media. In 1998, in the United States, public perceptions of the industry were negative with a majority of Americans saying that the forest and paper products industry had caused environmental problems. Under the pressure of environmentalist groups supported by a majority of American citizens, the federal government had enacted numerous laws and regulations aimed at curtailing or eliminating logging activity. In 1997, the American Forest and Paper Association (AF&PA) developed a marketing campaign, communicating effectively to a number of diverse audiences and measuring the effectiveness of the campaign through ongoing studies. The most difficult task was to convince legislators, regulators, customers, the general public, and even environmentalists, that "responsible environmental stewardship" should entail active, thoughtful management of the forests, including responsible logging and production. Further, the campaign had to demonstrate that the industry is a responsible environmental steward, as demonstrated by its commitment to technology and the science of forest management. Before it could change people's attitudes towards the industry, AF&PA needed to understand why people felt the way they did about forests and nature through a large-scale qualitative study among the industry's core stakeholders (government officials, regulators, environmentalists). They learned that people's definition of "responsible environmental stewardship" rests on personal values of "preserving forest habitats for future generations" and "preserving life through the protection of wildlife habitats". The industry needed to show that it shares these values.

The Sustainable Forestry Initiative (SFI) is an extensive programme of self-regulation (plan standards, governance, certification, continuous improvement, and communications). Targeted campaign: the B2B target audience for this campaign, dictated the selection of print (trade press, general business magazines and newsletter) as primary medium of advertising. A few TV spots were also developed, targeted to specific localities where this issue is especially active. The association also utilized an online campaign, media kits and sales kits focused on the issue and solution. The same research-based communication strategy and research-refined messages used in the campaign have also been used to inform the Association's lobbying efforts. Surveys were conducted to test the appeal of specific wordings. Focus groups and other forms of message testing research were used to refine these into powerful ads that work. Perceptions among general public have changed: in 2003 only 39 percent of the general public viewed the industry as part of the problem when it comes to managing the natural resources and protecting the environment, down from 54 percent in 1997 (AF&PA, 2006).

PRESS RELEASES

Ad Campaigns, examples: 1) Healthy Forests don't just happen. 2) Imagine sustainable energy that doesn't compromise the environment (The U.S. Forest and Paper Industry creates 60 percent of its total energy needs by turning biomass into a renewable fuel source. 3) Renew....Recycle- The Sustainable Forestry Initiative (SFI) Program.

EUROPE

The Wood and Paper industry sectors in Europe have launched several youth-related communications projects to enhance the awareness of the industry as an economic player and as a potential employer (Source: http://www.f-bi.org/content/index.asp).

These projects can be useful for teacher and responsible of communication to learn more about the economic, environmental and social impact of the Wood and Paper industries.

Woodland Bus Tour – United Kingdom
A yellow bus visits schools in the Scottish Borders to bring forests, forests issues and manufacturing to children.

Papertruck – Germany:
The papertruck is a mobile miniature paper machine on a trailer, which is used to demonstrate industrial paper manufacturing at public events and to attract young people to join the paper industry. (Wood and Paper – Opportunities for generations

Træets Kompetenceformidling – Denmark
Various campaigns are run via the media (radio, internet, press) and a website is available (www.traefremtid.dk). Information folders have been sent to schools and contacts were made with careers advisers. Various activities involving visits to companies are taking place to promote the industry.

In Europe, a good example of communication are the initiatives of The Nordic Timber Council, which has recently set up campaigns in various European countries:

- *wood. for good*, is a generic wood campaign, which started in 2000. Wood. for good is the largest timber promotional campaign ever undertaken in the United Kingdom.
- *Le bois c'est essential* (Wood is Essential) France. "The "Le bois, c'est essentiel" campaign's first target will be to address a series of preconceived ideas the public has about wood. The first one to be tackled will be that forests are shrinking and our wood resources are subsequently being depleted. TV, press and Internet: "*Did you know that in Europe consuming wood is good for our forests?* "This initial message about forests is the starting point for the Nordic Timber Council/CNDB campaign on wood aimed at the general public in France, which began on 30 October 2004. The campaign 2004 focused on the printed press, the Internet, and TV."
  (Source: http://www.nordictimber.org/ntc/news_archive.asp?NodeID=105)

VIII. THE ROLE OF NGOS

It is important to consider the significant influence of NGOs – the organizations that are independent of government regulations and are free to promote their views in any manner they wish. In 1997, the Rainforest Action Network published a volume titled "Cut waste, not trees: A wood use reduction guide" (RAN, 1997). This volume is part of the campaign "to save the world's ancient temperate, tropical, and boreal forests by reducing the over consumption of wood products and not logging forests that purify our air and water, without which we cannot survive" (Mater J., 2005).

It has become a principle of the environmental movement to insist that wood and paper products be certified as originating from sustained, managed forests. Movement members even created their own organization, the Forest Stewardship Council, to make the rules and hand out the certificates.

Many corporations felt compelled to accept restrictive buying policies for wood and paper products to demonstrate loyalty to the cause. As with so many environmental issues, it's not that simple, and the result may damage the environment rather than improve it. The environmental movement's campaign to force industry into accepting it as the only judge of sustainable forestry is pushing consumers away from renewable forest products and toward non-renewable, energy-intensive materials such as steel, concrete and plastic.

In Europe, the environmental groups have conveyed to the public the belief that the paper industry is a tree killer. This has translated in a number of corporate campaigns including the financial services to reduce paper consumption and therefore save trees. Behind it there is an overriding goal of cutting costs.

Even Lexmark, a printer producer, launched a campaign to reduce photocopying printing.

Switching to online invoices (i.e Telekom Austria) keeps Amazone rainforests alive

NGOs have multiplied their campaigns against the use of paper, and the proliferation of tools to assess paper from an environmental point of view (latest is WWF Paper Scorecard).

The Vision for Transforming the European Paper Industry puts on industry unrealistic requirements such as the use of 100 percent recycled fiber.

All this has reflected not only in the image of the paper industry, but of forestry as a whole. Raising funds for forestry projects in developing countries is proving to be very difficult as forestry is associated with bad practices, and financers prefer to invest in less controversial assets. Afforestation programmes are not well funded because of that. The fact that only one forest CDM has been approved so far reflects the mistrust that there is for afforestation programmes.

Anti-forestry groups, such as the Sierra Club and Greenpeace in North America, make endless and often unreasonable demands restricting forestry practices. Meanwhile, the same environmental groups won't acknowledge that some regions – such as California – already comply with government regulations that meet or exceed guidelines imposed by the Forest Stewardship Council.

Wood is the most renewable and sustainable of the major building materials. On all measures comparing the environmental effects of common building materials, wood has the least impact on total energy use, greenhouse gases, air and water pollution and solid waste.

So why isn't the environmental movement demanding that the steel and concrete industries submit to an audit for "sustainability"? Where's the green steel, concrete and plastic? These materials are non-renewable, require vast amounts of energy to manufacture and recycle and are contributors to GHG emissions.

Why does the environmental movement stand silent in the face of promotional campaigns by steel and concrete interests that leverage mythical environmental claims against wood for their own commercial benefit? The answer is – because emotive images of forests sell memberships.

The environmental movement has unfortunately led the public into believing that when people use wood, they cause the loss of forests. This widespread guilt is misplaced. North America's forests are not disappearing. In fact, there is about the same amount of forest cover today as there was 100 years ago, even though the wood consumption per capita is higher than any other region in the world (Moore P., 2002).

“Paper Industry Laying Waste to North American Forests: Kimberly-Clark and other top U.S. manufacturers are sacrificing our most ecologically rich forests to make disposable tissue paper products. “*Natural Resources Defence Council”* .

Website communication/information means: *online guide for consumer*: "Use your wallet to change industry's bad practices"; *online guide for businesses; online petition:* "Tell Kimberly-Clark to stop using virgin fiber to produce throwaway paper products" *Sending a message* (Source: http://www.nrdc.org/land/forests/tissue.asp).

GREENPEACE BOOK CAMPAIGN

"Leading international authors such as JK Rowling, Ian Rankin, Günter Grass, Marlene Streeruwitz, Isabel Allende and Andrea De Carlo are just some of those working with Greenpeace to ensure that their future books are printed on 'ancient forest friendly' paper such as recycled and Forest Stewardship Council (FSC) certified paper." This campaign has already been very successful in Canada where Markets Initiative (a coalition project of Greenpeace Canada and other environmental groups) has worked with book publishers since 2000. Over 72 leading Canadian publishers, including Random House Canada and Penguin Canada have made formal commitments to use only "Ancient Forest Friendly" book papers.

- If a book is printed on recycled and/or FSC certified paper it will normally state it on the first few pages of the book . This may be accompanied by a "recycled" logo or an "FSC" logo.

TISSUE CAMPAIGN

Canada's Boreal forest: Ancient forest under threat.

"Canada's Boreal forest is one of the largest tracts of ancient forest left in the world. Almost 80 per cent of the Earth's original forests have already been degraded or completely destroyed, making the protection of our Boreal forest all the more important.

One of the major threats to Canada's Boreal ecosystem is clear-cut logging to make disposable products such as toilet paper and facial tissue. Greenpeace is working to stop the destruction of Canada's largest intact ecosystem by trying to persuade consumers, institutions and companies to choose ancient forest friendly tissue products – ones made from 100 per cent recycled content"
(Source: http://www.greenpeace.org/canada/en/campaigns/boreal).

The Greenpeace Shopper's Guide to Ancient Forest Friendly Tissue Products lists over 140 products available in Canada, and classifies them by how "friendly" they are to our ancient forests. To view tissue products by category, the user has to click on a category (Toilet Paper, Facial Tissue, Paper Towels, Napkins).

KIDS FOR FORESTS

The project is currently active in 13 different countries in Europe, Asia, North America and South America where young people are standing up for the protection of the Earth's last ancient forests.

Press releases. On Thursday, 21 December 2006 – Greenpeace brought European public attention to Kimberly-Clark's clear cutting of Canada's Boreal forest through an ad in the International Herald Tribune. The ad shows a Kleenex tissue box and instructions on how to continue destroying ancient forests using the company's products.

FOREST ETHICS

*Chile's native forests Campaign.*13 September 2002, New York Times – An advertisement run by ForestEthics in national edition of the New York Times raised the profile of an international campaign

to protect Chile's last remaining native forests. The advertisement, which called on United States purchasers to stop buying wood products from Chile unless certified as sustainable by the FSC, drew United States attention to an issue that has been front-page news in Chile for weeks – the destructive conversion of its rare native forests into non-native tree farms.

In November 2003 Chile's two most important forestry companies – Arauco and CMPC – signed an agreement to assure better conservation methods. The agreement was signed with Forest Ethics, United States company Home Depot, five Chilean environmental organizations and four other United States-based NGOs. It committed the two Chilean companies to take positive steps to protect their native forest properties, to implement land buying procedures that discourage the devastating practice of replacing native forests with tree farms, and to develop eco-system based planning for the native forests now in their possession. It came after Forest Ethics and other NGOs mounted a serious consumer awareness campaign with United States retail chains that threatened Chilean wood product sales in the United States. The campaign climaxed with the publication of a full page ad in The New York Times lambasting the devastation of Chile's native forests by Chile's forestry industry.

The Forest Ethics tactics were vigorously denounced by Chile's forestry industry. Still, in November 2003, Chile's two leading forestry companies committed to developing policies to protect native forests and agreed to forgo buying timber or engage in tree plantation farming on any properties that had been covered in native forest from 1994 onward.

CANADA BOREAL FOREST CAMPAIGN

November 3, 2005. Leading international environmental organizations coordinated efforts at more than 350 protests and events across the United States and Canada, calling on companies to end the destruction of North America's largest ancient forest, the Boreal. As part of an International Day of Action to raise awareness about threats to the Boreal, the groups demanded that companies, such as Kimberly-Clark, Victoria's Secret, and Xerox stop using paper that comes from Endangered Forests in the Boreal in their tissue products, catalogues and copy paper. In addition, advertisements began running in the New York Times and online with FoxNews to highlight the importance of this critical forest.

Protests and events were held in cities as diverse as Birmingham, Ala.; Edmonton, Alberta; Halifax, Nova Scotia; Las Vegas, Nev.; Seattle; Toronto; Tulsa, Okla.; and Wichita, Kans. In suburban Atlanta, activists protested outside Kimberly-Clark's operations headquarters, where the company's vice president of environment and energy works. In New York City, Reverend Billy and his Church of Stop Shopping preached outside the Victoria's Secret in Herald Square and performed a skit involving "saving" a fallen Victoria's Secret angel.

CANADA GREAT BEAR RAINFOREST CAMPAIGN

ForestEthics, along with local communities, First Nations (aboriginal groups), logging companies, major corporations and other environmental groups, reached an historic agreement to protect 5 million acres of the Great Bear, a measure which was officially endorsed by the government of British Columbia on 7 February 2006. The agreement also calls for a revolutionary form of lighter-touch logging, Ecosystem Based Management, throughout the entire Great Bear Rainforest – over 15 million acres that make up almost the entire west coast of Canada.

INLAND RAINFOREST CAMPAIGN. MARKET CAMPAIGNS

For the past decade, ForestEthics has been exposing the hidden links between products such as paper, lumber, and newsprint, and the environmental devastation that often results from their production. It calls campaigns against specific companies "market campaigns" because its goal is to shift the practices of whole industries or markets.

Given the current legislative environment and administration in the United States, market campaigns are proving to be one of the most effective tools to protect the environment.

ADVOCACY EFFORTS

A coalition of environmental organizations in the United States and British Columbia, including ForestEthics, is working to raise public awareness of the mountain caribou crisis, and translate public concern into action by government decision-makers. The Mountain Caribou Project has helped deliver almost 20 000 faxes to the British Columbia government, given dozens of public presentations in British Columbia and the United States, and negotiated voluntary logging moratoria with timber companies. The Mountain Caribou project website contains a list of participating organizations, more information on mountain caribou, and photos of mountain caribou and caribou habitat.

THE PAPER CAMPAIGN

The Paper Campaign is a national movement led by ForestEthics and The Dogwood Alliance. The campaign was created to unify the forest movement behind a single set of demands. The goal is to protect forests by changing the way paper is made in the United States. This market-based approach uses public pressure, protests, events, articles and paid media, and negotiations to persuade key companies to make environmental commitments.

The Paper Campaign generated intense market, media and public pressure on its first target, Staples, Inc. by leading a coalition effort that included over 600 demonstrations at Staples stores, articles in the *Wall Street Journal*, *Boston Globe*, *San Francisco Chronicle*, and *Business Week*, and stories on National Public Radio, CBS Radio, and *The News Hour with Jim Lehrer*. Even rock giants R.E.M. weighed in on The Paper Campaign with a public service announcement that aired on major network and cable stations all over the country in 2002.

On 12 November, 2002, the Paper Campaign joined office supply giant Staples Inc. to announce the end of our campaign against this industry leader and the beginning of Staples' landmark new environmental commitment. This agreement is the culmination of a two-year effort by The Paper Campaign, which involved dozens of citizen groups dedicated to moving the marketplace out of endangered forests and towards recycled paper (Source: http://forestethics.org/).

The use of the Internet by ForestEthics is a significant move towards reaching a new and receptive audience for their message. On the Internet, it has the chance of being more "believable" and better received by a more influential audience.

There is a larger collection of issue oriented activists, well informed, knowledgeable and engaged "influentials" in the "netizens" group that tend to haunt the web. Industry has not caught on to this reality as yet and they ignore it at their peril. As George Lakoff of the Rockridge Institute says, "The facts, while interesting, are almost totally irrelevant. It is how you frame the issues and activate values that make the difference in public opinion" (Canada's blog site).

SOUTH AFRICA

The World Rainforest Movement stated that "the South African pulp and paper group Sappi boasts of the "excellent operating efficiencies" in the region, but that may be just a way of how profits and liabilities are settled. It's not the company who bear the environmental and human costs of its activities – externalities, they call it. It will not pay for the diminishing or contaminated water, the shrinking forests, the lost ecosystems. It will not pay for the poverty of the people deprived of their livelihood and now depending on meagre salaries that allow for those "excellent operating efficiencies" (Source: "South Africa: Tree plantations render corporation profits but fire, damages and death for the people" WRM Bulletin, February 2003. www.wrm.org.uy).

CONGO

Photo: Madjoko, Bandundu Congo.

International groups including the Rainforest Foundation, along with leading Congolese environmentalists, called for at least a ten-year freeze on the allocation of new areas for timber cutting in the Congo. Greenpeace recently joined the Rainforest Foundation's Stop the Carve-Up of the Congo campaign (Source: Plight of Congo forests grabs world attention, 2007. www.wrm.org.uy).

"Logging companies promise us wonders: work, schools, hospitals, but actually, they seem to be only interested in their own short-term profits. What will happen when our forests have been emptied? They will leave and we'll be the ones left with damaged roads, schools with no roofs and hospitals without medicine," said Pasteur Matthieu Yela Bonketo, coordinator of CEDEN, a Congolese NGO active in Equateur province. Twa and Bantu people who totally depend on our forests and the local communities who live in them are suffering because of the presence of the industry," he concluded (Brussels, 2007.http://www.greenpeace.org/).

ASIA

Friends of the Earth, one of the most extensive environmental network in the world, states that "Asia Pulp and Paper (APP) – one of the largest paper companies in the world – is responsible for the destruction of a large area of Indonesian rainforests"**.** According to the Global Forest Watch, nearly three-fourths of Indonesia's rainforests have now been destroyed. It has been estimated that 40 percent of the wood consumed by the Indonesian pulp and paper industry is likely to have come from illegal sources. Friends of the Earth says that APP's rainforest derived paper is in widespread use in the United Kingdom, anonymous and supported by British banks (http://www.foe.co.uk/index.html).

"The APP paper is mostly un-branded or re-branded by British paper companies. As a result, it is being passed on to millions of innocent United Kingdom consumers who are given no information about its destructive origin. It is not clear whether, or to what extent, the United Kingdom paper merchants are aware of APP's damaging operations" (http://www.foe.co.uk/index.html).

FRIENDS OF THE EARTH INDONESIA

Forest campaign –- World Call to Save What's Left of Indonesian Forests!

In January 2006, one hundred international environmental, indigenous rights and human rights organizations from 25 countries have launched a call for Deutsche Bank, Austria's Raiffeisen Zentralbank and Andritz to cease their involvement in the deforestation of indigenous lands in Indonesian Borneo. The growing international alliance focused on the environmentally damaging United Fiber System (UFS) pulp mill and chip mill planned for South Kalimantan and the Kiani

Kertas pulp and paper mill in East Kalimantan. UFS plans to acquire Kiani Kertas with the help of Deutsche Bank. Citing findings by international donors and research institutes that the majority of timber from Indonesia's forests, up to 73 percent, is illegally logged, the groups outlined the lack of legal timber supplies for the UFS and Kiani Kertas mills, as well as the lack of due diligence by financial institutions considering involvement in the projects. The pulp and paper industry of Indonesia still feeds on 70 percent natural forests. Only 30 percent of the wood supply comes from plantations. “Another pulp mill in Borneo would mean more troubles for indigenous and local communities and the destruction of vast areas of natural forests“, added Daniel Hausknost, rainforest campaigner with GLOBAL 2000. (Source: web-site of The Indonesian Forum for Environment (WALHI - Friends of the Earth Indonesia)).

CHINA

The World Bank estimates that in Myanmar alone, half of logging is unauthorized, and environmentalists say almost none is sustainable. Because Myanmar and China share a long, remote land border, much of the timber is also exported to China illegally. Beijing states it is clearing up the problem – ironically exacerbated by a sharp clampdown on logging within China's borders – after a blaze of embarrassing publicity.

Campaign group Global Witness (UK-based NGO) says the flow of illicit timber has indeed slowed. But as long as wood passes through border crossings with the correct papers, China has shown little interest in checking how sustainably it was harvested.

Much of the timber sucked into China heads back overseas after passing through its factories. Its economy may be booming but few are rich enough yet to afford teak floors.

But some consumers are starting to ask where the wood they are walking on or eating off came from.

And campaigners are hoping that if buying patterns change overseas, it will impact the industry in China, where profits can have a stronger influence than government policy. In some places the mix of consumer pressure and legal crackdown is already being felt (Reuters, Emma Graham-Harrison, 11 June 2007).

Photo: Labourers work at a timber plant in Baokang, central China's Hubei province, 9 May 2007
Greenpeace called on China's large DIY (do-it-yourself) retailers to adopt "responsible" timber-sourcing policies to allow the country's growing ranks of home renovators to buy legally imported wood.

The environmental group's China office said foreign and local DIY operators were selling illegally imported timber from forests in Southeast Asia, Africa and Brazil, and providing consumers with no way of checking their origins. (China needs "responsible" timber choice – Greenpeace 17 May 2007 (Source: Reuters). "In most cases, Chinese consumers in this market have no way of distinguishing legal timber products from illegal ones," Liu Shangwen, Greenpeace forestry project director, told a news conference.

In a report entitled "Sharing the Blame: Global Consumption and China's Role in Ancient Forest Destruction," Greenpeace presented documentation that China is now the world's largest importer of tropical woods. "Half of all tropical trees logged globally end up in China," a press statement said. "Much of this wood comes form Indonesia and Papua New Guinea, where between 76 to 90 percent of the logging in illegal."

The Ministry of Foreign Affairs stated that China will join international efforts to tackle illegal logging and timber trade, and importers of Chinese timber products in Europe committed themselves to stop buying products made with illegally logged species from the Paradise Forests. (Nature News. "Greenpeace highlights China's role in forest devastation". Mar 29, 2006).

The Chinese wood products industry has come under increasing international attention for its potential role in importing and exporting wood materials that cannot be verified. as having come from sustainably managed or even legally harvested forests around the world. In the past two years several Chinese firms have begun to implement chain-of-custody systems that can demonstrate legal and sustainable products from forests to end consumer. Over 100 Chinese companies have obtained FSC COC (Chain of Custody) certification in recent years, and there are now a number of FSC certified forests in China. China has established 13 test projects for its own forest certification scheme. In Europe, Japan and North America, there have been rising calls not only from NGOs but also governments to sanction China wood processing companies because of the perception that they are gaining market advantage by using illegally sourced wood. International groups are helping Chinese companies to improve their supply chain: the Tropical Forest Trust (TFT) and WWF are pursuing projects that aim to link Chinese companies to sustainably managed forests, and then to the market. WWF in 2005 launched its China Forest & Trade Network (FTN), as a part of WWF's Global Forest & Trade Network (GFTN), a global effort to improve forest management and encouraging buyers to act more responsibly in their purchasing of forest products. TFT has translated its "Good Wood, Good Business" publication into Mandarin, providing an industry-oriented guide for Chinese businesses interested in excluding illegal wood from their supply (M. Brady & Kerstin Canby. Information Bulletin: China and East Asia. Role models in China's Forest Products Industry, April 2007. Issue 8).

IX. FORA ON FORESTRY INDUSTRY

THE PAPUA NEW GUINEA ECO-FORESTRY FORUM

The Eco-Forestry Forum works to promote sustainable forest use through its information Programme, practical manuals on small-scale sawmilling and support for the development of forest certification.

The information programme includes the publication of a quarterly newsletter, Iko-Forestry Nius; annual World Environment Day magazine; media articles and features and the distribution of videos, reports and other awareness materials.

GREENPEACE FORUM: ANCIENT FORESTS. DISCUSS TOPICS ABOUT DEFENDING ANCIENT FORESTS AROUND THE WORLD.

Quote: *"Folks, Can we save trees by reducing the consumption of Tissue Papers?*
In various hotels/restaurants/offices etc. I observed that people [like you and me] use tissue papers without thinking where they come from or what are they made up of? The consumption is very high and spreading pretty fast.
We should look for the alternatives and avoid using tissues.
Any thoughts?"
Quote: *"I think really concentrating on paper companies and convincing them to use recycled paper would have a greater impact."*
Quote: *"Ever heard of Kimberley-Clark? They make nice, comfy toilet paper out of the home of an amazing biodiversity in Canada - then the put a labrador puppy on their advertisements to make it look fluffy and harmless.*
Sure, some trees are replanted. It doesn't change the fact that a primary forest needs thousands of years to be recreated - and it takes a minute to take them down.

More often than not, you risk buying illegal wood - as the European Commission did recently. The way to go is to look for the FSC certification, not only for wood, but also for paper."

INDEPENDENT FORUM ON FORESTS

IFF is an informal international network aimed at stimulating independent and innovative thinking about forest management and related areas. The forum, created in February 1997 aims at facilitating a better understanding of national and international forest policy issues and at enabling the emergence of innovative approaches to conduct forest policy.

INDONESIAN FORUM FOR ENVIRONMENT (WALHI)- FRIENDS OF THE EARTH INDONESIA

"The deforestation problem in Indonesia is spreading. Illegal and destructive logging is a major cause. In addition, conversion of forest areas for the development of oil palm and the pulp and paper industry has been substantial. The pulp and paper industry have also brought problems. This industry needs at least 27 million cubic meters of timber each year (Department of Forestry, 2006). Since plantation forests can only supply 30 percent of the total demand for pulp, this industry continues logging activities in natural forests, harvesting some 21.8 million cubic meters in order to fulfill its annual requirement. The timber obtained from natural forests is owned by company affiliates or taken from the concessions of its partners. This is not mentioning plywood or other trades, for which only 25% of timber requirements are supplied by plantation forests. (Rully Syumanda, Campaigner for Forest and Plantation Issues, March 2007.

X. CHALLENGES

Forestry industries should work cooperatively towards their collective goal including sustainable forestry at a global level. Through a series of cross-country public activities, they should communicate and disseminate their values and identified strategic directions, objectives, and actions required to further advance this goal.

It is necessary to communicate to the public the fundamentally important role the industry has in the economy at the national, provincial and even local level, both now and in the forseeable future. Communications messages need to stress both the current strengths of industry as well as addressing the perceived weaknesses, in terms of resource management, environmental performance and the use of advanced technology. The existing gap in knowledge, belief, attitudes and action of forestry industry has generated the need for communication.

A strategic professional communication requires:

1. Relevance: - focus on the people, - get the people's attention, talk about things that are relevant to them; - adapt the message or delivery to the audience and adapt it over time (e.g. societal evolution).
2. Consistency: - ensure consistency of the message within your organization; - make the message consistent with your image (and vice versa).
3. Clarity: - use a language that people understand; - use simple message and images; - talk to people and not for people.
4. Continuity: - develop a long-term perspective;- repeat action over time; - ensure sustainability of messages and actions.
5. Honesty: - no propaganda; - give the whole picture; - admit mistakes.
6. Reliability: - base your information on sound knowledge; - keep to your promises, policies, plans; - do what the people expect from you.
7. Openness and transparency: - give as much information as necessary as quickly as possible.
8. Listening and learning: - listen to the audience and learn from the process; - interact with your public; - know your audience and listen to its concerns, (raising awareness of forests and forestry, Report of the FAO/ECE/ILO team of Specialists on Participation in Forestry and the FAO/ECE Forest Communicators Network, 2003)

(European Co-operation and Networking in Forest Communication, G. Janse, EFI. 2005) A study carried out at a European level

SOME SUGGESTIONS FOR BETTER COMMUNICATION

i. UNEP guidebook on producing effective environmental campaigns
ii. Best practices in Forest Communication – European Forest Institute
iii. A recent study in the US shows that the concept of renewability related to forests does not go through. The concept of recycling, replanting, is much more positive and likely to offset the negative perception of forestry.
iv. Forests being abundant is not credible (in US) but people are open to listen to how it can be that forests are abundant.

FORMS OF COMMUNICATION STRATEGIES

Campaigns and Initiatives, - Research and evaluation of ongoing forestry communications programmes have affirmed the value of using specific communication strategies to promote forestry industry. Effective strategies combine theories, frameworks, and approaches from behavioural sciences, communication, social marketing, and forestry education.

Forestry industry communication can take many forms, both written and verbal. Essential to any effective forestry communication effort is strategic planning.
All strategic communication planning should involve some variation on these steps.

i. Identify the problem and determine whether communication should be part of the intervention
ii. Identify the audience for the communication programme and determine the best ways to reach them
iii. Develop and test communication concepts, messages, and materials with representatives of the target audiences
iv. Implement the forestry communication programme based on results of the testing
v. Assess how effectively the messages reached the target audience and modify the communication programme if necessary

EFFECTIVE FORESTRY COMMUNICATION CAMPAIGNS SHOULD USE VARIOUS METHODS TO REACH INTENDED AUDIENCES

Media Literacy — teaches intended audiences (often youth) to analyze media messages to identify the sponsor's motives; also teaches communicators how to create messages geared to the intended audience's point of view.

Media Advocacy — through influencing the mass media's selection of topics and shaping the debate on these issues, seeks to change the social and political environment in which decisions on forestry and forestry resources are made
Public Relations — promotes the inclusion of messages about a forestry issue or behaviour in the mass media, using earned media strategies rather than paid advertising

Advertising — places paid or public service messages in the media or in public spaces to increase awareness of and support for a product, service, or behaviour

Education Entertainment — seeks to include forestry-promoting messages and storylines into entertainment and news programmes or to eliminate messages that counter forestry messages; can also include seeking entertainment industry support for a forestry issue

Partnership Development — increases support for a programme or issue by harnessing the influence, credibility, and resources of profit, non-profit, or governmental organisations.

Communication Plan —Lessons from the International Model Forest Network

1) Why you need a communications plan (a.k.a. communications strategy)

It is difficult to reach many different people without a plan. But the communications strategy does not have to be complex. In fact, the best strategies are often the simplest ones.

Perhaps the most important thing to remember when writing a communications plan is to have fun and be creative.

2) A communications plan is necessary whenever you communicating with the public. It's a good idea to have an overarching strategy for all forest communications, as well as "mini" communications plans for projects such as a newsletter, or a major event, such as a conference. The overarching strategy could be a one- or two-year plan, or longer.

3) The elements of a communications plan:

a) Background: Where are you now?

Start by thinking about how the forest industry is communicating now. Are you saying what you want to say, to the people you want to say it to? Next step — setting some objectives.

b) Objectives: What do you want to accomplish? Why do you want to communicate with people? Is it to raise the profile of the forestry industry among decision-makers? To get people interested in supporting research projects?

c) Messages: What do you want to say? The best messages are short and simple.

d) Target audiences: Who do you want to say it to? Forestry communicates with many different audiences, including:

i. policy-makers (local and national)
ii. like-minded organizations
iii. the media
iv. academics, researchers and educational institutions
v. the forest industry
vi. Aboriginal peoples
vii. community groups
viii. environmentalists, recreationalists and conservationists
ix.

e) Approach and activities: How will you get your message out?

d) Evaluation: How will you know if your plan is working?

From a project funded by the Finnish Forest Association (Janse, 2005), a study on Europen cooperation and networking in forest communication has been carried out at the European Forest Institute.

The results of this study are relevant for supporting the planning of further communication activities at the pan-European level. Set of recommendations:

TARGET GROUPS

i. Schools: Youth initiatives. Special attention to attractive teaching materials (DVDs, internet) and by going into the forest,
ii. Media
iii. Architects and builders: organizing competition for constructing building with wood, etc.
iv. Universities
v. eNGOs

MESSAGES

i. Forest sector should identify joint messages or joint interests to fuel message
ii. Forest sector are starting to use simple messages that evoke positive images: *"More wood is growing than is being cut" : "Wood is recyclable"*.
iii. Visual methods are needed to get the public; simple slogans are very useful, something ENGOs have understood already for a long time.

MEANS OF COMMUNICATION AND STRATEGIES

i. Joint two-way communications processes involving a wider range of stakeholders
ii. Instrumental communication
iii. Lobbying

RESPONSIBILITIES AND COOPERATION IN COMMUNICATION

Interested parties have undertaken standard polling to clarify public attitudes towards forest industry activities, but little if any research has been conducted about the underlying factors that shape public perceptions of ecological impacts from these activities. A clearer understanding of the fundamental influences shaping lay perceptions and differences between lay and expert views would be helpful in many contexts: predicting and diagnosing conflicts about forestry practices, designing risk communication efforts regarding ecological impacts associated with forestry, and clarifying the public values that should be considered in making ecological risk management decision (McDaniel et al., 1997).

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Item 9. Country reports

AUSTRALIA

What are the emerging issues facing the industry in your country?

NATIONAL POLITICAL SITUATION

The Liberal/National Coalition (conservative) Australian Government has now been in office for more than 11 years. The next election is due before early 2008 and is likely to be called in the later part of 2007.

The Government is generally seen as good for business with a strong emphasis on low interest rates, low inflation and tax reform. Significant tax cuts were made in the 2006 Budget. The need for investment in infrastructure (particularly roads, railways and ports) and education and training is becoming of increasing importance as these two factors are perceived as acting as major constraints on the expansion of the Australian economy. The Government has also focused attention on reducing the regulatory burden on business.

Contrary to the situation at the national level, the Australian Labor Party continues to hold power in all the States and Territories. The States and Territories have primary responsibility for land management issues through regulation of private land uses and management of large areas of public forest (including plantation in most states). All States have implemented policies further restricting the harvesting of timber in public natural forests.

CLIMATE CHANGE

In the lead up to the election and with much of Australia in the grip of one of the worst droughts ever recorded, the Australian Governments' position on Climate Change has shifted. Although the position of non-ratification of the Kyoto Protocol has not changed, the Prime Minister has established a joint Government-Business Task Group to "advise on the nature and design of a workable global emissions trading system in which Australia would be able to participate. The Task Group will advise and report on additional steps that might be taken, in Australia, consistent with the goal of establishing such a system."

The Opposition (Australian Labor Party) has committed to ratification of the Kyoto Protocol, creation of a domestic emissions trading scheme and increasing the Mandatory Renewable Energy Target.

To maintain pressure on the national government the State Governments continue to talk-up the possibility of a State-based emissions trading system. The State Governments' National Emissions Trading Taskforce has conducted another round of consultation as they refine their emissions trading scheme model. They are now proposing accelerated coverage of the scheme, though still focussed on stationary energy. They are also looking at issues of detail such as how firm property rights are established and the structure of the penalty, make good provision, etc.

The Australian Government is investing significant funds through industry partnerships in low emissions technology, particularly carbon geo-sequestration. Recent political debate has also turned to the potential of nuclear energy including Australia's current role as a supplier of unprocessed uranium and possible expansion into enrichment, power generation and waste disposal/storage.

WATER

Much of Australia continues to be gripped by the worst drought on record which has provided increased impetus to moves to reform the system of water management and allocation in Australia. The Australian Government has allocated A$10 billion over ten years to speed up the implementation of the National Water Initiative (NWI) with a particular focus on the Murray Darling Basin. The NWI

outlines a range of commitments to reform (reduce) water allocation for agriculture and return water for environmental flows. Most of the changes will be introduced via a regionally based planning and management approach.

The NWI identifies change of land use to industrial scale plantations as an example of a potential 'significant water interception' activity which may be subject to regulation depending on further consideration of significance and the level of commitment of water in the catchment concerned.

The State governments are now grappling with the implementation of the many complex aspects of the NWI. With the notable exception of one region, South East South Australia, the technical complications associated with quantifying plantation water interception appear to have delayed any precipitate action to regulate plantation expansion in most areas. The situation in South East SA is a major concern to the plantation industry as it is a major plantation growing region and it appears that the proposed water policy will have implications (water costs) for existing plantations areas not just new plantations, as had been previously anticipated.

ILLEGAL LOGGING

As part of its 2004 election policy the Australian Government made a commitment to investigate ways of preventing the importation of illegally harvested timber into Australia. In late 2006 the Government released a discussion paper on illegal logging, "*Bringing Down the Axe on Illegal Logging – A Practical Approach*". The approach being pursued by the Government is relatively "hands-off" and focuses on education and helping importers of sawn timber form south east Asia to demonstrate the legality of their sources.

In a virtually unrelated decision the Australian Government has committed A$200 million to combat illegal logging in Indonesia as part of its response to climate change.

A3P had developed and launch its own *"Member Guidelines – Stopping the Supply of Illegally Logged Forest Products to Australia"*. This is a proactive initiative by A3P to provide a practical framework for our members to demonstrate the legality and sustainability of their product. Two major outcomes can be reached by implementing these guidelines:
We can increase consumer confidence in the sustainability of forest products generally; and
We can assist the market to value the performance of companies in terms of their environmental management.

SFM CERTIFICATION

The past 12 months has seen continued activity in relation to Sustainable Forest Management (SFM) certification in Australia. Some ten major Australian forest owners are certified to either the Forest Stewardship Council (FSC) or Australian Forestry Standards (AFS). The FSC certified forests are virtually all privately owned plantations while the AFS certified areas include both public and private plantations and public native forest. Nearly two thirds of the Australian plantation resource now has SFM certification.

FSC Australia has been established and launched with its immediate priority being the development of an FSC National Initiative for Australia. Unlike in the previous attempt some five years ago, the ENGO's have grudgingly changed their position by agreeing to at least consider the possibility of the FSC certification of native forest harvesting operations. The FSC process has not got off to a particularly promising start from an industry perspective given the refusal of the major labor representative body (the Construction, Forestry, Mining and Energy Union) to participate in the process. There are also some basic funding and administrative challenges.

The Australian Forestry Standard was approved as an Interim Standard by Standards Australia in 2004 with a requirement that it be reviewed in a two year time frame. That review by the Technical Reference Committee has been continuing for an extended period with the major issue of debate being

the way the standard deals with the conversion of native vegetation for plantation or other uses. This matter has to be resolved by a ballot process by August 2007.

The Australian Forestry Certification System (AFCS) is accredited under the Programme for the Endorsement of Forest Certification (PEFC) scheme. The changes made to the PEFC scheme have raised some challenges for the AFCS as making changes to the AFCS is not a simple process because of the consultation and approval processes required. The potential for the UK CPET process and other European Governments' purchasing policies discriminating adversely against the AFCS and has required significant effort from Australian industry and government and even delegations from Australia to Europe. This appears to have been successful so far.

Despite the progress outlined above there has been little change in market demand for certified wood products in Australia. Japanese woodchip customers continue to have a preference for certified wood and have been under pressure from ENGO's to request FSC certification only. The most significant development in the domestic market has been the decision by Australian Paper to market their Reflex brand photocopy paper with the FSC logo. A significant proportion of the fibre supply to Australian Paper is from FSC certified plantations managed by Hancock Victorian Plantations.

ENERGY MARKET REFORM

The process of reforming the Australian energy market from a publicly owned system with limited interconnection between State based systems into a fully integrated and market based system is continuing slowly. There are major concerns for energy users that the failure to invest in new infrastructure and undue influence exerted by the large electricity generators may result in significant cost increases and/or a deterioration in the reliability of supply in the future.

INDUSTRIAL RELATIONS & HUMAN RESOURCE SHORTAGES

Industrial relations is another key issue in the lead up to the election. The conservative government has introduced legislation giving employers and employees greater flexibility in employment contracts. The Labor Party opposition is committed to winding-back this system. The business community is generally very supportive of the flexibility provided by the changes that the Government has made.

More broadly, the strong Australia economy and demographics (ageing population), are leading to a significant shortage of employees with appropriate skills. This situation is accentuated for the wood product and paper industry because of its rural location and perceptions that the industry is dirty and dangerous.

What are the most important business developments within your industry over the last year?

ECONOMIC SITUATION

As a result of the international resources boom driven by Chinese demand, the Australian economy has remained relatively strong with low inflation, low interest rates and low unemployment. Interest rates have increased slightly recently as the Reserve Bank responds to the spending pressure of a strong economy. The sustained and increasingly high level of the Australian dollar, particularly against the US dollar, has presented significant challenges for exporters and import competing business including paper and woodpanels.

The new housing construction market, the primary driver for the sawntimber industry, which had been strong for an unusually long period finally began to soften in late 2004 and has continued to be very weak with significant implications for sawntimber demand particularly in the major Sydney and Melbourne markets.

INVESTMENTS IN WOOD AND PAPER MANUFACTURING

The past 5-10 years has seen continued investment in new processing capacity in the wood products (sawn timber and panels) and paper industry in Australia. Much of this expansion has been driven by the increased wood availability resulting from the maturing of the softwood plantation resources established in the 1960s and 70s. As a result of this expansion there is now relatively little uncommitted wood available in Australia unless new areas of plantation are established. The major exception is the large area of short rotation eucalypt plantations in SW Western Australia, Western Victoria and Tasmania which will be coming on-stream in the near future and are currently destined for export in chip form.

There are numerous proposals under consideration for the establishment of new pulp mills in Australia. Probably the most advanced of these is the Gunns Ltd proposal to build a A$1 billion bleached eucalypt kraft mill in Tasmania. Gunns is currently the world's largest exporter of hardwood woodchips and the proposed mill would consume a significant proportion, but not all,

of Gunns' current export volume. The proposal continues to encounter significant opposition from local environmentalists.

Australian Paper is undertaking a major upgrading of pulping capacity at Australia's largest printing and writing paper making facility at Maryvale in Victoria. Visy Industries has announced that it will double the capacity of its Tumut mill. The mill produces packaging paper from plantation grown softwood and commenced operation in 2001. The Visy Tumut mill was the first greenfields pulpmill built in Australia since 1982.

REVIEW OF THE TAXATION OF PLANTATION FORESTRY

In May 2005 the Government announced a Review of the Taxation of Plantation Forestry. The current taxation arrangements have been a fundamental factor in the significant plantation expansion that has occurred over the last ten years or so. New plantation establishment has averaged around 80,000 ha per annum over that period. The majority of these plantations are short rotation hardwoods (Eucalyptus globulus) intended for the export pulpwood market.

The Review of taxation arrangements is at least partly in response to various objections to plantation expansion. These objections include economic arguments ("plantations should not be treated favourably", "plantations are not a good investment") and land use change arguments ("plantations are not a good use of productive land", "plantations are not good neighbours").

In December 2006 the Government announced that it would continue to provide tax deductibility for investments in plantation forestry but that this would be under a new forestry specific arrangement and would require the enactment of new tax legislation. In January 2007 the Government announced that it would move to stop investments in other agricultural projects (e.g. grapes, olives, almonds) claiming tax deductions.

A number of issues flowing from the announcement are worthy of note including:

- The Australian Government has again shown its support for the Plantations 2020 Vision and the benefits of continued expansion of plantation forestry.
- The plantation industry has been successful in convincing the Government of the social, environmental and economic benefits of the plantation timber industry.
- The distinction the Government has drawn between forestry and non-forestry investment does potentially expose the forestry investment sector to additional or renewed criticism from anti-forestry interests.
- Subject to the implementation of the Government's decisions about both forestry and non-forestry investments, there will potentially be additional funds available for investment in plantation forestry.

Neil Fisher
Chief Executive Officer
A3P – Australian Plantation Products and Paper Industry Council

BRAZIL

The economy and development plan

The GDP grew only 3.7% in 2006, very modest, when compared to the potential of the country and to a 5.1% growth in the world economy and the inflation rate was kept in a very low level of 3.1%.

Re-elected for his second four years mandate, President Lula indicated fast growth as his priority and presented the Growth Acceleration Programme (PAC).

The great merit of the plan is to establish goals and objectives. It is a plan that brings positive results, for defining what must be made and to prioritise the Investments in Infrastructure; Credit Encouragement; Improvement on the Investment Scenario; Lessening and Enhancement of the Tax System's Burden; and Long Term Fiscal Measures.

In spite of not having included specific measures for the forest products industry, the PAC presents signs of strong potential for expanding the performance of a productive and exporter sector such as pulp and paper. In that connection, mention should be made of government's commitment to invest in infrastructure, especially in energy generation, remodeling of seaports, airports and roads, essential for shipping export products.

PLANTED FORESTS

The planted forest market flourished this year with the growing investments not only in the pulp and paper industry, but also in the furniture and steel industry.

One of the Brazilian pulp and paper industry initiatives is forest fostering. This activity has been taking a growing role in the industries projects. Through this activity, industries offer to small and medium local farmers the opportunity of planting forest together with other plantations. In 2005, the sector fostering are was 219 thousand hectares involving around 10,4 thousand properties. The 2006 data is not available yet.

SUSTAINABILITY

Brazilian pulp and paper industry holds the biggest area of certified forests, among the country's basic forest industries, adopting the two criteria for forest certification: Forest Stewardship Council (FSC) and the Programme for Endorsement of Forest certification (PEFC), of which the Brazilian System of Forest Certification (Cerflor) is an affiliate.

In 2005, both systems certified around 1.6 million hectares of forests, including among them, the planted forests, the legal reserve and permanent preservation areas, managed buy the pulp and paper industry.

This certification guaranteed the use of criteria for sustainability in managing forest areas, so as to provide practices that are ecologically adequate, economically sustainable and social just.
The challenge of the century is to grow in a sustainable way. It is obvious that every company needs a business strategy that integrates environment practices, fair labor relations and effective social actions.

SOCIAL-ENVIRONMENTAL RESPONSIBILITY

Our companies demonstrate that they face the challenge with determination. In additional to generating 110 thousand direct jobs and thousands of indirect ones, the sector the sector has a history of social actions for employees and communities.

In 2005, the social/environmental responsibility survey, featured 544 actions carried out by the companies, in demands in health, economical development, professional qualification, education, sports and culture, community support, among others, totaling circa US$ 150 million, involving 2.5 million people.

CANADA

What are the emerging issues facing the industry in your country?

SUSTAINABILITY AND CLIMATE CHANGE

The twin issues of sustainability and climate change have become a growing political preoccupation in Canada. The Canadian forest products industry has improved its practices in this area over the past two decades to the point that the industry is now a global leader in progressive forestry practices, wildlife conservation, climate change mitigation, waste paper recovery, and the efficient use of resources and raw materials. Since 1990, the pulp and paper sector has reduced its greenhouse gas emissions by 44% while increasing production by 20%, which positions the industry at 7 times the emissions reductions target set for Canada by the Kyoto Accord. This industry achievement came primarily through the large-scale shift from the use of fossil fuels to renewable biomass energy. Despite this excellent environmental record, however, environmental campaigns are still targeting Canadian industry customers, particularly in the print catalogue sphere. The issue has become how best to promote the industry's strong sustainable forest management performance, while at the same time continuing to improve that performance. In April of 2007, Canada's federal government announced a new regulatory framework for greenhouse and air emissions from the industrial sector. Under these proposals, Canadian pulp and paper facilities will face mandatory greenhouse gas emissions intensity targets for greenhouse gases beginning in 2010. Both solid wood and pulp and paper facilities will also face new regulations for a variety of air pollutants.

HUMAN RESOURCES/SKILL SHORTAGES

There is a growing view in the industry that skill shortages, training gaps, and other human resources challenges are becoming more urgent. The age profile of the industry is skewed towards older, male workers, and many of those workers will reach retirement age over the next five to ten years. Although the industry is currently undergoing a period of rationalization, which will cushion the short-term impact of demographic pressures, skill shortages are beginning to emerge in some regions and skill sets. Forest faculties in Canadian universities have experienced steadily declining enrollment since the 1990s and some programs are under threat. This is in part due to the economic boom in the oil and gas sector in the province of Alberta, which has drawn away many of the potential pool of candidates for enrollment in forest faculties. Also, while Aboriginal youth make up a growing proportion of the rural labour force, these youth are often not attaining the educational standards that would enable them to participate in an increasingly educated workforce. The forest industry, in partnership with the federal government, labour, educators and other stakeholders in the in the process of establishing a Human Resources Sector Council in order to examine longer – terms skills and demographic issues in the sector.

MOUNTAIN PINE BEETLE/FOREST HEALTH

Mountain Pine Beetle outbreaks in the provinces of British Columbia and Alberta could affect up to 18 million hectares of pine forest by 2018-2034. This beetle infestation has led to a short-term surplus of wood fibre in the region as beetle killed pine has a "shelf life" of 2-5 years before it becomes unsuitable for sawmilling. Within the decade, the pine beetle infestation will lead to substantial reduction in fibre supply from in the affected regions, possibly in the range of 35%-50% from current harvest levels. As the British Columbia Interior region produces about 18% of lumber consumed in North America, this decline will have a material impact on North American lumber markets. The beetle infestation has moved East over the Rocky mountains from British Columbia into Alberta. It is uncertain how much further East the infestation will spread and how much more of Canada's forest resource will be impacted.

While the pine beetle is indigenous to North American pine forests, the severity of the current outbreak is attributable to the fact that winter temperatures in the affected regions have been significantly higher than average. Cold weather during winter and early spring kills the beetle and has served to limit the severity of previous outbreaks.

What are the most important business developments within your industry over the last year?

SHARP DOWNTURN IN DEMAND AND PRICES FOR WOOD PRODUCTS

The sharp cyclical downturn in the U.S. housing market has led to a significant weakening in demand and prices for lumber and other wood building products in north America. Prior to this downturn which began in the spring of 2006, North American consumption of wood products had been at historic highs. While demographic and other long-term determinants of North American housing demand suggest that markets will strengthen in time, most analysts believe that a meaningful recovery in demand and prices for many wood products in North America will likely not being until 2008.

CONTINUING RATIONALIZATION AND CONSOLIDATION AS COMPANIES ADAPT TO MARKET CHALLENGES

Due to factors like the sharp appreciation in the value of the Canadian dollar against its US counterpart, and weak product prices and structural changes in North American graphic paper markets as a result of the proliferation of electronic media, the Canadian forest products industry is experiencing a significant amount of rationalization and consolidation. During the past two years, there have been over 100 instances of permanent or indefinite capacity closure within the Canadian forest products industry. These market pressures are also contributing to a significant amount of corporate restructuring and consolidation within the North American forest products industry. This includes two major mergers- one recently completed, the other still in progress- that would create two Canadian – based forest products firms considerably larger than any that had existed previously.

CHILE

What are the emerging issues facing the industry in your country?

At the beginning of this year, the Minister for the Environment was nominated, after the recent creation of this new Ministry. Through this institutional innovation, Chile is taking an important step by giving the highest political priority to environmental issues.

This new Ministry must reinforce policies supporting the development of regulations which adequately combine economic development and environmental protection, strengthening supervision on technical basis.

Private sector worries are centered mainly on whether authorities fully understand that such balance is possible, and whether they would be inclined to privilege protection beyond reasonable limits, since this might affect country development.

In January this year, the proposal for a law for natural forests was reactivated, after 15 years in Congress. On this occasion, Ministry of Agriculture officials simplified the project, eliminating from the text the conflicting issues which have been responsible for the delay in project approval. Such issues will be addressed in a complementary law, which should be submitted by the end of this year. This measure is expected to facilitate procedures and a law on promotion and improvement of natural forests can be expected during the coming year.

The country's concerns regarding improving electricity generation and the replacement of fossil energies with biofuels, has led to the submission of hydro electric projects on the Austral zone of the country on the one hand, and to the execution of several studies and analyses to determine the feasibility of biofuel production, on the other hand, all of which has attracted the attention of environmentalist groups towards these important issues. This has reduced the pressure on the cellulose industry, which has made huge technological improvements on environmental issues, limiting emissions to the minimum, thus more than complying with regulations.

What are the important business developments in your industry over the last year?

At the beginning of 2007, a period of enormous investment in wood processing industries was concluded, especially in last generation technology pulp factories, which will result in an increase of this commodity of 1.500.000 tons during 2007, (US$ 4.700 millions in total exports of the forestry sector is foreseen).

Also, over and above the pulp plant investments, important investments have been made in plywood and fibre board factories, in sawmills and re-manufactures.

Total investment of the Chilean private forestry sector reached US$4.000 millions in the 2000 – 2006 period.

With the above mentioned investments, industrial demand for radiata pine has adjusted to availability, so no large investment projects are expected during the next 15 years. Nevertheless, eucalyptus, the second most important species, has a greater margin, and a greater interest by foresters in planting this species is perceived, which would possibly allow for the development of important projects with this species in 10 to 12 years or more.

In accordance with the policy of reaching new commercial agreements, Chile has recently drawn up a free trade agreement with Japan, which will be very important for the expansion of our foreign trade.

Besides, several partial agreements with Central American countries have been thoroughly studied; a free trade agreement was reached with Colombia, whilst others with Australia, Viet Nam and other Asian countries are under study.

The American dollar in Chile, used as commercial exchange currency, has been systematically decreasing in value since 2003, when it reached the value of $690, to only $525 actually, that is, 24%, which has affected competitiveness our exports, forcing producer to make additional efforts to improve productivity, which is already proving difficult to maintain.

This situation is mainly due to the successful exports the country has had, especially during the last two years, because of the huge increase in the copper price, our main export item.

There is great concern in the export sector that this situation might continue for a long time, which would have a critical effect on the profitability of important export items.

During the last year, contacts with several environmental NGO's have intensified, aiming to draw positions closer together, and even to develop joint activities. Continuous dialogue has been maintained in order to draw up proposals on the proposed law on natural forests and to hasten its approval.

Regarding sustainable forestry plantation management, there is interest in certifying through Chilean certification scheme CERTFOR, which has been homologated with PEFC, incorporating chain of custody. There have also been certification activities through FSC.

COLOMBIA

Colombian economy has accelerated its growth rate. The country's GDP increased by 7% in 2006, a higher rate than any in the preceding 28 years; industrial GDP increased 11%, paper and carton apparent consumption grew by 10% (in volume), production 8% and exports 10%. Installed capacity for chemical pulp production is almost fully utilised, as it is also for printing and writing paper, and corrugated materials. This situation, along with currency revaluation, have resulted in an increasingly negative balance of trade, since exports grew only 2%, when the average for the previous 6 years was to close to 12% yearly.

Paper and carton apparent consumption

Yearly total

(Tons)

	Production		Imports		Exports		Apparent Consumption		Variation
	2005	2006	2005	2006	2005	2006	2005	2006	2006/2005
TOTAL PAPER AND CARTON	**918.789**	**990.595**	**472.763**	**521.983**	**186.818**	**189.906**	**1.204.734**	**1.322.672**	**10%**
News paper	0	0	75.513	81.011	0	6	75.513	81.005	7%
Other printing and writing paper	281.638	303.414	113.259	139.592	78.412	79.310	316.485	363.697	15%
Domestic and sanitary use papers	163.320	191.173	18.219	4.985	45.069	51.921	136.470	144.237	6%
Wrapping and packing papers	437.277	458.686	201.408	218.260	47.999	42.615	590.686	634.331	7%
Other papers and cartons	36.554	37.322	64.364	78.134	15.338	16.054	85.580	99.402	16%

Fiber apparent consumption

Yearly total

(Tons)

	Production		Imports		Exports		Apparent Consumption		Variation
	2005	2006	2005	2006	2005	2006	2005	2006	2006/2005
TOTAL CELLULOSE PULPS	**385.185**	**387.019**	**113.955**	**147.674**	**1.127**	**95**	**498.013**	**534.598**	**7%**
Word pulps	210.022	210.814	113.368	146.465	929	0	322.461	357.279	11%
Other fiber pulps	175.163	176.205	588	1.209	199	95	175.552	177.319	1%
WASTE PAPER	**562.085**	**581.306**	**85.933**	**89.226**	**1.490**	**102**	**646.528**	**670.430**	**4%**

Colombian peso has revaluated 7% compared to American dollar during 2007, and nearly 20% over the last three years. Even though inflation control and competitive earnings of the productive system have contributed to partially absorb this appreciation of the peso, if this tendency persists it could cause difficulties to sectors with intensive local expenses (labour, energy, transport, etc.), such as the forestry and paper sectors.

Cellulose imports increased nearly 30% to meet demand. Peso revaluation, scarcity and high prices of recycled materials in internal markets and costs associated with their processing, are contributing to a greater use of pulp in the fibre mix used by industries. The lower increase in recycled fibre consumption is also explained by an inventory reduction, which had grown the previous year.
Pulp and paper industries are making investments which allow them to increase production capacity, as well as reducing costs, especially energy supply. Several industries are modernizing their self-generation or co-generation systems. These achievements, along with efficiency improvements in fibre and water consumption, enable Colombia to compete with those countries with which trade agreements are being made.

On the commercial side, the retirement of Venezuela from the Andean Community Nations, has created some uncertainty, since it is one of Columbia's main export markets. Regarding trade agreements, the free trade agreement with the United States is being approved in Congress; the negotiation with Central America is in its final stage and before long negotiations with Canada and EFTA countries (Iceland, Liechtenstein, Norway and Switzerland) will begin. The Andean Community is exploring the possibility of a trade agreement with the European Union.

In the forestry sector, most of the industrial plantations are certified by the FSC. Nevertheless, some uneasiness has arisen since the new line of attack of environmentalists, and even guerrillas, is the use of water in plantations.

FINLAND

What are the emerging issues facing the industry in your country?

NEW INITIATIVES TO STRENGTHEN THE FOREST INDUSTRY FUTURE COMPETITIVENESS

The future of the Finnish forest industry can only be built on expertise, specialization, high productivity and a competitive business environment. In the long term, changes in production and product structure and the development of new, higher value added products will improve the competitiveness of the sector.

Maintaining the competitive edge in competence and technology will become more difficult in the future. Emerging markets such as Asia are fuelling the technological leadership with the new capacity they are building. Finland must develop completely new, customer-oriented products in order to be able to compete with the production of emerging markets in the future.

Investments in R&D, competence and competitiveness of the forest cluster calls for public R&D to be redirected on the needs of the customers and future markets.

European forest industry companies are already committed to R&D investment through their joined vision for 2030 and a joint research strategy to fulfil that vision. In Finland, the industry developed its national action plan to implement that vision and to maintain the leading position of the Finnish forest cluster globally.

In line with these actions, the Finnish forest industry established a new innovation company - Finnish Forest Cluster Ltd - to implement the targets and boost R&D and innovations of the Strategic Centre of Excellence for Science, Technology and Innovation in the end of March 2007. The new company has started its operation and research programmes during the first half of the year.

What are the most important business developments within your industry over the last year?

FINNISH FOREST INDUSTRY CONTINUES ACTIONS TO IMPROVE PROFITABILITY AND TO INTRODUCE MODERN WAYS TO OPERATE

In 2006, the Finnish forest industry continued to be affected by the worldwide transition in which the flows of capital, trade, technology and expertise in the industry are changing irrevocably. Emerging economies compete on the expanding market not only with their lower costs but also their rapidly advancing competence, high technology and innovations. Asia and South America are growing in importance, and this increases pressures for change in Finland.

The challenges faced by the Finnish forest industry were highlighted with particular clarity in the report of the paper industry future working group published in June 2006. Chaired by State Secretary Mr. Sailas and representing a wide range of views in society. The working group noted that competitive advantages in Finland are declining. The Forest Sector Future Review commissioned by the Finnish Ministry of Agriculture and Forestry presented a similar conclusion.

The earlier productivity advantage enjoyed by the Finnish forest industry was largely based on a high investment rate and the use of the latest technology, which translated into economies of scale in production. However, increasing investments and capacity are limited by the long distance from large and emerging markets and inadequate availability of competitively priced raw materials. Costs have also risen faster than those of our competitors which is why we have seen the competitiveness of Finnish companies declining.

Profitability challenges can be met by improving productivity and by addressing the unit costs of input. The forest industry must absolutely improve its productivity, which will involve introducing modern, flexible production concepts such as outsourcing and local bargaining in labour markets. These are already widely used in other industries competing on global markets.

Changing the way of functioning will require a revision of labour market agreements and genuine local survival strategies. Finnish Forest Industries Federation has initiated the implementation of the next negotiating round with the labour market unions in these issues.

Dr. Anne Brunila
President and CEO
Finnish Forest Industries Federation (FFIF)

FRANCE

General economic situation - 2006

After a sluggish year 2005, the French and European economies experienced a stronger activity in 2006. In France, the growth rate reached 2%, compared to 1.2% in 2005, as was mainly driven by the two following factors:

- the internal demand. The household consumption grew by 2.7% in 2006, as the unemployment rate decreased and the inflation rate eased down. The business investment remained strong and climbed by 3.8% in 2006.
- the international environment, despite the US economy slowdown. The exports grew by more than 6% in 2007.

However the weakness of the US Dollar had a major impact on the competitiveness of the French Industry and lead to an increase of more than 7% of the imports.

Key indicators (% change)

	2006
GDP	2.0
Household consumption	2.7
Business Investment	3.8
Consumer prices	1.7
Unemployment rate[21] (%)	8.5

Source : INSEE

Performance of the pulp and paper Industry- 2006

STRUCTURAL CHANGES IN 2006

Between 2001 and 2005, the general economy in France and Europe remained sluggish, leading to a poor paper and board demand. In conjunction with the weakness of the European currency and a tight competition on the market, this lead to a big pressure on the paper prices over the period. As a consequence, the global French paper price index declined by 17% between December 2001 and August 2005.

In the same time, the production costs rose for five consecutive year. This increase was particularly strong for the energy, transportation, chemical and wood costs.

This had a huge impact on the profitability of many mills and lead to closures and restructuring in 2006. 13 paper machines have been stopped, 10 mills closed, and the capacity has been reduced by around 600,000 tons (nearly 5% of the French paper production capacity).

PRODUCTION FIGURES REFLECT THESE CHANGES, BUT THE MARKET IS NOW STRONGER

Not surprisingly, the production level dropped by 3.1% in 2007, coming back to its 2000 level of 10 million tons. The first quarter was relatively strong, but the progressive closures in the following quarters lead to a decrease in the production. The pulp production, as the paper and board production, stepped back by 3.8% in 2006.

[21] As of January 2007

On the market side, the general economy upswing in 2006 lead to a stronger paper and board demand. Whereas the French market declined by 2.3% in 2005, it grew by 0.7% in 2006, reaching 10.911 million tons. Moreover the global European market also firmly grew.

FINANCIAL PERFORMANCE

Whereas the paper prices have been increasing for the last 18 months, the level of this increase was still too low in 2006 to offset the drop of the previous years and to compensate for the big costs increases endured by the Industry. Moreover, big differences have been observed between the different grades.

On the cost side, big increases have still been experienced on the energy, wood and starch markets.

OUTLOOK FOR THE FUTURE

The first figures available for the beginning of the year 2007 indicate that the activity is on an upward trend. The supply / demand balance on the European markets is now more balanced leading to the continuation of the price increases. As a consequence, the French pulp and paper Industry is more confident for 2007.

Main pulp, paper and board figures - 2006

	2006 ('000 tons)	2006 / 2005 (%)
Paper and board production	10 006	-3.1
Paper and board consumption	10 911	0.7
Paper and board exports	5 499	-5.6
Paper and board imports	6 404	1.2
Pulp production	2 466	-3.8

Source: COPACEL

Main issues facing the French pulp, paper and board Industry

The French pulp, paper and board Industry is currently facing different challenges that could undermine its competitiveness. For all of these items the Industry strives to find efficient solutions.

The first challenge is the evolution of the energy prices. Over the last five years, the electricity prices in France more than doubled, the gas prices increased by more than 75%. This situation led this Industry to ask for regulatory solutions in order to enable the Industry to have access to competitive energy sources. As a consequence, two solutions were implemented. A consortium of energy intensive companies was created, which decided to launch a tender for long term electricity supplies at lower prices. As a second solution, the companies that decided to chose the open market over the last years where authorised to come back to regulated prices for two years, at certain conditions.

Linked to the question of the energy prices, is the question of the prices of wood. There is a strong debate in France about the utilisation of the wood, and of the recovered fibres, as bioenergy or as industrial raw material. The French pulp, paper and board Industry tries to convince the different stakeholders that the priority should be given to the industrial utilisation of the wood and the fibres, prior to the incineration. However, a strong increase in the wood prices has been observed in the last years due to the increased and subsidised use of wood as a source of energy.

The environment issues are also of a big interest for the French pulp, paper and board Industry. Different items were discussed in 2006, and are still in discussion. The preparation of the second phase of the European CO_2 Trading System (ETS) for the years 2008-2012 was at the core of the discussions during 2006. The Industry asked for sufficient allocations in order to avoid any constraint in its production. Other very important issues are currently discussed such as the level of the Industry effluents, the implementation of the REACH Directive, the Forest Certification Schemes… In order to assess its

involvement for a Sustainable Development of the Industry, a Sustainability report was released and presented to the stakeholders. It was made of 14 indicators proving the environmental respect, the social responsibility and the economic development of the French pulp, paper and board Industry.

Other issues directly related to the competitiveness of the Industry are currently at stake. The transport is a real challenge for the Industry, with difficulties for the companies to have a real and competitive choice between the different transport modes. The fiscal pressure on the company is still a real threat to their competitiveness and should be reduced. The international commercial negotiations held within the WTO are one the key issue facing the Industry. The level of the tariff and non tariff barriers in the world should be reduced in order to level the playing field. On the social side, the Industry strives to lighten the constraints. Research and development is also a key issue for the French pulp, paper and board and big efforts are currently done in order to help the companies to implement R&D strategies.

Lastly, the French pulp, paper and board Industry is facing a real challenge when it comes to its image. The “Paper destroying the forests” image is unfortunately deeply fixed in everybody’s mind. The Industry is then trying to change this image with long term communication policies.

GERMANY

General economic situation in Germany in 2006

The upswing in the German economy widened its base considerably in 2006. With a gross domestic product up to 2.7%, the highest growth has been achieved since the year 2000.

Growth impetus came from both inside and outside Germany. The crucial driver behind the increase in domestic demand was a robust rise in equipment spending. Exports, too, remained very dynamic. Finally, private consumption picked up again as well in 2006 after virtually stagnating in previous years.

The higher economic dynamism is increasingly benefiting Germany's labour market, too. Hence, the jobless rate fell significantly, while the number in work grew continuously in the course of the year.

All in all, the year 2006 took a much better course than had been expected. Both the German economy and the world economy showed considerable resilience, especially in face of the oil price rises, which continued until autumn.

Performance of the pulp and paper industries in 2006

Germany's production of paper-grade pulp grew by 4% to 1.5 million t in 2006, including 840,000 t going into exports. Most of the pulp used by German paper mills came from abroad, with some 4.0 million t of paper-grade pulp being imported.

As in previous years already, the German paper industry did better than the overall economy in 2006 as well. In quantity terms, it was a successful year. Manufacturers of paper and board in Germany posted a production record in 2006. Total output rose by over 4% to 22.6 million t, after climbing as much as 6% in 2005.

Since Germany's capacities have been built up by some 3% in 2006 – mainly by conversions and extensions to existing systems – the significant growth in output means higher utilization of paper machines. The utilization rate rose on average by 94 to 95%.

The long-term trend confirms that the paper industry is still a growth sector. The rise in output in Germany over the last six years averaged 3.7% annually – far more than it had still been predicted at the end of the 1990s.

With its record result in 2006, the German paper industry remains No. 4 in a worldwide comparison after the US, China and Japan, and No. 1 in Europe. Exports were once again the motor behind these positive developments. The sharp 6% rise to 13.4 million t is due above all to high growth rates in Eastern Europe.

With a growth of over 1%, domestic business, which is important for the German paper industry, was slightly above the previous year's level. With 6%, the calculated consumption increased to 20.8 million t. Since imports have been risen by 9% to 11.6 million t in Germany, stronger than consumption, the import rate was able to advance to 56%.

Despite good sales developments, the income situation in the German paper industry continues to be unsatisfactory. Although the erosion in paper prices came to a standstill in 2006, the difficult competitive situation and some serious hikes in the costs of raw materials, transport and, above all, energy, again brought the German paper industry a low cash flow of 8% and a pre-tax result of 2%. In 2001, cash flow had still been 18% and the result 11%. For the capital-intensive paper industry, income figures were not even adequate in 2006.

GERMANY
Fibres for the production of paper and board
(1.000 tons)

	2005	2006 (e)	2006 : 2005 in %
CHEMICAL Pulp for Paper			
Production	1.411	1.470	4,2
- Exports	791	842	6,4
+ Imports	4.073	4.043	0,7
= App. Consumption	4.693	4.671	0,5
MECHANICAL Pulp for Paper			
Production	1.468	1.468	-
- Exports	33	118	+
+ Imports	190	251	32,1
= App. Consumption	1.625	1.601	1,5
Recovered Paper Collection			
- Exports	15.077	15.546	3,1
+ Imports	3.413	3.354	1,7
= App. Consumption	2.749	3.052	11,0
	14.413	15.244	5,8
FIBRES in total			
App. Consumption	20.731	21.516	3,8

(e) = estimated

GERMANY
Paper and board
(1.000 tons)

	2005	2006 (e)	2006 : 2005 in %
Production	21.679	22.604	4,3
Exports	12.636	13.430	6,3
Imports	10.666	11.633	9,0
App. Consumption	19.709	20.807	5,6
Export Quota	58,3	59,4	
Import Quota	54,1	55,9	

(e) = estimated

HUNGARY

In 2006 the Hungarian economy expanded by 4% but the dynamism of the economic growth slowed down from quarter to quarter. The relatively moderate dynamics are primarily due to the lower intensity of state funded development projects and a decreasing consumption dynamics. In line with the earlier trends, export remained the driving force of the growth. Unemployment rate was at the highest level of last years reaching 7,5%. At the beginning of 2006 inflation was on an acceptable level (below 3%) but in the second half of the year it climed to 6,5% (yearly average 3,9%).

PULP

In Hungary there is only one pulp mill with a capacity of approx. 30.000 tons. During the last years its owner changed and the new owner (Delfort Group) rebuilt the mill in order to make it suitable for flax production. 2006 was a starting year for the new production line.
Hungarian pulp production and consumption in 2006 are shown below:

Thousand metric tons

	Production	Export	Import	Consumption
Chemical pulp	-	1	178	177
Other pulp	18	-	-	18
Total pulp	18	1	178	195

PAPER

Paper production fell by approx. 3%. The decline took place in the grades of printing-writing papers because Mondi Business Paper sold one of its 2 Hungarian paper machines to Delfort Group and the new owner made some rebuilds this year. The increased production volume of other mills could not counterbalance this fall.

Paper consumption and production developed in the last years as follows:

Thousand metric tons

	2002	2003	2004	2005	2006
Production	517	546	579	571	553
Export	330	296	307	389	366
Import	586	634	659	697	758
Consumption	774	884	931	879	945

The breakdown of the paper production by main grades is shown in the next chart:

	2005 thousand tons	2006 thousand tons	2006/2005 %
Total paper and board	571	553	97
Newsprint	0	0	0
Printing-writing paper	242	187	77
Uncoated p-w paper	242	187	77
Coated p-w paper	0	0	0
Sanitary and household paper	34	30	88
Linerboard	73	92	126
Fluting medium	192	208	108
Kraft wrapping and packaging	18	12	66
Other paper and board	12	24	200

ITALY

General economic situation in Italy in 2006

After a long and difficult period, the Italian **GDP** finally started to grow: +1,7% in the first 9 months and +2,9% in 4th quarter. The annual growth was of +1,9% over 2005, the best result from 2000, but with a gap of 0,9 points respect to the Euro Area.

The Italian GDP growth in 2006 was determined by a good upswing of *gross fixed investments* (+2,3%) and *exports* (+5,3%) and by a certain speed up of *household consumption* (+1,5%). As for supply the *contribution of the industrial sector* was important (+2,5%).

Inflation rate was of 2,1% (+1,9% in 2005). Facing the generalized increases of raw materials prices and despite the progressive strengthening of the demand during the year, such result appears positive and shows that rises in production prices weren't charged on consumption ones.

THE PERFORMANCE OF THE PULP AND PAPER INDUSTRY IN 2006

In Italy, difficulties faced by the paper sector since 2001 increased during 2006 because of rises in energy costs - that reached top levels in 2006- and the restart of increases of fibrous raw materials prices. These developments determined a complex picture in which the process of reorganization and rationalization of industrial activity intensified during the year. This involved in some cases a definitive shutdown in production, continued during first months 2007.

As for 2006, period for which we have complete official data, ***Paper and Board production*** was 0,1% over 2005 volumes, but with diversified trends for different products.

Finally, reflecting a cautious restart in paper prices during the year, ***turnover*** rose by +2,6% (to 7,63 billions €) remaining below the record of 2000 level. As for the restart of paper prices, it wasn't uniform for the whole sector: no change or only modest changes for graphic paper, more important changes for case materials and tissue.

It should be remembered that between 2000 and 2006, while production grew by 9,6%, turnover decreased by 4,3%, in presence of production costs in continuous and sustained growth.

	12 months 2006[1] ***(in KT)***	**12 months 2005** ***(in KT)***	**Δ%**
Pulp production (woodpulp)	516	502	-2.6
Paper and board production	10,008	9,999	+0,1
- Graphic papers	3,381	3,470	-2.6
- Packaging grades	4,661	4,541	+2,6
- Hygiene	1,411	1,440	-2.0
- Others	556	549	+1.3
Paper and board Exports	3,491	3,459	+0.9
Paper and board Imports	5,177	5,192	-0.3
Consumption	11,694	11,733	-0,3

As for ***fibrous raw materials***, in 2006 the utilisation of recovered paper was over 5,5 million tons in 2006 (+1,6% respect to 2005) and another important result was in the internal recovery which reached to 6 million tons (+3,6% respect to 2005) with a recovery rate risen to 51,3% (49,4% in 2005). Year

by year, the growth in recovery is producing important increses in export volumes while limiting the import ones: since 2004 Italy has been a net exporter of this important raw material.

At the moment available figures for 2007 concern only production: during the first quarter of the year paper and board production showed a growth of 2.5-3% respect to good levels of the same period 2006. A recent study by Università Bocconi for Assocarta indicate a P&B production growth in 2007 among 1,3 and 2%, mainly due to the good performance of packaging sector (+2,7 - 3,3%).

Thanks to the improvement in the Italian economy (GDP is expected to grow by 1,9% in 2007), the demand of paper and board products is expected to grow moderately, *but concerns remain still very strong for:*

- the high levels of energy prices;
- the rising subsidies to production of energy from biomass
- the rises in prices of fibrous raw materials determined by the strong Chinese and Asian demand, in general, and for the further increases that may arise from the increasing European demand of wood for non paper uses, from a reduced availability of Canadian sawmill chips and from the recent Russian decision to double the customs on the exports of wood;
- heavy distortions produced by the EU Emissions Trading directive;
- recent decisions USA concerning countervailing duties (10,9-20,4%) on coated paper import from China.

JAPAN

Emerging issues facing the Japanese pulp and paper industry

Not only saturated growth on domestic shipments volume, but also increase in production costs, especially raw materials and energy costs, are significantly affecting companies' profits

The domestic shipment in 2006 increased by 1.0% from 2005. The volume didn't hit the previous highest record and the growth rate has continued to be less than the growth of GDP. Although companies have been making every effort to reduce production costs, their efforts are not adequate to cover the faster cost increase of raw materials, especially recovered paper, and energy. As a result, 12 listed paper and paperboard companies' sales for fiscal 2006 increased by 3.4%, while recurring profits dropped by 9.0%.

Increasingly intensified market competition at both home and abroad

Companies are being forced to make critical efforts to strengthen their profitability through further integrating production, improving productivity, reducing distribution costs, and developing high value-added products, etc. In 2006, some companies announced business alliances or merger and acquisitions (M&A) as a way to strengthen their competitiveness, which will continue in the industry for 2007. Major business alliances and M&A announced in 2006 are as follows:
-Business alliance
1. Daio Paper Corporation and Hokuetsu Paper Mills Ltd.
2. Nippon Paper Group Inc. and Hokuetsu Paper Mills Ltd.
3. Nippon Paper Group Inc., Rengo Co., Ltd. and Sumitomo Corporation

-M&A
1. Tokai Pulp & Paper Co., Ltd. and Tokushu Paper Mfg. Co., Ltd. (business integration under a joint holding company "Tokai Tokushu Holdings")

Global Warming is one of the most important issues for the industry in Japan

Under the Voluntary Action Plan for the Environment, JPA promotes the use of energy saving equipment and the conversion from fossil fuels to biomass, as well as the expansion of forest plantation areas for absorbing and fixing carbon dioxide. JPA is committed to reducing the unit consumption of fossil fuel energy by 13% from the 1990 level by 2010, to reducing the unit consumption of carbon dioxide emission by 10%, and to expanding the forest plantation area to 600,000 hectares by 2010. As of 2005, the fossil fuel unit consumption target had been achieved, and by 2006 the forest plantation target had also been achieved. As of 2005, the unit consumption of carbon dioxide emissions had been reduced by 9.2%.

Japanese pulp and paper industry's economic/business performance for 2006

JAPANESE ECONOMY IN 2006

- Real GDP grew by 2.2% from the previous year.

PERFORMANCE OF THE JAPANESE PULP AND PAPER INDUSTRY IN 2006 OVER THE PREVIOUS YEAR

- Paper and paperboard production inched up by 0.5% to 31,106 thousand tons.
- Domestic shipments of paper and paperboard increased by 1.0% to 30,186 thousand tons.
- Imports of paper and paperboard fell by 5.9% to 1,651 thousand tons.
- Exports of paper and paperboard decreased by 1.8% to 1,218 thousand tons.
- Recovered paper consumption increased by 1.1% with a utilization rate of 60.6%.
- Recovered paper exports rose by 4.8% to 3,887 thousand tons, 3,191 thousand tons of which were shipped to China accounting for 82.1%.
- 12 listed paper and paperboard companies' sales for fiscal 2006 ending March 31 2007, inched up by 0.5%, while recurring profits dropped by 14.7%.

MALAYSIA

The pulp and paper industry which had not seen any development of interest for a number of years ever since the abandonment of the proposed Borneo Pulp and Paper project in Sarawak suddenly took the headlines in the manufacturing and industry sectors at the beginning of this year for two major changes in the ownership of some significant plants producing pulp for its domestic raw material and the other was the sale of the Genting Sanyen (M) Sdn Bhd, a paper manufacturing company to a Fund holder company, The CVC Asia Pacific Ltd, a leading international private equity firm (reported to be managing over USD 24 billion in funds).

The plan of 2 decades ago towards self sufficiency especially in the industrial paper category is still on track could also make better progress with the input of some foreign investment into the industry backed by some years of experience and knowledge of the industry from the CVC Asia Pacific Funds Group with such related companies to include Smurfit Kappa, Lecta Laminex and Plantation Timber Products. The Sabah Forest Industries Sdn Bhd was officially taken over by the Ballarpur Industries Ltd (BILT) of India. The signing ceremony recently after a period of over 100 days of due diligence studies marks the participation of international interest in the industry. There is yet some prospect of the industry taking off in the near future to be once again active in this region that could spur the flagging interest in the new application of fibres utilizing the empty fruit bunches of the palm oil waste and the kenaf, non wood project for fine fibres for paper making, as well as other composites for light weight body parts of vehicles and aircrafts.

The problems facing the industry in the past could be summarized as follows:-

LOW RETURN ON INVESTMENT

- Slow growth of paper consumption due to poor local demand.
- Unable to achieve economy of scales and to compete externally.
- High capital investment and operating cost.

UNCERTAINTY OF FUTURE ECONOMIC CONDITIONS

- Migration of MNCs to lower cost producer countries such as the Republic of China, Vietnam, others.
- Shortage of recovered paper as raw material, partly due to illegal exports.

AMENDMENT TO GOVERNMENT POLICIES

- Uncertainty of the continuation of export ban on certain categories of wastepaper.
- Frequent approval for duty exemption on imports.
- Inconsistency of the effectiveness of custom enforcement.
- Changes tightening up in environmental and other laws.

INFLUX OF IMPORTS FROM LOW COST AND LOW QUALITY PRODUCTS FROM LARGER CAPACITY OVERSEAS PLANTS IN THE NEIGHBORING COUNTRIES

The three main industrial or brown paper manufacturers of the country until the end of 2006 had been the following :

i) The Muda Group of Companies,

ii) The Genting Sanyen Industrial Paper Sdn Bhd, and

iii) The Pascorp Paper Industries Bhd.

The above three companies together with the Malaysian Newsprint Industries Sdn Bhd (producing newsprint) and the Nibong Tebal Paper Mill Sdn Bhd (producing tissue and hygiene paper) made up the total production capacity of slightly over 1 million metric tons per annum, while the remaining 12 other plants made up another total capacity of half a million metric tons. All the paper manufacturers

in Malaysia with the exception of the former Sabah Forest Industries Sdn Bhd and the Kimberly-Clark Trading Malaysia Sdn Bhd plant in the south of Peninsula Malaysia based for raw material on recovered paper utilizing a total of approximately 2 million metric tons per year. The industry has managed to obtain the concurrence of the government in imposing a ban of the export of selected category of waste paper to prevent the shortage of raw material for the local mills. In that way encouraging the initial growth of the industry and indirectly participating in the promotion of self sufficiency which in terms of the financial implication has reduced foreign exchange outflow estimated to be in the total of RM26 billion for the past decade, as well as providing employment opportunity. The industry currently employs 4,830 workers and has been involved in pioneering the recycling initiative of waste to include such material as plastic, metal, glass, etc.

Facing such stiff competition from cheaper imports, though some with poorer quality products, it was inadvertable that the Association had to act firmly in its effort in preventing the damage affecting the industry to stop any acts of the dumping of such products into the country under the provisions of the WTO in providing sufficient evidence for the government to proceed with the action under The Countervailing and Anti-Dumping Duties Act 1993 and The Countervailing and Anti-Dumping Regulations 1994, with regards to imports of corrugating medium paper from a total of nine countries or group of countries towards the end of 2006.

Another serious development affecting the industry and likely to be a long-term problem, has been the depletion on the supply of raw material from the local collection of recovered waste paper. It has become a profitable overnight business-ventures to export recovered waste paper to the fast growing region facing great shortage of such raw material in the country undergoing such rapid growth, by the smuggling "legal" and illegal means through the neighbouring countries of Malaysia in the Asean region. All the manufacturing plants of the industry with the exception of one are all located in the more developed part of the nation, which is West Malaysia. Being a Peninsula, it has to face the problem of smuggling including the free inflow of illegal immigrants and as such because of its large stretches of seashores, the smuggling of waste paper could not be an enterprising venture had there been not such a demand and therefore, the price for the product had risen so fast in the destination country and other countries along the way to that country. However, the waste being so bulky and formed such heavy loads, the more enterprising traders had resorted to other means of overcoming the total ban of the export of waste paper which had come into effect in the last few years. While on records of official government documents no export permit had ever been issued, the countries surrounding Peninsula Malaysia such as Singapore, Thailand and Indonesia had shown on their respective official statistical records the importation of large quantities of waste paper from Malaysia. For the year 2005, to give only one example; the imports from Malaysia into Thailand of such waste paper under the three categories of the Custom code referred to at the footnote, totaled 48.8 million kilograms to the value of approximately USD 7.2 million, and for the year 2006, the import into Thailand from Malaysia was 52.6 million kilograms to the approximate value of USD 8.4 million.

4707.100.002 Unbleached kraft paper or paperboard or corrugated paper or paperboard

4707.300.006 Paper or paperboard made mainly of mechanical pulp (for example, newspaper, journals and similar printed matter)

4707.900.007 Others, including unsorted waste and scrap

MÉXICO

Problems faced by the industry

IMPORTS

During 2006, imports of different paper grades and products continued to grow in conditions of disloyal and sometimes illegal competition, avoiding the payment of appropriate quotas or blatantly under-invoicing, resulting in significantly lower fiscal contribution than would be the case if the imports were declared as per the law.

The result is that pulp and paper plants in Mexico have seen a decrease in machine production and, in some cases, even closure of companies.

ENERGY

A subject that has been fundamental for the industry in Mexico is the high price and low quality of energy.

An example is electricity, for which 15 years ago a special rate was instituted for peak demand times. This could be considered justifiable when the electrical reserve was of the order of 6%; today the reserve is 40% but the additional cost scheme continues to be applied, thus adversely affecting in particular continuous processes.

In the case of fuel oil, this is sometimes exported at prices 30% below the domestic price, and in regards natural gas, the price is amongst the highest in the world.

WATER

The high cost of water extraction in Mexico has been aggravated significantly by the increase since 2007 of 41,2% in the price of the water for the cellulose and paper industries; this increase reinforces the ample competitive disadvantage of Mexico's industry in respect to other countries that have minimum costs or do not have costs by concept for water extraction rights.

POLITICAL SITUATION

In 2006, Mexico saw the most contested electoral process of its recent history, resulting in victory for one of the candidates by a small percentage margin and leaving the PRI as third political force within the legislative body.

This situation led to the elections being contested, as well as obliging the new president to include in government actions, his own campaign proposals and some of the losing candidate, in order to legitimatize the government. For this reason, high taxation schemes have been promoted so as to ensure their financing.

The President of the Republic has demonstrated his ability to understand and conclude specific political agreements, which is why industrialists hope that shortly they will begin to see implemented specific the structural reforms in sectors that are so urgent for the country, such as the public prosecutor, power and labour, among others, creating in the meantime an promising atmosphere for investment.

As a result of the high costs of inputs (electricity, gas, fuel oil and water), the lack of demand derived from low growth of the Mexican economy and the significant increase in imports that have flooded the national market, as well as political uncertainty pending the structural reforms, margins and expectations of businesses have continued to deteriorate, which without a doubt has led to the cancellation of investment projects in paper manufacturing plants.

Business development

FORESTS

The setting up of the Enterprise Council of the Forest Sector, with the participation of the secretaries of the SEMARNAT and the SECRETARY OF ECONOMY has been of great importance for the forest production chain, as has the active participation of integral enterprise organizations of the productive chain, one of whose main objectives is acting as interlocutor of the governmental sector to stimulate necessary actions for industrial forest development in Mexico.

ENVIRONMENT

In September 2000, the environmental authorities and the Chamber of Paper signed an Agreement to reduce the levels of environmental contamination by paper-producing companies in the Metropolitan Zone of the Valley of Mexico, including 18 paper production plants. Nevertheless, as an example of the difficult business conditions described above, to date only 11 of the companies originally included now fall within this agreement.

As foreseen under this agreement, emissions into the atmosphere should be reduced by 30% through investment of $60 million USD.

NEW ZEALAND

Emerging Issues

CLIMATE CHANGE POLICY

A key issue for the sector has been the slow emergence of clear and equitable climate change policy for the land-based sectors, notably forestry.

By comparison with other countries forestry is a crucial part of New Zealand meeting its Kyoto obligations. The New Zealand Government has claimed ownership of all sink credits and liabilities associated with Kyoto-compliant forests. A key part of the rationale for this is to utilize the sink credits to offset emissions from other parts of the economy including transport and agriculture. New Zealand is facing a carbon deficit of between 40 and 60 million tonnes depending on the level of deforestation that is used.

As well as sheltering the sectors the government has proposed that owners of non-Kyoto forests (which do not earn credits) will face some portion of the liability if they deforest (i.e. do not replant at harvest). Other proposals have been developed which would seek to encourage planting during the first commitment period. One such proposal is called the Permanent Forest Sink Initiative (PFSI). This provides carbon credit recognition for forests but under continuous cover forestry and limited harvesting is allowed only after 35 years. The policy applies from 1990 for native forest but only from 2002 for planted forest. For more information go to http://www.maf.govt.nz/mafnet/press/190404climate-faq.htm

A public discussion document was released for feedback with options proposed for dealing with forestry. See - http://www.maf.govt.nz/climatechange/index.htm for further information. The forest sector unanimously rejected the proposals and continues to press for changes that would allow forest owners to receive recognition for carbon sequestration. The policy proposals have also come under scrutiny from a range of other stakeholders and political parties. An OECD report endorsed the New Zealand forestry industry's position on the ownership of carbon credits. In its report, the OECD found that "*government retention of forestry carbon sink credits may have contributed to the weakening of incentives to expand plantations*" and recommended that the Government "*give consideration to allocating carbon sink credits and liabilities to forest owners*". Government has yet to respond to the consultation process. At the beginning of May the government announced that it supported an economy-wide carbon trading system. This offers the potential for forestry to be recognized. A revised policy approach is expected by September 2007.

SHRINKING FOREST ESTATE

New Zealand's commercial forested area declined for the second straight year during 2006 and 2007. This is the result of a continued decline in new planting combined with the more recent phenomenon of deforestation.

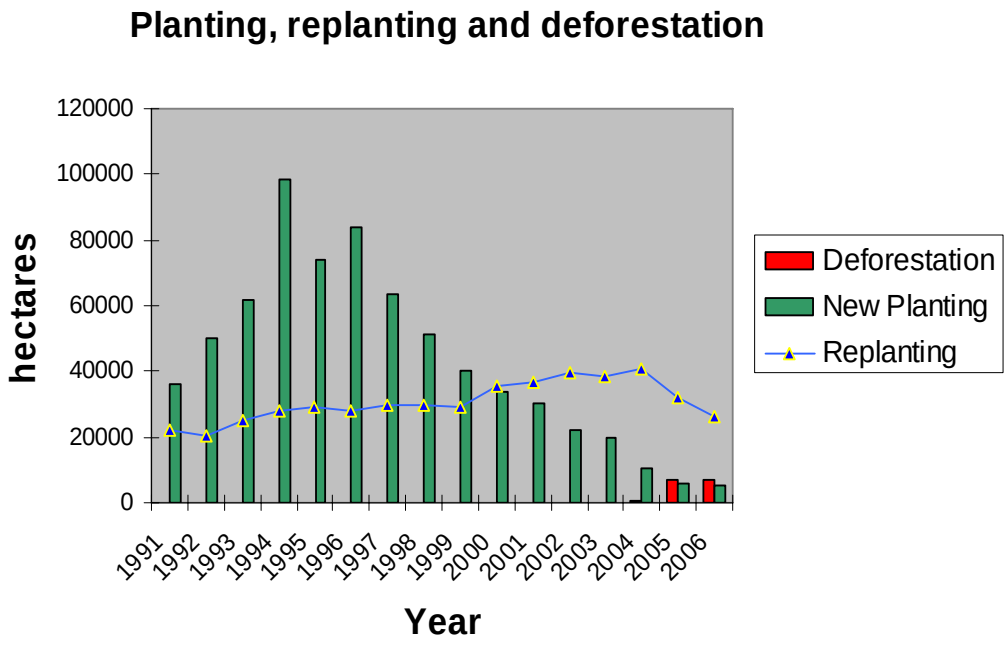
The average new planting rate was 45 000 hectares per year from 1990 to 2004 but dropped to 10,600 hectares in 2004, 6,000 hectares in 2005 and an estimated 5,000 ha in 2006. Such a low level has not occurred since 1959.

The low planting rates and the conversion of forestry land to pastoral land reflects low log prices and the fact that pastoral farmers are willing to pay higher prices for land, particularly for dairy farming, than commercial forest owners. Planting rates have also been negatively influenced by investor uncertainty about both future profitability and the government's deforestation policies.

The drop in new planting has been mirrored by drop in replanting. For the first time, in 2005, the amount of deforestation (7,000 ha) exceeded the level of new planting (6,000 ha). Replanting fell from 32,000 ha in 2005 to 26,000 ha in the current (2006) year. With 38,000 ha harvested this resulted in 12,800 hectares

deforested. Combined with a level of new planting that has not been so low since 1959 the overall impact was a net forest loss of around 8,000ha, similar to the previous year (see graph 1).

Graph 1



Deforestation has been particularly acute in the central North Island and on the Canterbury plains (east coast South Island) forests are being converted to farm land, mainly for dairy farming.

The Ministry of Agriculture and Forestry has commissioned two surveys of forest owner deforestation intentions in 2005 and 2006. In total a further 100,000 hectares is expected to be deforested through to the year 2020. For further information refer –
www.maf.govt.nz/climatechange/background-reports-and-analysis/2006-final-deforestation-intentions-report.pdf

BIOENERGY

The interest in the potential for forestry to benefit from using wood fibre for bioenergy in New Zealand is increasing. The government has also committed to increased use of biofuels – starting 2008 there will be a requirement for 3.4% of oil companies' sales of solid fuel to be biofuel by 2012.

The impact of the increased demand for wood has already become a significant issue in places like Europe and the switch in land-use is affecting forestry. This can either be directly where land is switched from the production of timber to palm oil as is the case in Indonesia, or indirectly. In the United States, 20% of the corn crop is now used for ethanol production and this is projected to continue to increase significantly. As corn is the primary feed for egg and dairy products this has seen an increase in dairy prices which has had a flow-on effect to NZ land prices as discussed above.

The government has provided a modest amount of money for research into the potential for forest bioenergy in New Zealand. Further information is available at:
http://www.fida-bioenergy.org.nz/index.html

Meanwhile the NZ forest research agency "Scion" and US based "ArborGen" have agreed a multi-million dollar partnership to focus on gene discovery and molecular breeding for forest trees. The research is aimed at improving tree growth and quality, which are key components of cultivating trees for renewable energy and biofuels, through faster identification of genes.

Business developments

THE MARKET

Returns to log exporters have improved by around 20% on the situation a year ago. This has resulted in a significant increase in production with ports around the country currently holding large stockpiles awaiting shipping. However, the bulk of the healthy lift in forest commodity prices internationally has been eroded in New Zealand by two key factors – the exchange rate and shipping costs - which have combined to reduce returns by around $NZ10/tonne.

In April 2007 the NZ dollar reached a post-float high of just under US75c, its highest level since March 1985 when it was floated at US44.44c. Against other currencies the appreciation has been less but even against the Australian dollar the currency has risen around by 7% since this time last year. Key domestic influences on this rise are the maintenance of high interest rates to try to curb inflation, consumer spending and strong house price rises.

Ocean freight rates to Asian markets have seen a 300% increase since 2002 and are likely to hit record levels of $US55 to $US60 a metre to Asia and over $US80 to India. A chronic shortage of appropriate "handy" sized boats, New Zealand's unattractive, in-bound, out-bound trade imbalance which lessens the opportunities for back-filling and recent traffic jams at Australia coal exporting ports have all contributed to this.

Medium term, the prospects appear encouraging. Since its peak in April against the US dollar the exchange rate has fallen below the 20 day moving average. Meanwhile demand is expected to remain strong. The Russian decision to increase export duty on logs from 6.5 percent to 80% over 2 years will have a significant influence on the demand for New Zealand logs particularly in China, Korea and Japan. Indian demand is also expected to continue to increase.

Shipping costs on the other hand should drop. Large scale production of new shipping vessels, particularly in China, is expected to see freight rates cut by up to 40% by 2010 and already there are signs that shipping capacity constraints may be easing.

Domestic processors have fared even less well than log exporters in recent times. Some of the increase in offshore log volumes has come at the expense of supply to local processors. This is now being reflected in an increase in the price of local wood products as costs are passed on. The current environment is not conducive to additional investment in processing which has remained very subdued in recent years – both green-fields and brown-fields.

CHANGING OWNERSHIP PATTERNS

As with the last few years, there have been a number of significant changes to commercial planted forest ownership since 2004 and there are likely to be further changes during 2007. Forest sales are being driven by a range of factors. The largest sales have been publicly listed companies that have sold out of forest ownership because the returns on capital have been poorer than wood processing activities. Other owners with poorly performing forest assets are leaving the business either voluntarily or after going into receivership. There have also been sales between existing owners rationalising their forest resource.

The major news recently concerns New Zealand's largest forestry company, Carter Holt Harvey (CHH), in a move that is likely to profoundly affect New Zealand forestry for some time. This was the sale of International Paper's (IP) 50.5 percent shareholding in CHH to New Zealand-based Rank Group Investments Ltd. After acquiring IP's holding, the Rank Group launched a full take-over offer for CHH. The outcome of this move is yet to be decided.

Other large purchasers of forests have been Timber Industry Management Organisations (TIMOs) and Pension Funds. TIMOs now own in excess of 30 percent of New Zealand's commercial planted

forests. By way of example of this trend, the most recent significant change of ownership was the sale by Rank Group of the bulk of the Carter Holt Harvey forest estate (around 200,000ha) to the Hancock Timber Resource Group, a TIMO, in November 2006.

FOREST INDUSTRY REPRESENTATION

There have been significant changes to forest industry associations. The New Zealand Forest Industry Council (NZFIC) was dissolved and, in late 2005, the New Zealand Wood Council, commonly known as Woodco, was established. Current members of the Woodco board are drawn from the Forest Owners Association, Wood Processors Association, Farm Forestry Association, Forest Industry Contractors Association, and Pine Manufacturers Association.

Concurrently, a new processors association - the New Zealand Wood Processors Association (WPA) was formed in early 2006. The WPA represents companies responsible for the primary processing of more than 80 percent of New Zealand's wood production.

NZ WOOD CAMPAIGN

As in a number of other countries such as Australia, Canada and Europe a forest and wood products promotional campaign is being developed within NZ. The programme is a joint initiative between industry and government and is being managed through WoodCo on behalf of both growers and processors. The objective is to significantly increase domestic wood consumption in the domestic market, and particularly the non-residential market. It is also aimed at creating positive perceptions of planted forests and plantation grown wood.

David S. Rhodes
Chief Executive
New Zealand Forest Owner's Association

PORTUGAL

Introduction

The social and economic history of Portugal, a country of 10.4 million inhabitants, is strongly linked to the products yielded by the forest.

It has been so from the era of "the discoveries", when Portuguese wooden vessels sailed the oceans to discover new lands and new worlds, to the present time, when national economic groups hold world leading positions in the manufacturing and trade of forest products – the Sonae Group in agglomerated wood panels, the Amorim Group in cork products, and at European level, the Portucel Soporcel Group in uncoated printing and writing paper made from eucalyptus pulp.

In modern times there has been increased focus on the manner in which the country's 3.4 million hectares of forest (38% of its total area) are managed, with new legislation and management practices progressively changing, to the better, the quality of forest management in Portugal, despite the difficulties presented by the very small-scale and fragmented nature of the forest ownership pattern.

General economic situation

The Portuguese GDP grew by 1.2% in 2006, which, although largely surpassing its increase in 2005 (0.4%), still falls short of the Euro Area's performance in these two years.

The budget deficit was brought to 3.9% in 2006 (0.7 percentage points lower than initially forecast), which is in line with the agreement reached with the European Union within the framework of the Stability and Growth Pact.

The best estimates point to 2008 as the year when the Portuguese GDP will finally come close to the average GDP in the Euro Area, and this should be followed by the resumption of the process of real convergence with the euro area, which had been interrupted at the beginning of the 2000 decade.

The inflation rate reached 3.0% in 2006, which is significantly higher than in 2005 (2.1%) and well above the estimates made by the Government in the course of the year.

Global investment in the Portuguese economy was still negative in 2006 (due to retrenchment in public spending in order to reduce the budget deficit down to the level agreed with the European Union) and should only become positive in 2008 (+3.9%).

Exports were the economy's best performing component, rising by 12.4%, while imports, notwithstanding the weight of the oil bill, grew by 8.0% only.

In overall terms, the Portuguese economy grew in comparison to 2005, even surpassing expectations at the start of the year.

In 2005 the Portuguese exports of forest products reached euro 2,938 million euro (9.6% of total national exports), up by 7.1% on 2004.

In 2006 the national exports of forest products are thought to have risen by more than 10% in value.

Domestic imports of forest products totalled euro 1,869 million euro in 2005 (3.8% of total national imports), rising by 6.1% on 2004.

In 2006 these are estimated to have grown by 5% only.

Emerging issues

LEGISLATION

In August 2006 the Government officially approved a National Forest Strategy, which, among others, will permit to establish the reference framework of application to Portugal of the European Agricultural Fund for Rural Development (FEADER) in the period of 2007-2013.
The main relevant aspect is the focus given to areas most suitable for wood production.

In May 2006 the Government officially approved the National Plan for Forest Fire Prevention which defines a strategy and establish a set of proceedings to develop an efficient forestry management to create the conditions to progressively reduce the forest fires.

Water pricing mechanism is still under preparation. Industry still perceives a high risk for significant higher costs for water uptake, use and discharge. A need to link water pricing mechanism with IPPC's BATs is welcomed by industry.

WOOD AVAILABILITY

An update to the national forest inventory has been concluded in 2006. It showed that forest area increased 2% between 1995 and 2006 to a total of 3.4 million hectares and eucalyptus plantations decreased 4% to a total of 647 thousand hectares. The forest inventory also revealed 300 thousand hectares of young forest stands.
New studies on future wood availability are being prepared.

The National Forest Inventory provides the following data on the main forest raw materials and respective area of forest occupation:

Species	Area (thousand ha)	Volume (Million m^3)
Maritime pine (Pinus pinaster)	710.6	67.1
Cork oak (Quercus suber)	736.7	-
Eucalyptus (Eucalyptus globulus)	646.7	41.3
Other species	1,318.3	-
TOTAL	3,412.3	-

Industry is experiencing increasing difficulties in securing wood needs. Forest fires from previous years significantly affected annual allowable cut. Additionally increasingly higher export volumes (having reached the top volume of 1.4 million tonnes in 2006) both of round wood and wood chips for energy are adding further difficulties to domestic industrial wood supply. Portuguese pulp and paper industry is now importing wood, reducing pressure on existing forest resources. Sawmills are suffering from lack of suitable assortments.

ENERGY

In 2006 the Government launched a public tender to award 15 licences for biomass power stations with total capacity of 100 megawatts (MW), and announced the award of the first two licences (2 MW and 3 MW). Portugal has set a target to reach 150 MW of electric energy produced from biomass in 2010.

New biomass based energy facilities are under construction and concern for higher costs for raw materials exists. Energy policies providing subsidies for green KWh produced will further mobilize wood for energy production. Higher energy prices and climate change related policies are affecting competitiveness of industry.

In the meantime there has been considerable external demand (from Italy, Belgium and the UK) for forest biomass for energy production as a result of the existing differential in "green" electricity prices (106 euros/Mwh in Portugal, versus 170 euros/Mwh in Italy, 135 euros/Mwh in Belgium and 130 euros/Mwh in the UK).

Forest industries are further involved in activities along the wood for energy chain and energy production.

Performance of the paper and wood industry

In 2006 the incidence and gravity of forest fires were close to the average of the last twenty years. There were 21,681 fire events and a total burned area of 75,052 hectares, of which 36,521 ha corresponded to forest stands.

The chart below shows the production, imports and exports of the main wood raw materials in 2005 and 2006 (estimates):

		PRODUCTION	IMPORTS	EXPORTS
		thousand m^3	thousand m^3	thousand m^3
Coniferous logs (maritime pine)	2005	2 111	3	22
	2006	2 100	7	51
Non – coniferous logs	2005	50	148 (1)	4
	2006	70	118 (1)	4
Eucalyptus pulpwood	2005	6 590	122	1 179 (2)
	2006	6 500	100	1 415 (2)

(1) 90%, on average, is tropical timber
(2) 90%, on average, to Spain

The sawmill industry has contracted sharply in recent years due to the reduction in the area and volume of maritime pine caused by forest fires. There are now an estimated 250 sawmills (versus 730 in 1998) employing around 5,000 people (10,700 in 1998).

Exports of sawn softwood – which once surpassed one million cubic metres, by the mid-eighties – have now fallen to some 340 thousand m^3.

The chart below shows the production, imports and exports of wood boards in 2005 and 2006 (estimates):

		PRODUCTION	IMPORTS	EXPORTS
		thousand m^3	thousand m^3	thousand m^3
Particle board	2005	850	60	502
	2006	800	72	473
Fibre board	2005	405 (1)	141	364 (2)
	2006	420 (1)	168	364 (2)

(1) 80% is MDF
(2) 75% is MDF

More than 95% of pulp and paper production in Portugal is currently concentrated in four companies. The consolidation process that occurred is now being implemented throughout the various organizations.

Increased pulp and paper capacities were announced and new developments are expected at any moment.

In 2006 the pulp industry worked at full capacity (99.5%). In the paper industry, the capacity utilisation rate was 97.5%.

Pulp production increased by 3.67% in 2006, compared to 2005. 49% of pulp produced was exported, an increase of 38% from the previous year.

Paper production increased by 3.74% in 2006, compared to 2005. 94% of paper produced was exported, an increase of 24% from the previous year.

The chart below shows the production, imports and exports of wood pulp, and paper and board from 2004 to 2006:

(1000 ton)	Year	Production	Imports	Exports
Woodpulp	2004	1949	110	1009
	2005	1990	47	735
	2006	2063	40	1018
Paper and Board	2004	1664	840	1234
	2005	1577	830	1234
	2006	1636 (*)	934 (*)	1539 (*)

(*) preliminary data

Forest Certification Systems in Portugal

The PEFC Council certification system was adopted by the Portuguese Forestry Sector Council (CFFP)[22] which conducted a process compatible with the PEFC framework and established the reference framework for supervision, control and revision of the Portuguese Forest Certification System - PEFC Portugal.

Following the publication of the "Portuguese Standard for Sustainable Forest Management Systems, application of the pan-european criteria for sustainable forest management" (NP 4406:2003), the CFFP submitted the Portuguese Forest Certification System to the PEFC Council, for assessment, which approved it on 16 March 2004.

The Portuguese standard created in accordance with the rules of the Portuguese Quality System is based on the Pan-European Sustainable Forest Management criteria and indicators subscribed by the 3rd Interministerial Conference on European Forest Protection (MCPFE, Lisbon 1998) and on ISO1401. Certification of forest management units under this standard can be individual, grouped or regional.

The Forest Stewardship Council (FSC) forest certification system has since 2005 been promoted in Portugal through the WWF Mediterranean Cork Oak Forest Programme (WWF Med PO). One of this programme's objectives is to create an FSC-Portugal standard and promote the sustainable management of the cork oak forest through practices based on the FSC system.

The certification approach under the FSC system considers individual forest operations. Each forest operation is audited on an annual basis. To allow small companies (with less than 100 ha) to bear the costs of certification, a group certification scheme (Small and Low Intensity Managed Forests) is

[22] Conselho da Fileira Florestal Portuguesa

being developed. This is particularly important for Portugal, where the small forest property predominates (with more than 300 thousand forest owners).

Following the initiative's launch on 6 December 2006, the applications process for the FSC Contact Person for Portugal is under way and should be concluded before the end of the year.

There are around 73 thousand hectares certified under the FSC system and another 50 thousand under the PEFC system. There are also some twenty certifications of chain of custody under both systems.

Luís Deslandes
Member of the Board, Portucel Soporcel Group

RUSSIA

In 2006 and the first part of 2007, Russia continued to experience robust economic growth, reflected by continued growth in Russian pulp and paper output (Tables 1, 2, fig. 1). The growth in Russia's paper and paperboard output was 2.8% in 2006, (1.7% in 2005, 6.8% in 2004).

The important forest sector policy developments of 2004-2007 in Russia were as follows:
the Kyoto Protocol ratification by Russia (and its coming into effect in spring of 2005 with new efforts to monitor carbon emissions),

- new alliance formation between "**International Paper" and** "**Ilim Pulp Enterprise",**
- new Forest Code to be adopted,
- the use of space satellite monitoring for preventing illegal timber cuttings,
- new level of export tax on round wood in 2007-2009-2011 (Fig.6),
- Giprobum-Engineering's (the Russian major designing and engineering company) share purchase (70%) by the Pöyry company, Finland.

Both demand and output of pulp and paper products increased in Russia through 2004-2006 and into the first half of 2007. Owing to relative economic and political stability established in the country since the major currency revaluation of 1998 and more expansionary macroeconomic policy under President Putin since 1999, there has been a continuous increase in output of pulp, paper and paperboard in Russia, more than doubling since 1996, although output has yet to reach previous record levels of 1988-1989 pre-transition periods (in the late Soviet era).

In 2005-2006, the Russian pulp and paper sector continued to expand production of pulp, paper and paperboard, particularly the output of paperboard for packaging. During 2006, Russia's total output of pulp (both pulp for paper and paperboard and market pulp) increased by 0.1%, the output of market pulp increased by 0.4%, and the output of paper and paperboard increased by 2.7%, including a 4.2% increase in output of paperboard.

Exports of pulp and paper products hold a dominant position in the total Russian exports of forest-based products, and the overall structure of forest product exports still has a pronounced raw material character. In terms of round wood equivalents, round wood timber exports and sawn wood exports accounted for 82% of Russia's exports in 2005, while pulp and paper accounted for only 17.8% of exports (Table 2).

In 2005, exports of pulp and paper products continued to increase. Exports of pulp, paper and paperboard progressively increased from 1990 and reached a peak level in 2005. However, Russian exports as a percentage of production have remained largely unchanged since 1996, with exports comprising about 80% of output for market pulp, and around 40% for paper and paperboard. (Table 3, fig. 2, 3). Major export destinations for these Russian products are China (market pulp, kraft linerboard), Ireland (market pulp, kraft linerboard), India (newsprint), and Turkey (newsprint).

Although the tonnage of Russian paper and paperboard exports greatly exceeds the tonnage of imports, the trade balance in value has continued to deteriorate, as Russia has expanded imports of higher value paper products. The annual trade deficit in paper and paperboard has been negative since 2001, and in 2005 it was more than a 0.87 billion USD (Table 4, fig. 4). The higher value of imports of paper and paperboard as compared to their exports is mainly due to the fact that Russia is importing rather expensive products such as high quality materials for container and packaging, coated paper, and tissue, whereas less expensive commodity products such as newsprint and kraft linerboard are being exported.

Table 1
Output of pulp, paper and paperboard in the Russian Federation in 1995 – 2006
(thousand metric tons)

Products	1988 (89)	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2006/ 2005,%
Chemical pulp total:	8331	4151	3028	3170	3205	4225	4960	5272	5568	5764	5922	5933	6005	100.1
Market pulp	3076	1743	1144	1169	1320	1722	2018	2136	2233	2311	2409	2419	2380	97.9
Paper and paperboard	8632	3956	3236	3269	3426	4535	5300	5595	5921	6227	6619	6800	7145	102.8
Paper total including:	5465	2760	2274	2179	2325	2966	3320	3415	3524	3682	3903	3969	4004	100.1
Newsprint	1693	1457	1243	1201	1386	1622	1694	1732	1713	1814	1978	2007	1993	100.4
Offset paper	396	346	349	337	399	485	461	465	491	449	469	452	466	103.2
Paperboard total:	3167	1196	962	1090	1102	1569	1980	2180	2397	2545	2716	2830	3141	106.6
Corrugated board	1639	814	610	775	760	1080	1356	1530	1711	1882	2090	2102	2332	109.4

SOURCES: GOSCOMSTAT OF THE RUSSIAN FEDERATION; PPB-EXPRESS, AUTHOR'S DATA HANDLING

Table 2
Structure of Russian exports of forest-based products in 1990 – 2005

	1990	1998	1999	2000	2001	2002	2003	2004	2005
Round wood, million m^3	31,4	20,0	27,6	31,3	31,7	36,5	37,6	41.5	48.0
Sawn wood, million m^3	15,7	4,6	6,4	7,9	7,7	8,9	11,0	13.1	15.4
In terms of round wood[1], million m^3	*25,1*	*7,36*	*10,2*	*12,6*	*12,3*	*14,2*	*17,6*	*20.96*	*24.64*
Market pulp, million metric tons	0,993	1,056	1,373	1,600	1,758	1,885	1,905	1.866	1.952
Paper and paperboard, million metric tons	2,761	1,767	2,048	2,309	2,353	2,500	2,550	2.590	2.700
Pulp, paper and paperboard, million metric tons	3,74	2,823	3,421	3,909	4,111	4,385	4,455	4.456	4.652
In terms of round wood [2], million m^3	*12,7*	*9,57*	*11,6*	*13,3*	*13,94*	*14,87*	*15,10*	*15.11*	*15.77*
Total exports of forest and paper products in terms of round wood, million m^3	69,2	36,9	49,4	57,2	58,0	65,6	70,30	77.57	88.41
Percentage of round wood exports	45%	54%	56%	55%	55%	56%	53%	53.5%	54.3%

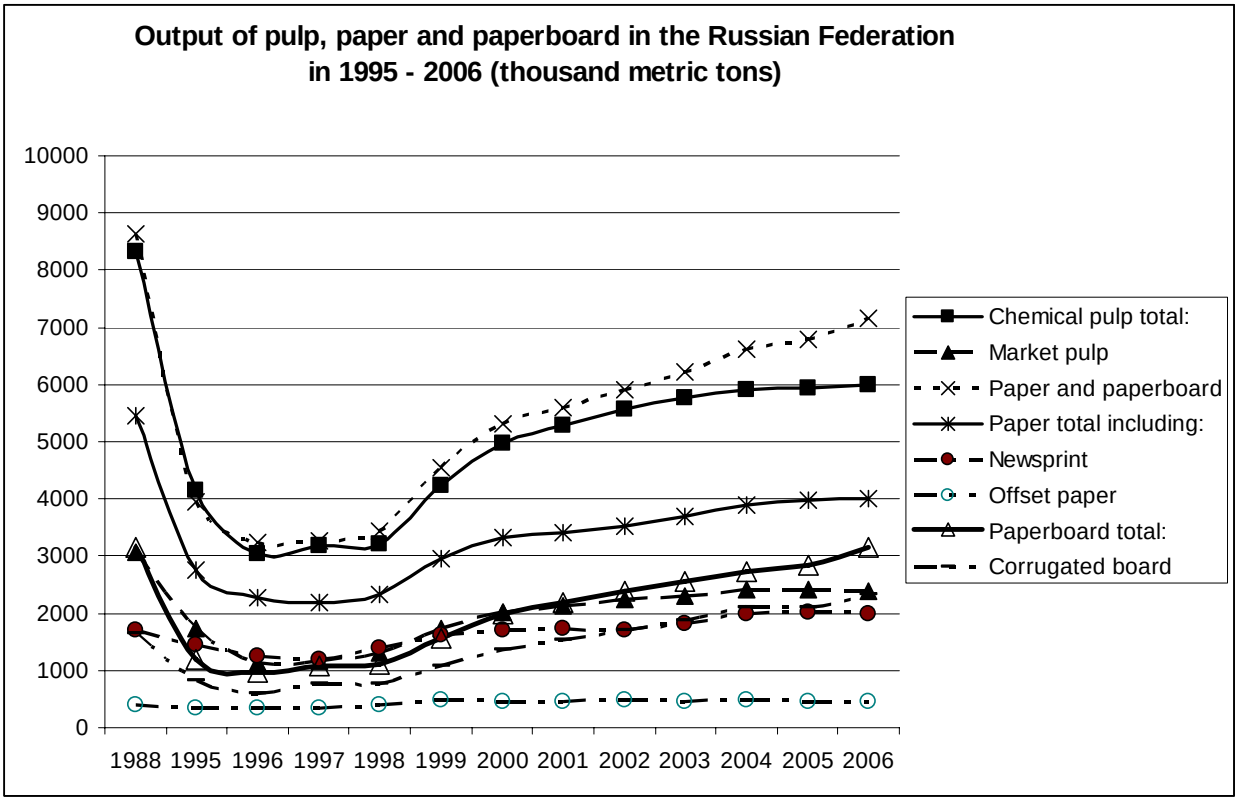
[1] The factor 1,6 is used - source: UN FAO
[2] The factor 3,39 is used - source: UN FAO

Table 3
Exports of market pulp, paper and paperboard from the USSR (1980 – 1990) and from Russia (1993 – 2004), thousand metric tons

Year	*Market pulp*			*Paper and paperboard*		
	Output	**Exports**	**Percentage of exports**	**Output**	**Exports**	**Percentage of exports**
1980	2457	821	33.5	8688	1018	11.7
1983	2840	1012	35.6	9556	1034	10.8
1986	3233	1105	34.1	10395	1188	11.4
1987	3371	1088	32.3	10566	1252	11.9
1990	3255	600	18.4	8325	900	10.8
1992	2109	856	40.6	5750	1568	27.3
1993	1682	1077	64.0	4462	1418	31.8
1994	1328	1028	77.4	3410	1264	37.1
1995	1736	1362	78.5	4070	1690	41.5
1996	1267	1095	85.7	3220	1380	42.9
1997	1193	1008	82.8	3331	1507	45.2
1998	1311	1056	75.8	3540	1783	50.4
1999	1725	1350	78.3	4467	2019	45.2
2000	2000	1635	81.8	5239	2355	45.0
2001	2136	1753	82.1	5595	2350	42.0
2002	2233	1866	83.6	5921	2453	41.4
2003	2301	1905	82.8	6174	2550	41.3
2004	2404	1866	77.6	6653	2590	38.9
2005	2429	1952	80.4	6948	2700	38.9
2006	2379			7145		

Sources: Goscomstat of the USSR, Goscomstat of the Russian Federation, PPB-express, Moscow, author's data handling

Fig. 1


Output of pulp, paper and paperboard in the Russian Federation in 1995 - 2006 (thousand metric tons)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1988 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006
Chemical pulp total:
Market pulp
Paper and paperboard
Paper total including:
Newsprint
Offset paper
Paperboard total:
Corrugated board

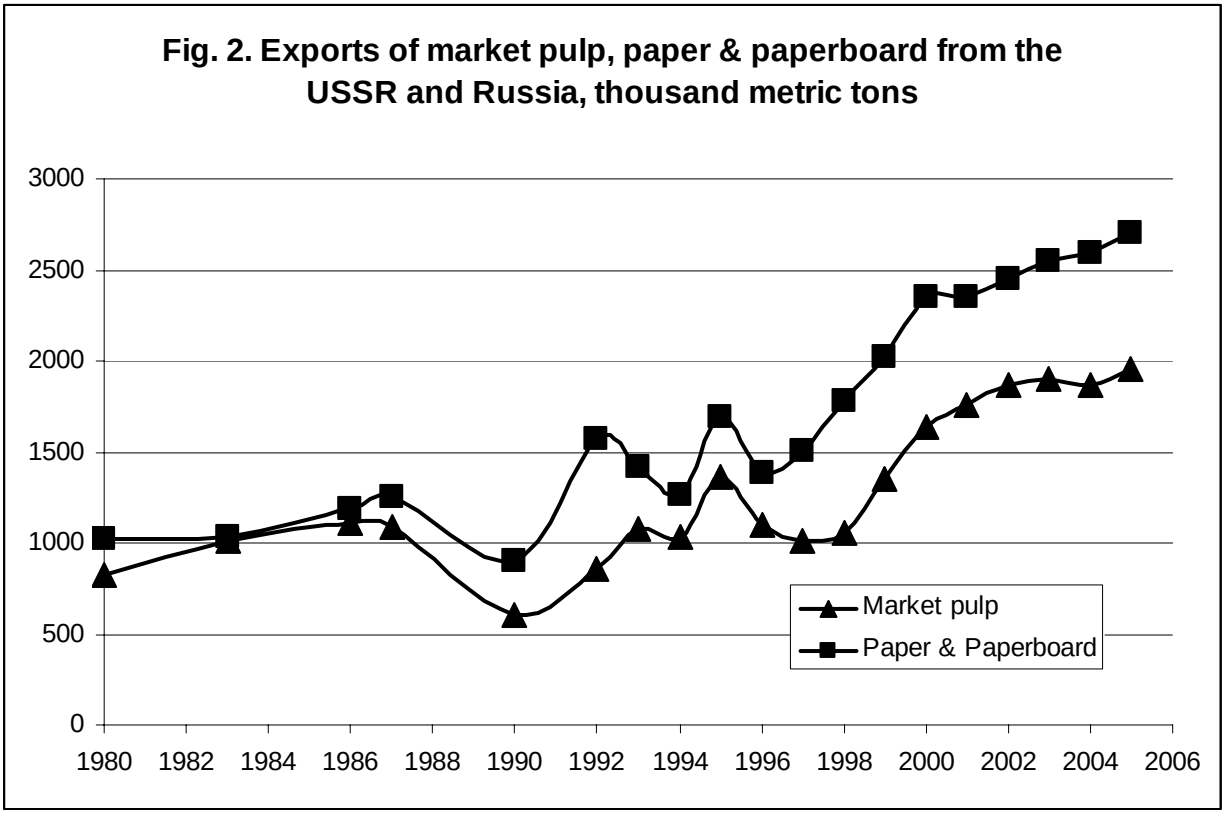


Fig. 2. Exports of market pulp, paper & paperboard from the USSR and Russia, thousand metric tons
3000
2500
2000
1500
1000
500
0
1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006
Market pulp
Paper & Paperboard

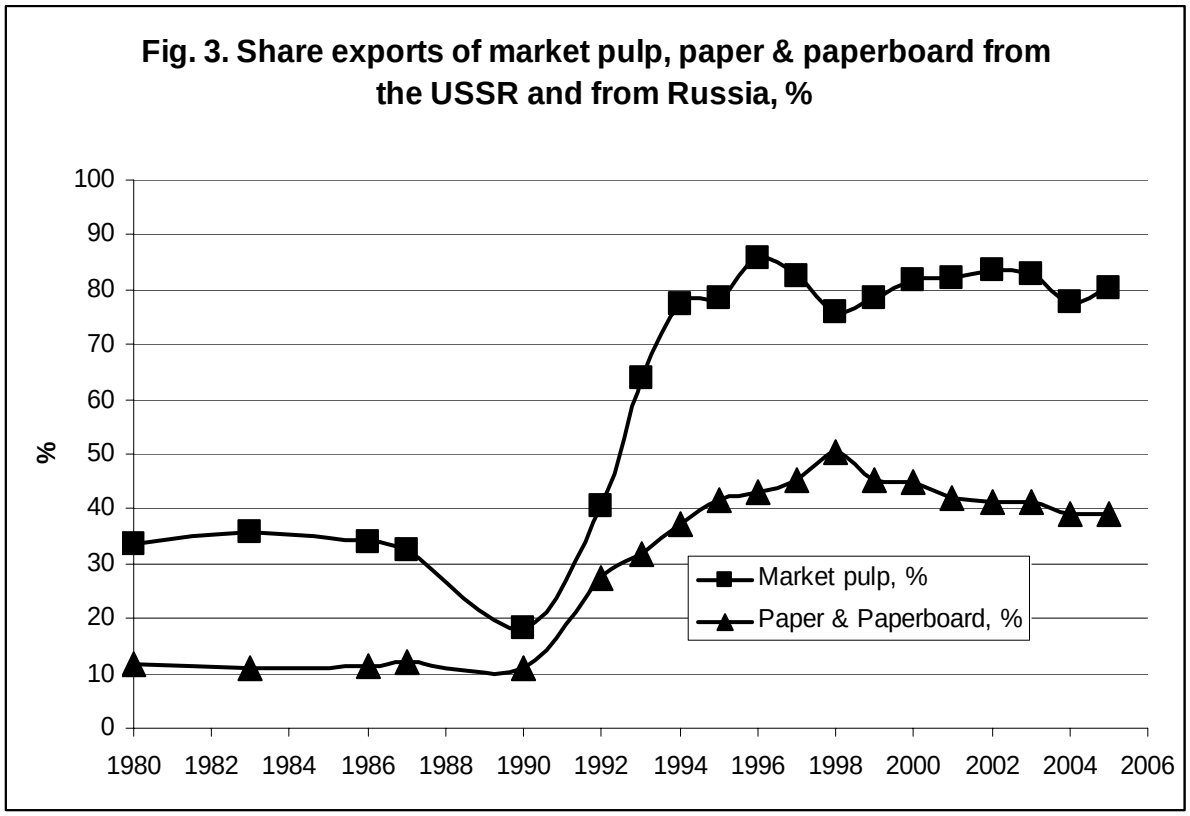


Table 4
Russian exports and imports of paper and paperboard in 2000–2005 (million USD)

	Exports	Imports	Trade balance
2000	920	731	+189
2001	927	1012	–85
2002	887	1200	–313
2003	967	1465	-498
2004	1184	1774	-590
2005	1331	2107	-876

Sources: State Customs Committee, Pulp. Paper. Board Magazine, PPB-express, PPB Exports, PPB Imports, author's data handling

In present time the biggest Russian Enterprise produced 75% market pulp, 80% paper and 50% paperboard (Table 5). 25.10. 2006 was announced new alliance formation between "International Paper" and "Ilim Pulp Enterprise"(Fig. 5).

Reconstruction and restructuring of the Russian pulp and paper industry is continuing, with some progress being made towards higher value products with better processing of wood raw material. As an example, International Paper Company announced recently plans to speed up an uncoated free-sheet machine and add 50,000 tons per year of production capacity at the paper mill in Svetogorsk (about 140 km from St Petersburg). The mill is also reportedly installing a coater on a liquid packaging machine to add 15,000 tons/year of capacity. More than 200 million USD have been put into reconstruction of the mill in recent years. Office paper produced by the mill supplies presently more than 60% of the Russian market demand. In addition, a new 200,000 tons per year aspen-based BCTMP pulp line is planned in 2007, according to International Paper, which will supply pulp to paper mills in Europe and elsewhere.

Sources: State Customs Committee, Pulp. Paper. Board Magazine, PPB-express, PPB Exports, PPB Imports and author's data interpretation, 2006.

It can be noted that future development of Russia's pulp and paper sector is linked to expanded production of more technologically advanced products (such as coated printing and writing paper rather than newsprint for example), and also more integrated utilization of forest resources.

Implementation of important environmental projects provides examples of steps being taken towards applying the new Russian environmental laws adopted in late 2002 (based on comparison of environmental indices of individual mills and those of "best available technology", or BAT). For instance, new systems of wastewater local treatment with the use of KWI floatators were constructed at the Syassky pulp and paper mill, SCA *Huygens Product*, etc. Furthermore, in connection with ratification of the Kyoto Protocol, a number of mills (the Arkhangelsky pulp and paper mill, for example) initiated work on inventorying of greenhouse gas emissions. Such accounting for carbon and greenhouse gas emissions is being done at the Arkhangelsky mill and elsewhere to prepare for limits on emissions and perhaps trading in carbon emissions.

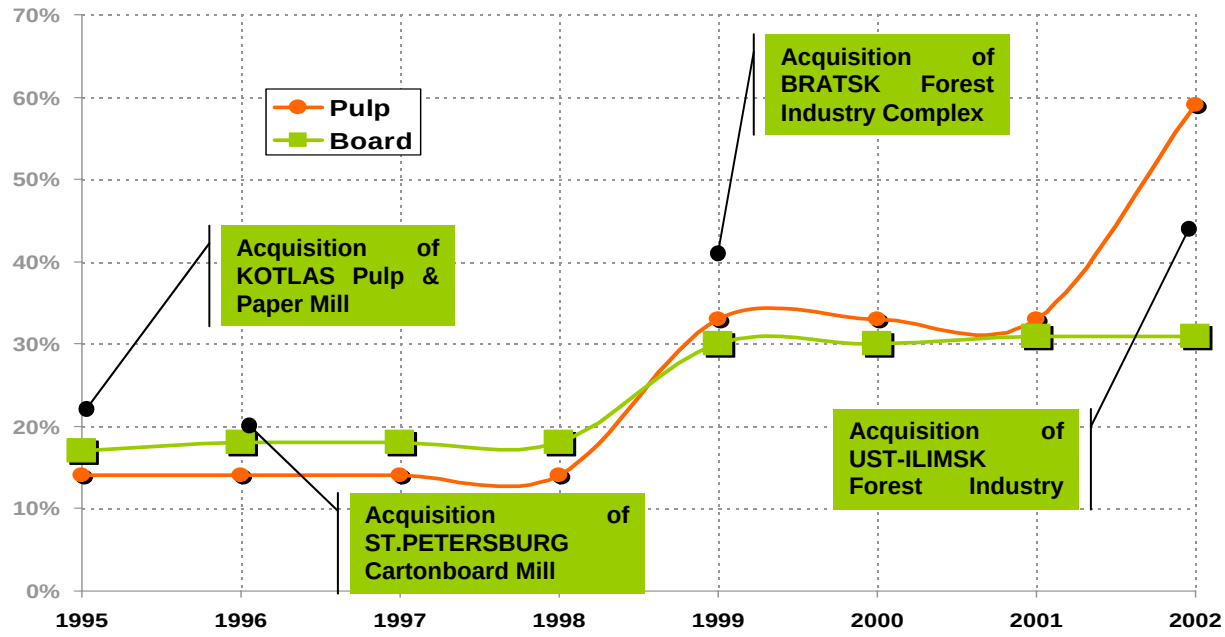
The forest sector of the Russian Federation has a staggering potential for further development. Russian forest sector has excellent opportunities for rapidly increasing exports of forest products. The growing stock amounts to 81.9 billion m³ with an annual increment exceeding 900 million m^3. (Table 6, Fig.6). These resources represent over 20 % of the global total and the single largest national forest resource. The potential for increasing felling in the framework of sustainable forest management is clear. Further, Russia has the benefit of rather well educated, low-cost, labour resources. Both factors could attract investments into the Russian forest sector.

Table 5
Major Russian Pulp, Paper & Board Producers (2006)

	Total Output, x 000 t	Market Pulp, x 000 t	Paper, x 000 t	Board, x 000 t
Ilim Pulp	2582	1516	262	804
• Kotlas	945	350	262	333
• Bratsk	737	506		231
• Ust-Ilimsk	660	660		
• St.Petersburg	240			240
Arkhangelsk	804	236	82	486
Syktyvkar	813	12	595	206
Kondopoga	741		741	
Volga	551		551	
Solikamskbumprom	456		456	
Svetogorsk	406		324	82
Segezha	220		220	

Sources: State Customs Committee, Pulp. Paper. Board Magazine, PPB-express

Fig. 5. Ilim Pulp Growth (share of total Russian production)



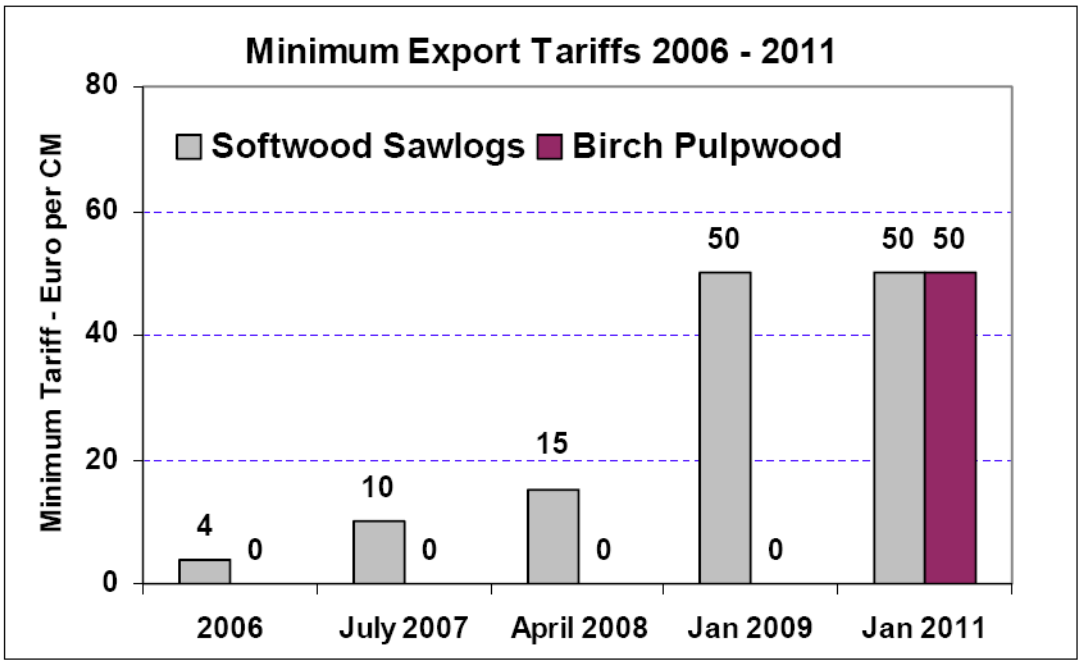
Sources: Frank Graves, ILIM PULP, 7th Annual ASI Conference
The Pulp & Paper Industry in Russia, the CIS and the Baltics

Table 6
General indices of forest resources of the Russian Federation

	Unit	Russian Federation, total	European part	%	Asian part	%
Forest land area	million ha	882.0	173.7	19.6	708.3	80.4
Stocked area	million ha	774.2	168.7	21.8	605.5	78.2
Growing stock, total	billion m^3	81.9	22.1	27.0	59.8	73.0
Mature and over mature of which:	billion m^3	44.1	9.7	22.0	34.4	78.0
- Coniferous	billion m^3	34.6	6.4	18.5	28.2	81.5
- Non-coniferous	billion m^3	9.5	3.3	34.7	6.2	65.3
Total average annual increment	million m^3	970.4	359.4	37.0	611.0	63.0
Annual allowable cut	million m^3	551.0	213.0		338.0	

Sources: Russian Federation forest sector outlook study. *UNECE - FAO UN*, **ECE/TIM/DP/27** Geneva, 2003

Fig.6. New Russian Wood Tax (Resolution # 75, February 2007).



SOUTH AFRICA

The South African economy 2006/07

Stable political and economic conditions have prevailed with growth in G.D.P. over the period coming in at almost 5.0%. Major growth sectors have been manufacturing, retail, construction and tourism, with mining having remained static and agriculture declining. Despite significant increase in oil prices, inflation has been contained to just over 5.0%. During the year lending rates have increased by 2.0% to stand at 12,5% p.a., and the exchange rate (R to US$) has remained stable at R7.06 to US$1.00. Of major concern however is the widening trade deficit which is now in negative territory due to a surge in imports.

Through the Governments expanded public works programme focussing on infrastructure development and its Accelerated and Shared Growth Initiative (ASGISA) as well as capital expenditure programmes associated with the 2010 Soccer World Cup which is to be held in South Africa, it is anticipated that over the next 3 years, G.D.P. growth could well exceed 6.0%. Whilst positive for the overall economy and in particular job creation prospects, this is likely to put significant stresses and strains on the country's ability to supply required resources and services, including timber products, which will result in a higher level of imports, a widening trade deficit, accelerated inflation and a further hike in interest rates.

Generally, as a developing nation and being part of the emerging markets segment, South Africa's economic fundamentals are sound, and the economy is being well managed.

The forestry and forest products sector in relation to the economy

Given the growth dynamics inherent in the overall South African economy the Forest Sector has likewise experienced growth, although the strength of the Rand has impacted on exports so that growth in export volumes has not been matched by growth in value terms. To meet the demands of the growing domestic economy and to maintain its exports position some R5 billion is being invested to expand manufacturing capacity in the forest products sector. Unfortunately however investment and expansion in the Forestry sector has not kept pace, which is placing huge constraints on sector growth. Currently the demand for roundwood amounts to 22 million m^3/p.a. whereas the forests can only supply 20 million m^3/p.a. on a sustainable basis. The average net increase in planted area over the last 5 years has amounted to no more than 500 hectares p.a. leading to an ever widening supply deficit. To meet current and anticipated growth over the next 25 to 30 years we should be increasing our planted area by a minimum of 25,000 hectares p.a. South Africa therefore faces a serious timber availability outlook which is going to necessitate a dramatic escalation in imports in coming years. This unfavourable timber supply position is unfortunately being exacerbated by a noticeable increase in plantation losses being caused by fires and pest and diseases amongst others.

Whilst timber growers are therefore benefiting from considerably improved roundwood prices (up to 60% in instances) buyers or timber processors are being negatively impacted and the cost of wood is becoming a major threat to their competetiveious.

Emerging issues facing the industry

Paragraph (2) above alludes to the emerging issues of importance facing the Industry, namely timber supplies, fires, pest and disease and competitiveness.

TIMBER SUPPLIES

Shortages of roundwood supplies into all market segments is a reality with Sawlogs being the major concern. Increased imports, improved yields, better utilisation of logs, lower plantation losses, and

more, will all be necessary, but the critical ingredient regardless, has to be an increase in the rate of new afforestation. Although the target should be 25,000 hectares p.a. in reality given water, environmental, climatic and agricultural constraints, a target of 10,000 hectares p.a. is more realistic. The chances of achieving this are however not that good as South Africa's Water stress situation makes it extremely difficult to obtain authority to plant trees through the acquisition of mandatory afforestation water use licences. Forestry is the only dry-land cropping activity subject to such licensing requirements and the Industry is making huge efforts to change Governments perspectives on this. Broad misconceptions on forestry's water use exist, despite scientific evidence and global experience dictating otherwise.

Through statutory black economic empowerment initiatives and a strong land reform and redistribution drive at least 40% of the current forestry estate will be transferred to new ownership over the next 10 years. Whilst fully supported, the industry is concerned that this could result in transferred land being converted out of Forestry to other uses and innovative mechanisms will have to be found to avoid such a situation arising.

FOREST FIRES

Over the last 2 years fires have destroyed over 60,000 hectares of plantations. Stringent forest protection and fire fighting strategies have been put in place to reduce these losses, however considerably more needs to be done. Changing climatic conditions, population pressures and rural socio-economic conditions amongst others also need to be given greater focus.

PEST AND DISEASES

Amongst Pine plantations serious problems have arisen due to infestations by the Sirex Woodwasp, which in certain Forestry areas has reached epidemic proportions (60% infestation levels). Biological control strategies, modelled on global best practices, have been implemented but to date success levels have been significantly lower than achieved in other countries. Fusarium or Pitch Canker is again becoming a big problem, with mortality arising therefrom for the first time being seen in older age class compartments of Pine.

Serious problems are also being encountered in stands of Eucalyptus throughout the country as a result of infestation by Thaumastocoris peregrinus. Cold tolerant Euc. Nitens is also being attacked by the Cossid Moth. In all, 15 – 20% of the entire Forestry state is being impacted upon by various pests and diseases resulting in unaffordable timber losses. The industry is negotiating with the Government for increase levels of support to help counteract these problems.

COMPETITIVENESS

For a long time the advantages of plantation forestry have enabled the Industry to remain globally competitive. With increasing timber shortages however, rapidly escalating timber prices are beginning to have an impact on competitiveness, leading to the Industry paying much greater attention to productivity both in terms of tree and human capital. It has also resulted in greater emphasis being placed on mechanization of operations. This latter issue is being supported by the HIV/Aids epidemic currently being experienced in sub-Saharan Africa.

OTHER EMERGING ISSUES

(i) HIV/AIDS

The HIV/Aids prevalence rate amongst the population ranges between 11% and 20% depending on age category, with infections having increased by almost 50% since the year 2000. 362,000 people are predicated to die from HIV/Aids during 2007, almost 1000 people per day. The epidemic is already having a catastrophic effect on the population. In the Forestry Industry the effect is particularly severe, given the rural nature of the business, with up to 40% of its labour force in areas being infected. The cost in lives, in human misery, in productivity and on competitiveness are huge. Major efforts by the Government and business are being made to combat the scourge although it is going to take super-

human efforts by all to be successful. The cost to business of managing this situation are becoming massive.

(ii) Climate Change
Only now is business beginning to take the issue of global warming seriously. Already some of the effects of this are being felt by the Forestry Industry with plantation yields dropping in specific areas and mortality as a result of fires and pests and diseases increasing. Extensive research on its impacts is now being undertaken by the Industry with attention being focused on greater site: specie matching and the variation in genus and specie being planted, amongst others. Opportunities for tree planting activities under the C.D.M. are also being investigated.

(iii) Sustainable Forest Management-Forest Certification
Even through 85% of South African Timber plantations are already certified under the FSC, much attention is now being put on making certification much more accessible to small plantation owners. Currently 20,000 plus small black emerging growers are being assisted in this regard through the development of a small grower FSC certification programme commonly referred to as the SLIMF programme (small and low intensity Managed Forests). As part of this South Africa is currently developing its own National Certification Standard.

(iv) Profile of Plantation Forestry
South Africa is no exception when it comes to the profile of plantations and a lot needs to be done to improve this. Misunderstanding and misrepresentation of the facts about tree plantations is more often the norm than the exception. The industry is working hard to remedy this, and the Code for Planted Forests being developed by the FAO in this regard is being of great assistance.

Business developments during the previous year

FOREST SECTOR TRANSFORMATION CHARTER

The most significant development during the last year has been the drafting of a Broad Based Black Economic Empowerment Transformation Charter by the Forest Sector. This is required in terms of the Broad Based Black Economic Empowerment Act and the Forest Sector Charter once published in the Government Gazette (probably July 2007) will become binding on all participants in the Industry, both growers and processors. The objectives of this Charter are to

- promote meaningful participation of black people in the entire forestry value chain;
- achieve sustainable change in the racial and gender composition of ownership, management and control structures and in the skilled positions of existing and new forest enterprises;
- increase the extent to which black men and women, workers and cooperatives own and manage existing and new forest enterprises;
- use the forest industry as a catalyst for empowering rural and local black communities to access economic activities, land and infrastructure.

To achieve these objectives Industry participants will have to comply with a transformation scorecard which comprises 7 elements. Briefly these are:

(i) Ownership
25 +1% of Industry to be owned by black people within a period of 10 years.

(ii) Management Control
50% of management (Board level, Executive and Senior) to be in control of black people within 10 years;

(iii) Employment Equity
75% to 80% of all employees, by grading, to be black people within 10 years;

(iv) Skills Development
4% of total annual payroll to be spent on skills development for black people within 10 years.

(v) Preferential Procurement
70% of total procurement spend to be spent on black owned or black empowered business within 10 years.

(vi) Enterprise Development
3% of entities net profit after tax to be spent on enterprise development for black people and communities within 10 years;

(vii) Socio-Economic Development
1% of entities net profit after tax to be spent on socio-economic development activities for black people and communicates within 10 years;

Whilst the abovementioned will place enormous responsibility on the Industry to achieve, and will come at a high cost, all Industry participants have accepted the challenge and have committed themselves to implementation. Of major concern, as already mentioned, is how to ensure that ownership transfer will not result in existing timber plantations being converted to other land uses. Even a small change could have significant implications for the future sustainability of the Industry, given the current and future timber supply situation.

PRIVATISATION OF STATE FORESTS

The Privatisation or restructuring of state forests has been ongoing for almost 9 years, and in the process has created considerable investment uncertainty. During 2006 the last, but biggest portion of State Forests was successfully bid for, but then stopped by the Competition Authorities. Resulting from this the Government then announced that it would retain ownership and control. More recently however the Government has changed its mind and is now proceeding with the sale. This has created confusion and uncertainty, particularly in the Sawlog markets, and could result in legal proceedings. As this remaining unsold portion contains the countries largest and most productive pine Sawlog plantation it is hoped that a successful outcome will be achieved.

GROWTH AND DEVELOPMENT STRATEGY FOR THE FOREST SECTOR

Flowing from a report prepared by the consulting firm Genesis Analytics in 2005, entitled “The Contribution, Cost and Development Opportunities of the Forestry, Timber and Pulp and Paper Industries in South Africa”, the South African Department of Trade and Industry in collaboration with the Sector itself has recently completed a sector growth and development strategy which has been submitted to the Cabinet for approval. Once approved it is hoped that this will provide the impetus and resource to enable the Industry to significantly raise its growth and development tempo.

M.B.P. EDWARDS
J. HUNT

Synopsis of industry profile – 2000 vs 2006

FORESTRY SECTOR

Criteria	Unit	2000	2005/6	Change
Planted area	Ha	1,330,944	1,333,563	0,2%
Roundwood Production	m³/p.a.	16,7 million	20,3 million	21,6%
Value of Roundwood Sales	Rand	2,6 billion	4,2 billion	61,5%
Contribution to Agric. G.D.P.	%	8,7%	9,8%	12,6%
Plantation losses (fires, Pests & Dis)	ha	23,000	42,000	82,6%

FOREST PRODUCTS SECTORS (ALL SECTORS EXCLUDING PAPER)

Criteria	Unit	2000	2005/6	Change
No. of Plants	-	167	211	26,4%
Roundwood Intake	m³	17,1 million	22,6 million	32,2%
Value of Sales	Rand	12,9 billion	15,0 billion	16,3%
Contribution to Mnfg. G.D.P.	%	8,6%	8,6%	NIL
Foreign trade balance	Rand	4,6 billion	3,5 billion	(23,9%)

PULP, PAPER AND BOARD SECTOR

Criteria	Unit	2000	2005/6	Change
No. of Plants	-	23	33	43,5%
Pulp Capacity	tons	2,6 million	2,7 million	3,8%
Paper and Board Capacity	tons	2,6 million	2,9 million	11,5%
Per Capita consumption	kg	42,0	45,7	8,8%
Production				
- Pulp	tons	2,2 million	2,3 million	4,6%
- Paper and Board	tons	2,1 million	2,5 billion	19,1%
Value of Exports	Rand	6,3 billion	8,4 billion	33,3%

SWEDEN

New center-right government

After the general elections for Parliament in the autumn 2006, a coalition of center-right parties formed a majority government. Improving the functioning of the labour market and job creation are high on their agenda.

Wage negotiations

Wage negotiations have been settled within the industry. They concluded in a three-year agreement with estimated labour cost (including wage) increases of 10,2 percent over the three years.

Restructuring

Restructuring continues within the indsustry. High input costs and in particular increased energy prices have caused the companies to perform programs to increase efficiency and reduce costs. This has implied lay-off of personnel and mill closures. M-real has decided to close its Wifsta fine paper mill, and the Rottneros Group is planning to close down the Utansjö CTMP mill and move the mill to a country with more favourable electricity prices.

Investments

Investments in the pulp, paper, sawmilling and wood products industry amounted to 1 billion euros in 2006. They are expected to increase 1,1 billion in 2007. Many investment projects are energy and/or efficiency related.

Forest raw materials and bioenergy

Increased interest in the forest resources from the fuel and energy sectors has sharpened the competition for forest raw material. There is room for increased use of biofuels from the forest, both from present and new types of forest fuels. However, industry roundwood should first be used for industry production.

The Government has reported its inquiry on forest policy. The guiding principle also for the future is that environmental and production goals rank equal. The potential to increase wood growth has been highlighted, and wood production can be increased by 25 – 50 percent in 10 – 60 years. Several methods to achieve this goal are advised: utilisation of farm land, increased fertilising, better plant material, better clearing methods.

Sustainability and climate change

To reduce and preferably get away from the dependence on oil is a general political goal for economic, political and climate change reasons. Increased wood resources can be used to replace fossil fuels, and research and development programs are carried out to find the most efficient use of wood resources for transport and heating purposes. The forest industry points out that the forest resources are not enough to phase out the fossil fuels consumption, but contribution from other energy sources are necessary.

A Commission on climate vulnerability studies the possible consequences of increased global temperature. It will report in the autumn 2007.

Energy

A Commission on Oil Independence has presented a report with proposals how to reduce the use of oil in the Swedish economy. The report is reviewed during the spring. The forest industry supports the Commission’s goal to reduce the dependency on oil, but is concerned about how the proposed actions will influence the wood market.

A support system for renewable electricity production was introduced in 2003. It has been prolonged till 2030.

Timber Construction Strategy

The timber construction strategy aiming to foster increased use of wood in construction is beginning to show results. Many multi-storeyed buildings and public buildings with wood structures have been erected, resulting in better image and in regional development. Efforts to increase the knowledge of building with wood are also made. The government has decided to prolong the strategy.

Export duty on wood imported from Russia

The industry is very concerned about the increased levies and restrictions on wood exported from Russia. According to industry view the Russian exports to the Baltic area of 20 million cubic meters will disappear. The forest industry is in close contacts with the government to relieve the situation.

Item 10. Recommendations of the Committee to FAO for 2007-2008

The Committee agreed on the following recommendations to FAO:

Propose corrective measures on the perceived negative relation between the forest products industry and deforestation, in the context of the climate change debate. In particular:

Jointly organize a side event at the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP 13), to be held in Nusa Dua, Bali, Indonesia, from 3 to 14 December 2007;

Further document the social contribution of the forest products industry;
Contribute to clarifying UNFCCC accounting rules for carbon sequestration by forests;
Actively promote understanding of the causes of deforestation.

Undertake an analysis of the relationship between water and forestry, in the context of the increasing scarcity of water.

Expand work on public perception of forest industries and the environment, based on the initial work presented at the Shanghai meeting.

Continue to work on the nexus of forests and energy, building on the results of the IEA-FAO-ICFPA energy conference in Rome, October 2006.

Item 11. Date and place of next session

The Committee proposed to held its 49th Session in South Africa on 10 June 2008.

ANNEX 1 – REGIONAL REPORT

CEPI

(ON BEHALF OF AUSTRIA, BELGIUM, CZECH REPUBLIC, FRANCE, FINLAND, GERMANY, HUNGARY, ITALY, THE NETHERLANDS, NORWAY, POLAND, PORTUGAL, SLOVAK REPUBLIC, SPAIN, SWEDEN, SWITZERLAND, UK[1])

What are the emerging issues facing the industry in your country / region?

CLIMATE CHANGE

Emissions trading new NAPs for the second commitment period are submitted and verified.

Revision of the EU Emission Trading System Directive for the second trading period started. Scope, harmonisation of allocation, new entrants and closures are among the issues that the EU Commission is willing to discuss.

The extension of the scope of the Emission Trading Scheme is under consideration, with a view to include aviation and LULUCF.

Council decision of 8-9 March to reduce emissions by 20% unilaterally by 2020 (30% if other parties to the Convention make similar commitments) with a view to keep the temperature increase below 2°C.

ENERGY

Release of the EU Energy package that covers energy markets, energy efficiency, research and technological development, as well as energies from renewable sources. The Council decided on 8-9 March for 20% energy efficiency gains by 2020, as well as on a mandatory share of renewable energy of 20% by 20% (with a 10% sectoral target for biofuels for transport).

A RES Directive is currently under preparation to split the targets among member states (burden sharing), and other measures to implement the targets.

CEPI has commissioned a study to assess the impact on the industry of the subsidies to biomass in terms of availability of raw materials, and identify some solutions to minimise the potential negative impact.

Discussion have been going on with respect to the lack of effective en transparent energy market functioning. The issue of unbundling energy production and distribution has been discussed and a directive is under preparation.

A High-level Group on Energy, Competitiveness and Environment set up by 4 Commissioners is expected to deliver its conclusions by the end of 2007. The pulp and paper industry was represented in this Group by one company CEO.

[1] Subject to potential additional oral reporting from Members at the meeting

PUBLIC PROCUREMENT

In the context of Greening Public Procurement, several European governments have made decisions related to forest-based products. These decisions notably focus on the raw material sourcing (illegal logging, forest certification) and recycling. ICLEI (Local Governments for sustainability) has been asked by the European Commission to develop a toolkit for sustainable procurement of paper.

REACH

The Regulation covering the use of chemicals is entering into force on 1st June 2007. Whilst the pulp and paper industry is not too seriously impacted, some products used by the industry will have to be registered. In that respect a guidance document has been elaborated by CEPI and industry consortia for the registration of these products are envisaged in order to reduce the costs.

TRADE

Russia has announced that it will gradually increase export duties on wood beginning in July 2007. These extra duties will seriously impact the raw material procurement of Finland and Sweden, and indirectly the European wood markets. Russia and the European Commission are negotiating on increases in export duties, which are not in harmony with Russia's intention to join the WTO.

TENSIONS ON THE FIBRE MARKET

Wood prices and local shortages have been experienced in Europe. Hardwood has been more hit than softwood. With the rather mild winter though, the tensions have been less in 2007 than in 2006. Part of these price increases and shortages can reasonably be linked to the subsidy-based bioenergy policies. No such tensions have been noticed yet on the recovered fibre markets.

FORESTRY

The EU is implementing the Forest Action Plan that was adopted last year. A Work programme made of 18 key action areas has been established.

The Ministerial Conference on Protection of Forests in Europe will take place in Warsaw in November 2007. A Ministerial Declaration and two Resolutions – on forest and energy and on forest and water – will be submitted to the Ministers' signature.

BIODIVERSITY

The Portuguese Presidency of the EU has put "Business and biodiversity" in its priority list for the second half of 2007. CEPI plans contributing to this with the release of Best practices for biodiversity developed together with IUCN.

RECYCLING

Policy framework (Waste Framework Directive) is under revision and the Commission set a target to reach "Recycling Society" in EU. This includes introduction of a mechanism for waste to secondary materials which did not exist before. Recovered paper has been generally seen a priority candidate for ceasing to be waste, something the industry has traditionally advocated for.

What are the most important business developments within your industry over the last year?

Increase in demand (both recycling in CEPI countries and exports) of recovered paper, but increased collection has been responding to meet with sufficient supply. In 2005, recycled fibres were half of fibre raw materials in CEPI.

Increase of the exports of recovered paper, particularly to feed the growing capacities in China.

European Declaration on Paper Recycling was successfully negotiated and set with 13 trade associations along the whole paper value chain. It sets a target to meet 66% recycling rate in the region of 29 European countries, plus qualitative targets towards improved eco-design, in order to increase yield and prevent waste.
Work on improving quality management and responsible sourcing of recovered paper was continuing, issuing new guidance and starting work to set up identification system for traceability.

Some municipal collection systems had a negative trend towards more co-mingled collection with other dry recyclables causing quality problems at mills.

Rationalisation of the paper capacities is going on to better adjust to the demand side and the growing competition inside Europe and on the international markets, with a very strong euro.

The paper demand is steadily increasing.

Energy prices have been substantially increasing, in an international context of higher prices and under pressure of the Emissions Trading Scheme internally.

New environmental legislation is being discussed, ranging from market based instruments for environmental purposes (i.e. taxes) to restrictions on air and water.

More restrictive transport conditions have been adopted and have started to have an impact on transport costs, e.g. drivers working time and road charging.

Bernard de Galembert
Forest Director
25 April 2007

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ANNEX 3 – PRESENTATIONS

REVIEW of ACTION by FAO

Wulf Killmann

Advisory Committee on Paper and Wood Products
Shanghai, China, 6 June 2007

Recommendations at 47th Session

- Forest resources for fibre supply
- Enhance dialogue with civil society
- Bottlenecks under CDM
- Public perception of private sector
- Country information
- Planted Forests Code

Forest Resources for Fibre Supply

- Global wood & products flow (5)
- Global plantation study
- Global plantation outlook
- Global study on fibre supply will follow

Dialogue with Civil Society

- 3 Wood energy meetings
- Policy Forum on public procurement

Bottlenecks under CDM

Study available in your docs

Public Perception of Private Sector

- Forest Communicator's network
- Joint study with CEPI (8)

Country Information

Presentation under item 9

Planted Forests Code

- **Guidelines available**
- **Title had to be changed**

Other Relevant Forestry Work

ENERGY

- **Joint seminar on energy and FP industry**
- **Forest Mobilization**
- **Three sessions during COFO**
- **FAO/ITTo Conference at LIGNA**
- **Policy Forum in 10/2007**
- **Ministerial meeting 11/2007**

Other Relevant Forestry Work

- **Public Procurement Forum**
- **Guidelines for Forest Fire Management**
- **Many technical publications** (SOFO etc)

Other Relevant Forestry Work

CLIMATE CHANGE

- **Support to UNFCCC**
- **Training workshops**
- **UNFCCC workshop on avoided deforestation**
- **UNFCCC workshop on adaptation**
- **Information**
- **Lead authorship in IPCC 4rth AR**

Other Relevant Forestry Work

FOREST SECTOR OUTLOOK STUDIES

- **Study for West and Central Asia**
- **Study on Asia Pacific restarted (4)**

Secretariats

- Collaborative Partnership on Forests
- National Forest Programme Facility
- Mountain Partnership Secretariat
- International Poplar Commission
- Silva Mediterranea
- Gene Resource Panel

48th Session of the FAO Advisory Committee on Paper and Wood Products

ASIA-PACIFIC FORESTRY SECTOR OUTLOOK STUDY

Issues of interest to the forest and paper industry

Patrick B. Durst
Senior Forestry Officer
FAO Regional Office for Asia and the Pacific

6 June 2007, Shanghai, China

Background

- First APFSOS completed in 1998
- Enormous economic and social change in the region during past 10 years
- APFSOS II: Asia-Pacific forestry a decade later
- Assessing the future to 2020

Rationale

- Societies and economies will be very different in the future, from what they are today
- Change is accelerating and the future is arriving faster than ever before
- Changing society-forest relationships
- Need to understand directions of change to prepare and adapt effectively

Objectives

- Identify emerging socio-economic drivers of change
- Analyze probable scenarios for development
- Outline priorities and strategies to address challenges and opportunities

Outputs

- Country outlook papers
- Thematic studies
- Sub-regional reports
- Overarching main report
- Policy briefs
- Capacity building
- Collective vision of future for forestry

Process and partners

Consultation

31 participating Countries: each with a national focal point

National workshops with broad participation

Current partners: FAO, ADB, DFID, ITTO, APAFRI, SPC, RECOFTC, Norway
Potential partners: World Bank, CIFOR, ACIAR, Sweden, Finland……

Private sector collaboration

Welcomed and encouraged

National level – national consultations, stakeholder workshops

Regional level – conference, APFC session

Other collaboration – thematic studies, APFSOS advisory committee, private consultants

Policy study – "Constraints to private sector investment in forestry in Asia-Pacific"

Policy study

Removing Unnecessary Constraints To Private Sector Investment In Forestry In Asia And The Pacific

- Collaboration with NZ Forest Owners Association
- Comparative, multi-country policy study
- 8-10 national case studies examining policies and issues impeding private sector investment in forestry
- Includes natural forest management, plantation establishment, and processing facilities
- Analyses of commonalities, differences, and lessons for governments to encourage responsible forestry investment

Timeframe for APFSOS

October-November 2006
Start-up phase:
Identify focal points

February-March 2007
Focal point workshops

March-December 2007
Preparation of country papers and thematic studies

April 2008
Prelim. findings at 22nd session of APFC

December 2008
Publication of final report

November-April 2008
Develop 1st draft of main report

October 2007
International conference

December 2006
Prepare issues paper

Meeting of Advisory Committee

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GLOBAL WOOD AND WOOD PRODUCTS FLOWS
- TRENDS AND PERSPECTIVES –

Ivan Tomaselli
stcp@stcp.com.br
Shanghai, China - June 2007

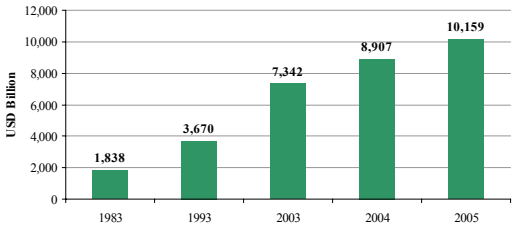
PRESENTATION CONTENTS

1. INTERNATIONAL TRADE
2. FOREST RESOURCES AND INDUSTRIAL SUPPLY
3. WOOD AND WOOD PRODUCTS TRENDS
4. EMERGING AND TRADITIONAL GLOBAL PLAYERS
5. PERSPECTIVES
6. CONCLUSIONS

1. INTERNATIONAL TRADE

INTERNATIONAL TRADE

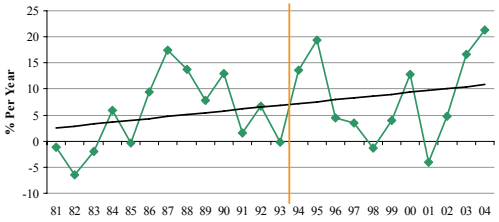
GLOBAL TRADE IS GROWING



Source: WTO - Adapted by STCP

INTERNATIONAL TRADE

GLOBAL TRADE IS GROWING FASTER IN THE RECENT YEARS



AVERAGE GROWTH

1981 – 1993:	**5.9% per year**
1994 – 2004:	**8.3% per year**

Source: WTO - Adapted by STCP

INTERNATIONAL TRADE

FOREST PRODUCTS ARE IMPORTANT IN THE INTERNATIONAL TRADE (2005)

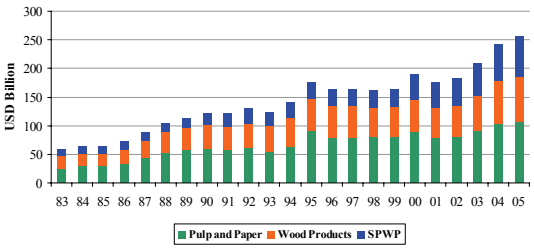
#	*Product*	*Value (USD Billion)*	*Share (%)*
1	Fuels	1,400	14%
2	Transport equipment	1,302	13%
3	Office and telecom equipment	1,275	13%
4	Chemicals	1,104	11%
5	Food	683	7%
6	Iron and steel	318	3%
7	Clothing	276	3%
8	**Forest Products***	**257**	3%
9	Textiles	203	2%
10	Non-ferrous metals	199	2%
	Other	3,141	31%
	Total	**10,159**	**100%**

* Includes SPWP

Source: WTO; FAO - Adapted by STCP

INTERNATIONAL TRADE

FOREST PRODUCTS INTERNATIONAL TRADE IS GROWING FAST

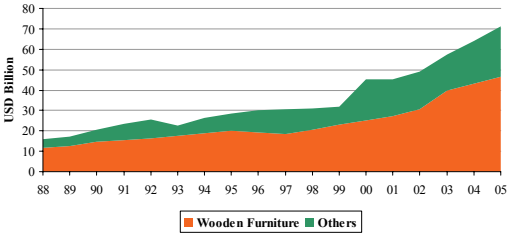


AVERAGE GROWTH: 6.6% per year

Source: FAO; ITTO - Adapted by STCP

INTERNATIONAL TRADE

SECONDARY PROCESSED WOOD PRODUCTS (SPWP) ARE GAINING IMPORTANCE

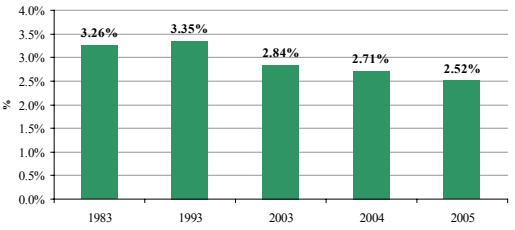


AVERAGE GROWTH: 8.7% per year

Source: ITTO - Adapted by STCP

INTERNATIONAL TRADE

BUT IN THE LAST YEARS SHARE OF FOREST PRODUCTS IN THE INTERNATIONAL TRADE HAS DECLINED



Source: WTO; FAO - Adapted by STCP

2. FOREST RESOURCES AND INDUSTRIAL WOOD SUPPLY

FOREST RESOURCES AND INDUSTRIAL WOOD SUPPLY

FORESTS AREA (MILLION HECTARES)

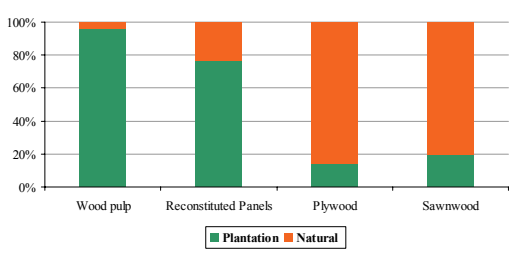
Region	Natural Forests		Plantation Forests	
	Area	Share	Area	Share
Africa	642	17%	8	4%
Asia	432	12%	116	62%
Europe	1,007	27%	32	17%
North and Central America	532	14%	18	9%
Oceania	195	5%	3	2%
South America	875	24%	10	6%
Total	**3,683**	**100%**	**187**	**100%**

PLANTATIONS REPRESENT 5% OF TOTAL

Source: FAO - Adapted by STCP

FOREST RESOURCES AND INDUSTRIAL WOOD SUPPLY

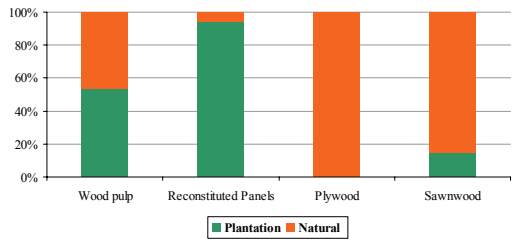
SHARE OF PLANTATION WOOD IN THE TROPICAL ASIA-PACIFIC REGION (2004)



Source: ITTO, 2006 - Adapted by STCP

FOREST RESOURCES AND INDUSTRIAL WOOD SUPPLY

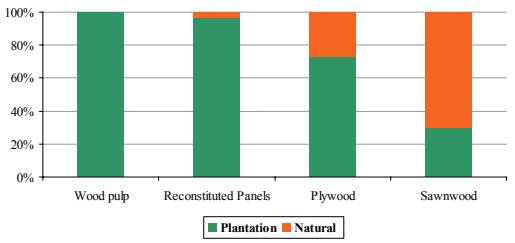
SHARE OF PLANTATION WOOD IN THE TROPICAL AFRICA REGION (2004)



Source: ITTO, 2006 - Adapted by STCP

FOREST RESOURCES AND INDUSTRIAL WOOD SUPPLY

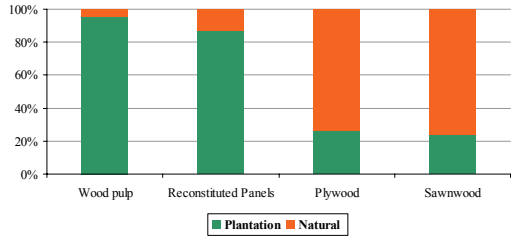
SHARE OF PLANTATION WOOD IN THE TROPICAL LATIN AMERICA & CARIBBEAN REGION (2004)



Source: ITTO, 2006 - Adapted by STCP

FOREST RESOURCES AND INDUSTRIAL WOOD SUPPLY

SHARE OF PLANTATION WOOD IN TROPICAL REGIONS (2004)

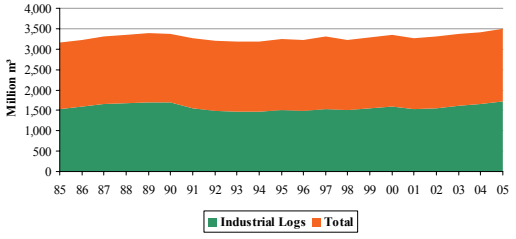


Source: ITTO, 2006 - Adapted by STCP

3. WOOD AND WOOD PRODUCTS TRENDS - CONSUMPTION AND EXPORTS-

WOOD AND WOOD PRODUCTS TRENDS

GLOBAL WOOD CONSUMPTION

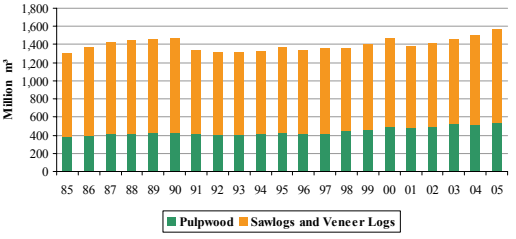


AVERAGE GROWTH: 0.3% per year

Source: FAO - Adapted by STCP

WOOD AND WOOD PRODUCTS TRENDS

INDUSTRIAL WOOD CONSUMPTION



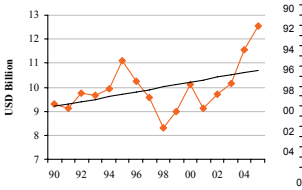
AVERAGE GROWTH
Pulpwood: 1.7% per year
Saw/Veneer Logs: 0.6% per year

Source: FAO - Adapted by STCP

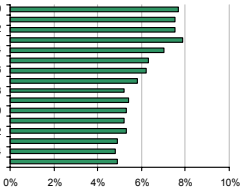
WOOD AND WOOD PRODUCTS TRENDS

LOGS & WOOD CHIPS EXPORTS

VALUE



SHARE OF TOTAL FOREST PRODUCTS EXPORTS



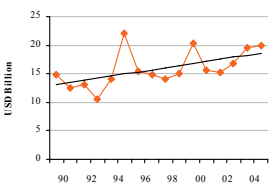
AVERAGE GROWTH: 1.9% per year

Source: FAO - Adapted by STCP

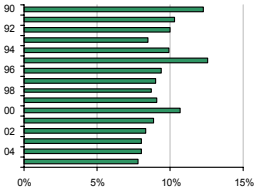
WOOD AND WOOD PRODUCTS TRENDS

WOOD PULP EXPORTS

VALUE



SHARE OF TOTAL FOREST PRODUCTS EXPORTS



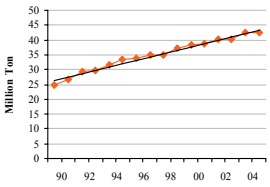
AVERAGE GROWTH: 1.8% per year

Source: FAO - Adapted by STCP

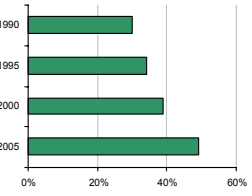
WOOD AND WOOD PRODUCTS TRENDS

WOOD PULP EXPORTS

VOLUME



SHARE OF EUCALYPTUS IN THE GLOBAL SHORT FIBER PULP TRADE



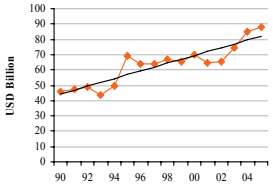
AVERAGE GROWTH
Total: 3.6% per year
Eucalyptus: 7.2% per year

Source: FAO; BRACELPA - Adapted by STCP

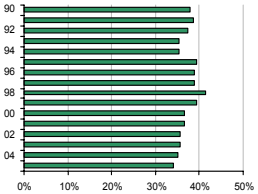
WOOD AND WOOD PRODUCTS TRENDS

PAPER EXPORTS

VALUE



SHARE OF TOTAL FOREST PRODUCTS EXPORTS



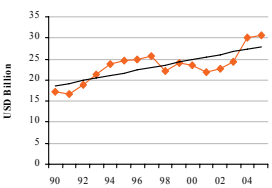
AVERAGE GROWTH: 4.2% per year

Source: FAO - Adapted by STCP

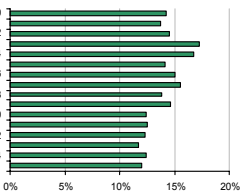
WOOD AND WOOD PRODUCTS TRENDS

SAWNWOOD EXPORTS

VALUE



SHARE OF TOTAL FOREST PRODUCTS EXPORTS



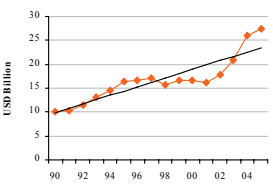
AVERAGE GROWTH: 4.0% per year

Source: FAO - Adapted by STCP

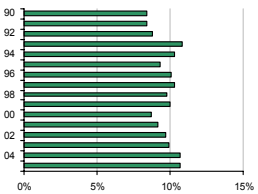
WOOD AND WOOD PRODUCTS TRENDS

WOOD PANELS EXPORTS

VALUE



SHARE OF TOTAL FOREST PRODUCTS EXPORTS



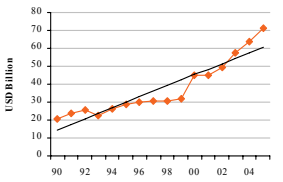
AVERAGE GROWTH: 6.9% per year

Source: FAO - Adapted by STCP

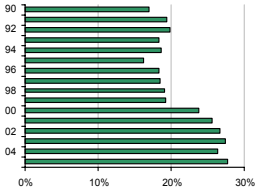
WOOD AND WOOD PRODUCTS TRENDS

SECONDARY PROCESSED WOOD PRODUCTS EXPORTS

VALUE



SHARE OF TOTAL FOREST PRODUCTS EXPORTS

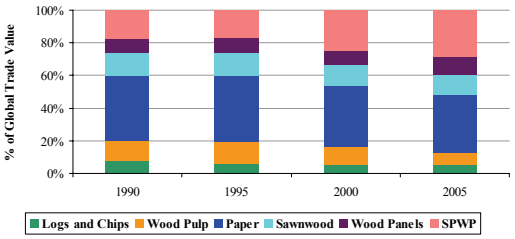


AVERAGE GROWTH: 8.7% per year

Source: ITTO; FAO - Adapted by STCP

WOOD AND WOOD PRODUCTS TRENDS

SHARE OF PRODUCTS IN THE TOTAL FOREST PRODUCTS GLOBAL TRADE



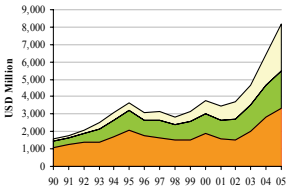
Source: FAO; ITTO - Adapted by STCP

4. EMERGING AND TRADITIONAL GLOBAL PLAYERS

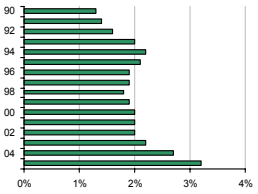
EMERGING AND TRADITIONAL GLOBAL PLAYERS

BRAZIL

EXPORTS



SHARE OF GLOBAL TRADE

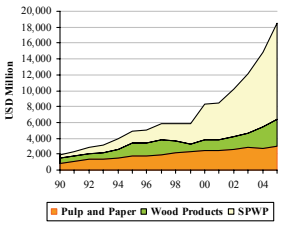


Source: FAO; ITTO - Adapted by STCP

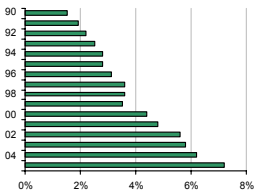
EMERGING AND TRADITIONAL GLOBAL PLAYERS

CHINA

EXPORTS



SHARE OF GLOBAL TRADE

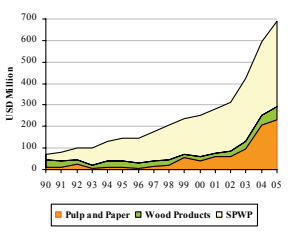


Source: FAO; ITTO - Adapted by STCP

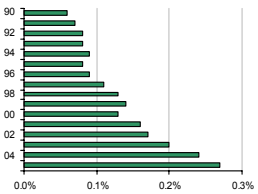
EMERGING AND TRADITIONAL GLOBAL PLAYERS

INDIA

EXPORTS



SHARE OF GLOBAL TRADE

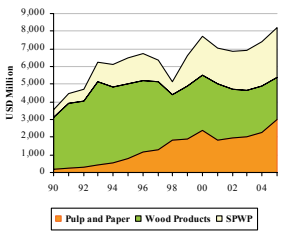


Source: FAO; ITTO - Adapted by STCP

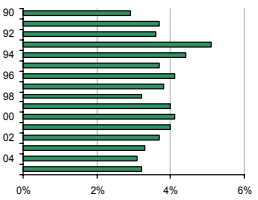
EMERGING AND TRADITIONAL GLOBAL PLAYERS

INDONESIA

EXPORTS



SHARE OF GLOBAL TRADE

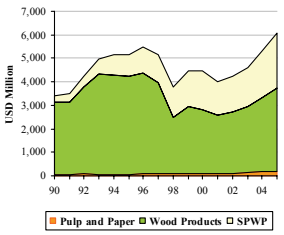


Source: FAO; ITTO - Adapted by STCP

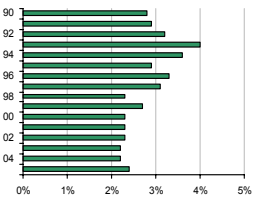
EMERGING AND TRADITIONAL GLOBAL PLAYERS

MALAYSIA

EXPORTS



SHARE OF GLOBAL TRADE

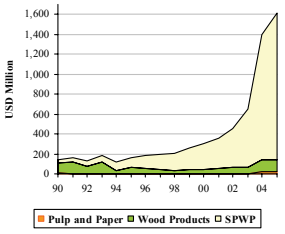


Source: FAO; ITTO - Adapted by STCP

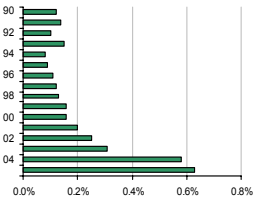
EMERGING AND TRADITIONAL GLOBAL PLAYERS

VIETNAM

EXPORTS



SHARE OF GLOBAL TRADE

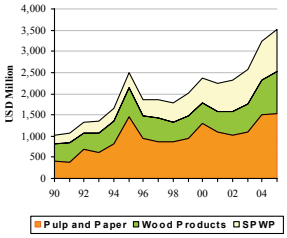


Source: FAO; ITTO - Adapted by STCP

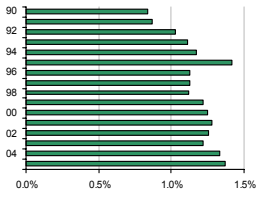
EMERGING AND TRADITIONAL GLOBAL PLAYERS

CHILE

EXPORTS



SHARE OF GLOBAL TRADE

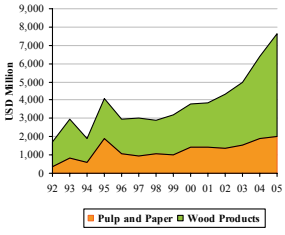


Source: FAO - Adapted by STCP

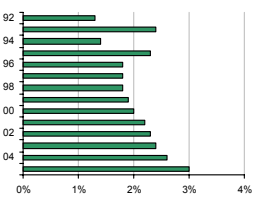
EMERGING AND TRADITIONAL GLOBAL PLAYERS

RUSSIA

EXPORTS



SHARE OF GLOBAL TRADE

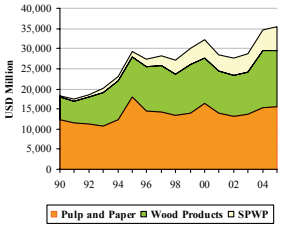


Source: FAO - Adapted by STCP

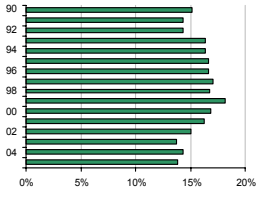
EMERGING AND TRADITIONAL GLOBAL PLAYERS

CANADA

EXPORTS



SHARE OF GLOBAL TRADE

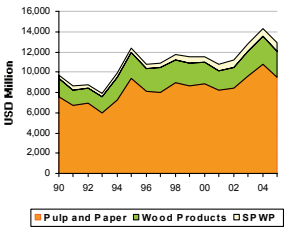


Source: FAO; ITTO - Adapted by STCP

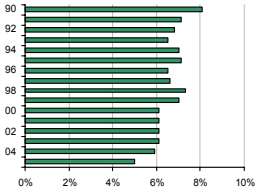
EMERGING AND TRADITIONAL GLOBAL PLAYERS

FINLAND

EXPORTS



SHARE OF GLOBAL TRADE

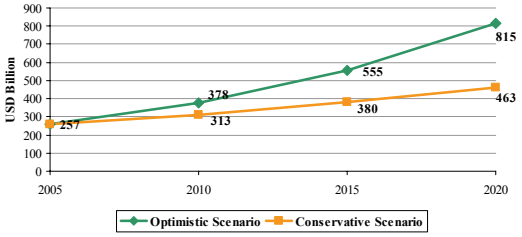


Source: FAO - Adapted by STCP

5. PERSPECTIVES

PERSPECTIVES

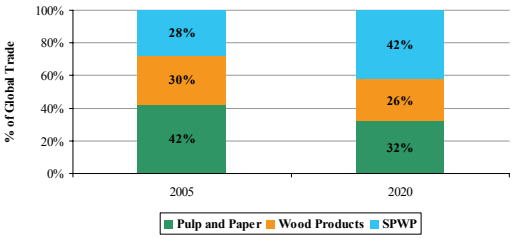
FOREST PRODUCTS INTERNATIONAL TRADE WILL CONTINUE TO INCREASE



Source: FAO; ITTO (2005) - Estimates STCP (2020)

PERSPECTIVES

SHARE OF PRODUCTS IN THE INTERNATIONAL TRADE WILL CHANGE

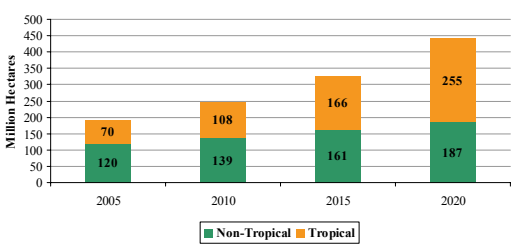


Source: FAO; ITTO (2005) - Estimates STCP (2020)

PERSPECTIVES

✓ **IMPORTANCE OF PLANTATIONS WILL INCREASE**

• **FOREST PLANTATIONS AREA**



Source: FAO; ITTO (2005) - Estimates STCP (2020)

PERSPECTIVES

✓ **IMPORTANCE OF PLANTATIONS WILL INCREASE**

• **SUSTAINABLE PRODUCTION POTENTIAL OF INDUSTRIAL PLANTATIONS***

(Million m³)

Year	*Tropical*	*Non-Tropical*	*Total*
2005	414	240	**654**
2010	637	265	**902**
2015	980	293	**1,273**
2020	1,508	323	**1,831**

* Around 50% defined as productive

Source: ITTO (2005) - Estimates STCP (2020)

PERSPECTIVES

WOOD FROM PLANTATIONS

- **EUCALYPTUS IS**
  - ✓ MAIN PLANTED SPECIES IN THE TROPICS
  - ✓ MOST PRODUCTIVE SPECIES
  - ✓ SUPPLY 50% OF SHORT FIBER MARKET PULP
- **EUCALYPTUS WILL**
  - ✓ INCREASE SHARE OF INDUSTRIAL PLANTATION AREA
  - ✓ INCREASE PRODUCTIVITY
  - ✓ HAVE A HIGHER MARKET SHARE
    - SHORT FIBER PULP: 60% (BRACELPA)
    - TAKE OVER TROPICAL TIMBER MARKETS

PERSPECTIVES

INTERNATIONAL MARKET WILL HAVE NEW IMPORTANT PLAYERS

- BRAZIL
- CHINA
- RUSSIA
- INDIA (?)
- VIETNAM (?)

... AND NEW FRONTIERS WILL BE OPEN

- AFRICA (SELECTED COUNTRIES)

PERSPECTIVES

OTHER ASPECTS

- GROWING DEMAND OF WOOD FOR ENERGY
- INCREASING CONTRIBUTION OF FOREST INDUSTRY TO ENERGY GENERATION
- FOREST CERTIFICATION AND SOCIAL RESPONSABILITY
- INDUSTRY CONSOLIDATION AND NEW PLAYERS IN EMERGING COUNTRIES

6. CONCLUSIONS

CONCLUSIONS

- **INTERNATIONAL TRADE WILL CONTINUE TO GROW FASTER THAN GLOBAL CONSUMPTION**
- **A SUCCESSFUL INVESTMENTS STRATEGY SHALL CONSIDER**
  - FAST GROWING PLANTATIONS
  - VALUE ADDED PRODUCTS
  - INTERNATIONAL MARKET FOCUS
- **WINNERS WILL BE COUNTRIES WITH**
  - GOOD CONDITIONS FOR PRODUCING PLANTATION TIMBER AT LOW COST
  - APPROPRIATED INVESTMENT CLIMATE

THANKS !

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Brief Introduction of "Facilitating Reforestation for Guangxi Watershed Management in Pearl River Basin Project"
中国广西珠江流域治理再造林项目简介

Zhuping Mo
Guangxi Forestry Inventory & Planning Institute
June 2007

Content 内容

- Background 背景
- Objectives 目标
- Description of the project activity 项目活动概述
- Project preparation and implementation procedure 项目准备和执行程序
- methodology adopted by the project 项目采用的方法学
- Monitoring plan 监测计划
- Estimation of net anthropogenic GHG removals by sinks 人为净温室气体汇清除量的估算
- Project benefit 项目效益

A. Background 背景

- In 2003, Guangxi Government applied US$100 million loan to the World Bank for implementing Guangxi Integrated Forestry Development and Conservation Project (GIFDCP). In order to achieve multi-goals concerning project economic, social and environmental benefits, the following activities were carried on:
- 1) applying US$100 million loan to the World Bank for establishing 200,000 hectares of timber plantation;
- 2) Promoting forest regeneration and vegetation rehabilitation in approximately 100,000 hectares

multiple-use protection forests, including establishing a bio-carbon pilot of approximately 4,000 hectares of multiple use protection forests for carbon sequestration and test carbon trade processes, the latter also namely "Facilitating reforestation for Guangxi Watershed Management in Pearl River Basin Project";

- 3) Strengthening biodiversity conservation in five nature reserves with global significant, by taking use of GEF granted fund of US$ 5.25 million;
- 4) Improving Guangxi forestry sustainable development capacity.

GIFDCP got approval from the World Bank's Board of Executive Directors on Dec.14, 2006.

"Facilitating reforestation for Guangxi Watershed Management in Pearl River Basin Project" is the first forest carbon sequestration project in light of relevant regulations of the Clean Development Mechanism (CDM) under the Kyoto Protocol during project preparation and implementation Methodology of reforestation on degraded land based on this project is the first approved A/R methodology validation by CDM Executive Board.

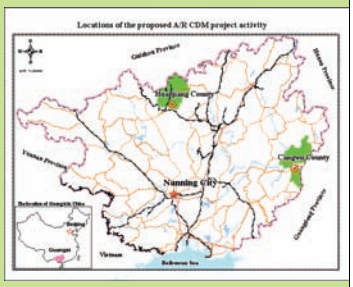
B. Objectives 目标

- 1)To sequester CO2 through forest restoration in small watershed areas; 通过在小流域的森林恢复活动吸收二氧化碳（CO2）；
- 2)To enhance biodiversity conservation by increasing the connectivity of forests adjacent to nature reserves; 通过提高周边森林和自然保护区之间的连接性，增强生物多样性保护；
- 3)To improve soil and water erosion control; 控制水土流失；
- 4)To generate income for local communities. 增加当地社区的收入。

C. Description of the project activity 项目活动概述

C.1 Location 位置

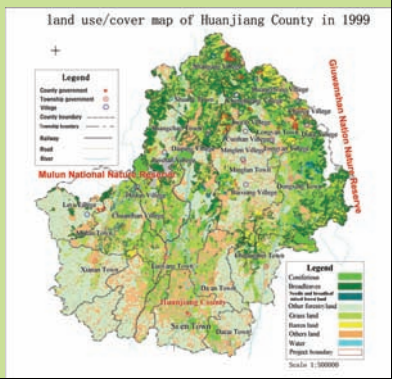
The project activity is located in Cangwu County (in the Eastern part of map) and Huanjiang County (in the Northern part of map), Guangxi Zhuang Autonomous Region, in southern China.
项目区位于中国南部广西壮族自治区苍梧县(地图的东部)和环江县(地图的北部)。



C.2 Project activity 项目活动

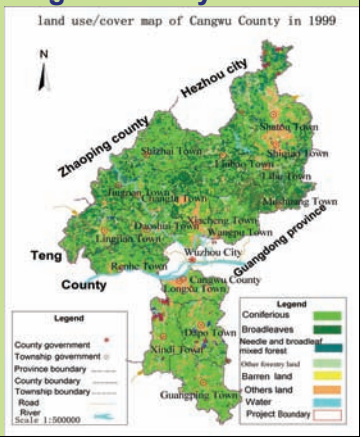
C.2.1 2000 ha in Huanjiang County

- 830 ha on sites neighboring Mulun National Nature Reserve and Jiuwanshan National Nature Reserve, and around 1,170 ha on sites between them.
包括：830公顷邻近木论国家级自然保护区和九万山国家级自然保护区，1170公顷位于两个保护区之间。



C.2.2 2000 ha in Cangwu County

Plantation established on sites with severe soil and water erosion. **造林地点位于水土流失严重地区.**



Species and afforestation models 树种和再造林模式

- *Pinus massoniana* mixed with *Liquidambar formosana* (1,050 ha);马尾松和枫香混交林1050公顷；
- *Cunninghamia lanceolata* mixed with *L. formosana* (450 ha);杉木和枫香混交林450公顷；
- *Eucalyptus* sp (500 ha).桉树纯林500公顷。

Harvest 主伐年限

- *Eucalyptus* *9 years* 桉树9年
- *Liquidamba* *17year* 枫香17年
- *Cunninghamia,Pinus* *＞30 years* 杉木、马尾松＞30年。

Species and afforestation models 树种和再造林模式

Pinus. massoniana mixed with *Quercus griffithii* (600 ha)； 马尾松和大叶栎混交林600公顷；
Pinus. massoniana mixed with *Schima. superba* (900 ha) ； 马尾松和木荷混交林900公顷；
Eucalyptus sp (500 ha). 桉树纯林500公顷。

Harvest 主伐年限

Quercus.	*7 years*	大叶栎7年
Eucalyptus.	*9 years*	桉树9年
Schima.	*17year*	荷木17年
Pinus.	*＞30 years*	马尾松＞30年

C.3 Species selection 树种的选择

Species selection by considering 树种选择的依据

- farmers/communities interests(surveyed); 农户/社区的兴趣和意愿（调查）；
- companies interests(value of associated forest products);公司的利益（林产品估算）；
- carbon sequestration rates;碳吸收的比率 ；
- biodiversity enhancement;生物多样性保护；
- water and soil erosion control.水土流失控制；

All species are native to the area except eucalyptus.除桉树外，所有树种都是本地种.

C.4. Technology to be employed by the project activity 项目活动采用的技术

- One of the main technologies which will be employed under this project is reforestation through direct planting with environmental-friendly techniques on degraded lands. Good practice guidance and successful national and international technologies, as well as experiences gained from the World Bank financed forestry projects will also be adopted. The national technical standard will be strictly followed.

  采用环境友好技术进行植树再造林。当地优秀的实践经验、国内外好的技术，以及世界银行贷款林业项目取得的经验将得到运用。本项目还将严格遵循国家的技术标准。

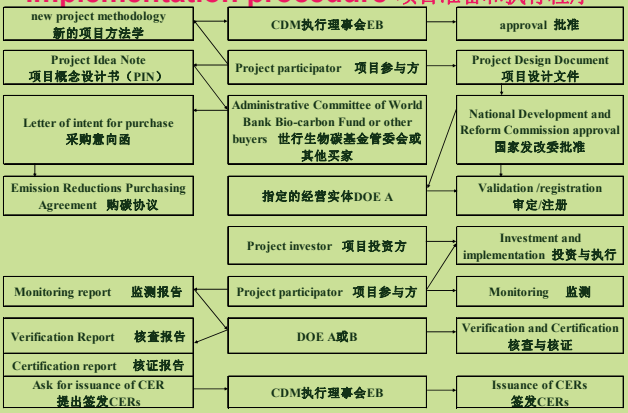
- Geographical Information System (GIS) and Geographical Positioning System (GPS) will be employed in the verification and monitoring of the implementation of the project activity. The local forestry agencies will provide technical consultation and guidance, including training courses, and conduct quality control to the preparation and implementation of the project activity.
- 项目活动将使用地理信息系统和全球定位系统核查和监测项目的实施，设置永久固定标准地进行生物量监测。当地各级林业部门将提供包括培训在内的技术咨询和指导，并对拟议的清洁发展机制项目活动的准备和实施进行质量控制。

C.5 Land Tenure and production arrangements and management models

土地权属和项目经营管理模式

- Lands are owned by the local villages /communities. and subcontracted to farmers for plantation establishment management.
  本项目再造林地归当地村（集体）所有，承包给农户种植和管理.
- **Model 1 - farmers/communities and forest company(3560ha);** 模型一：农民/社区与林场/公司股份合作(3560公顷);
- **Model 2- Farmers group(440ha).** 模型二:农户小组(440公顷).

D. Project preparation and implementation procedure 项目准备和执行程序



Since the project preparation began at 2004, 2 years has been past till project launching on Apr.1, 2006. Now afforestation is finished, entering into tending and managing period. Monitoring will start from 2009.

该项目从2004年开始准备，至2006年4月1日启动实施，历时2年。目前已基本完成造林，进入抚育和管护期，2009年开始监测。

The BioCarbon Fund Manager-Mr.Benoit.Bosquet penetrating into project area for project identification
2004年9月世行生物碳基金管理委员会负责人深入项目区认定项目

Joanneum Research Bernhard Schlamading (Methodology Specialist) carrying out futher investigation and guidance in project areas
方法学专家深入项目区实地考察与指导

Biomass survey of existing vegetation on plantation site
造林地现有植被生物量调查

Sociology specialist from China Forestry Academy l(Prof. Li Weichang) carrying out social assessment in local communities
中国林科院社会学专家李维长教授亲临社区进行社区评估

Specialists from DOE and Guangxi Forestry Bureau carrying out field visit
DOE专家实地考察与指导

Conference between Specialists from DOE and Project Sponser on project information DOE专家与项目承办方举行座谈了解项目情况

Technical negotiation between Project Sponser and the Trustee of the BioCarbon Fund 项目业主与生物碳基金托管机构代表技术谈判

E. Application of a methodology 采用的方法

- The methodology "Reforestation of degraded land" (AR-AM0001) is applied.项目采用CDM执行理事会批准的"退化土地再造林方法学"(AR-AM0001)
- **E.1 Title and reference of the approved baseline methodology applied to the project activity 项目活动选取该方法学的理由及适用性**

The methodology applied was derived from the project activity. The project activity complies with the conditions under which the chosen methodology applies in the following ways: **所采用的方法学源自本项目，项目活动符合所选方法学的应用条件，具体是：**

1）The project activity will not lead to a shift of pre-project activities outside the project boundary. 项目活动不会导致项目边界外项目前活动的改变 .

2）Lands to be reforested have been severely degrading over the last decades and are degrading. 再造林地已在过去几十年来严重退化，并在继续退化。

3）Unavailability of natural seed sources, and environmental conditions, do not permit the encroachment of natural forest vegetation.缺乏天然种源，加上目前的环境状况，使天然实现林地自然更新难以实现.

4）Lands will be reforested by direct planting in the project activity.项目活动中，土地将通过植苗造林建立森林.

5）The site preparation will not cause significant long-term net emissions from soil carbon.整地不会造成土壤碳长期性的净排放。

6）Plantation will be harvested with a minimum rotation of seven years and will be regenerated by direct planting or natural sprouting. 再造林后采伐的轮伐期最短是七年，之后通过直接种植或者天然萌生实现更新.

7）Carbon stocks in soil organic matter, litter and deadwood will decrease more or increase less in the absence of the project activity, relative to the project scenario. 没有项目活动时土壤有机质、枯落物和枯死木中的碳贮量会比有项目活动时减少更多，或增加更少.

8）Due to the degraded feature of the lands, economical unattractiveness, identifiable barriers and remote feature of the lands, investors or local communities are prevented from using the land for economic revenue. Without the proposed A/R CDM project activity, the lands to be reforested will continue to degrade. Therefore the baseline approach of the methodology is the most appropriate choice for determination of the baseline scenario.由于土地退化，经济上没有吸引力，存在的障碍以及再造林地处于偏远的山区，投资者和当地社区难以利用这样的土地取得经济收益。如果没有拟议的项目活动，这些可以再造林的土地将继续退化。方法学中的基线方法是确定基线方案的最为合适的选择。

E.2 Demonstration of the land eligibility and additionality of the project 从土地合格性和项目额外性论证项目满足这些条件

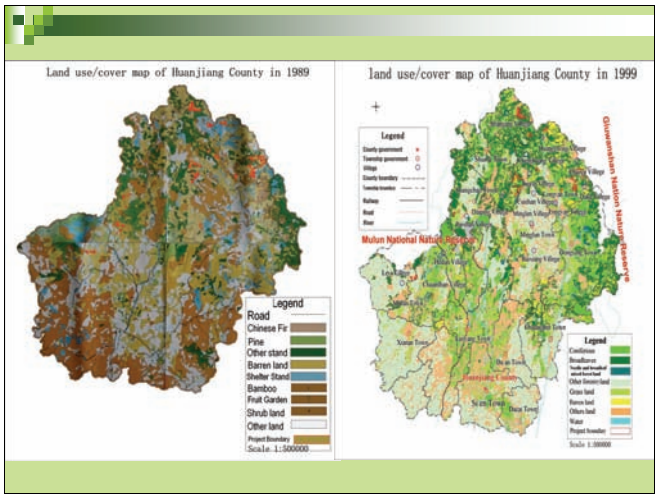
E.2.1 Conditions of eligibility of land土地合格性条件

1)The lands to be planted in the project activity have been non-forested barren lands since at least 1989. 再造林土地1989年12月31日以来一直为无林地；

2)The forest definition complies with the UNFCCC definition.森林的定义符合联合国气候变化框架公约(UNFCCC)的定义；

3)Nonperformance afforestation activity,land not likely to become forest.不实施再造林活动，土地不可能变为森林；

- Eligibility of land proven by using land cover maps and interviews with land owners.通过利用土地覆盖图和通过访问土地所有者证明土地的合格性.



E.2.2 Additionality test 额外性检验

The steps as outlined in the additionality tool are followed to demonstrate that the project activity is additional and not the baseline scenario. Including:应用额外性工具所述的步骤，说明项目活动是额外的，而不是基线方案. 包括：

1)Identification of alternatives to the project activity; 确定项目活动替代方案;

2) Investment analysis； 投资分析

3) Barrier analysis Including investment barriers, Technological barriers ,Institutional barriers and Market risks； 障碍分析，包括投资、技术和机构障碍以及市场风险；

4) Impact of CDM registration.注册清洁发展机制产生的影响分析。

F. Monitoring plan 监测计划

- **F.1 Monitoring content 监测内容**
- **F.1.1 Monitoring the overall performance of the project activity, Including：** 监测项目活动的执行情况，包括：
- 1)Monitoring actual project boundary; 项目活动边界的监测；
- 2)Monitoring the areas and quality of forest establishment to ensure the technical design 3)described in section A is well-implemented; 项目造林活动的监测；
- 4)Monitoring of forest management.森林管理监测.

- **F.1.2 Monitoring the actual net GHG removals by sinks data 监测实际净温室气体汇清除**

Permanent sampling plots are used for sampling over time to measure and monitor changes in carbon stocks of the relevant carbon pools.使用固定样地方法定期测定和监测相关碳库碳贮量的变化.

- 1)Systematic sampling with a random start position.系统设置永久样地，但起点必须是随机的；
- 2)The total sum of samples (n) are estimated as per a criterion of Neyman of fixed levels of accuracy, according to Wenger (1984). 固定样地的数量根据Wenger （1984）的方法估计；
- 3)The size of plots is 400 m2 (20m×20m);样地大小为400m²（20m×20m）；

- 4)The growth(DBH and H) of individual trees on plots shall be measured at each time interval of monitoring.对样地内每棵树木的生长情况(胸高直径和树高)进行测定。
- 5)The carbon stock changes in above- and below-ground biomass of living trees on each plot are estimated through Biomass Expansion Factors (BEF) method.
每个样地的地上和地下活立木生物量的碳贮量变化将通过"生物量扩展因子（BEF）"法估算。

- **F.1.3 Monitoring GHG emissions by sources as the results of the project activity. including:** 监测项目活动引起的温室气体排放,包括:
  1)Decrease in carbon stock in living biomass of existing non-tree vegetation; 现有非树木植被的生物量碳贮量的减少
- 2)N2O emissions caused by nitrogen fertilization application.施氮肥引起N2O的排放.

- **F.1.4 Monitoring the leakage** 泄漏监测

Fossil fuel combustion from vehicles using for transporting seedling, labours, fertilizer, harvest products, etc., to and/or from project sites, as a result of the project activity, will emit greenhouse gases.由于实施项目，为运送苗木、劳力、肥料、产品等使用车辆燃烧化石燃料，将排放温室气体.

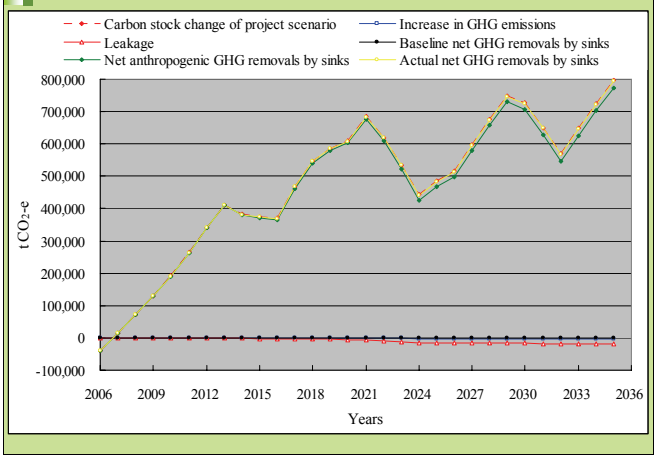
- **F.2 Accuracy and precision** 精确性和精度
- +-10% error at 95% confidence level.
  以95%的置信度，误差为+-10%.
- **F.3 Quality Assurance and Quality Control (QA/QC)** 质量和质量控制
- To ensure the net anthropogenic GHG removals by sinks to be measured and monitored precisely, credibly, verifiably and transparently, a quality assurance and quality control (QA/QC) procedure will be implemented.为确保人为净温室气体汇清除得到精确可靠、透明、可核查的测量监测，将实施质量保证和质量控制程序.

G. Estimation of net anthropogenic GHG removals by sinks 人为净温室气体汇清除量的估算

The net anthropogenic GHG removals by sinks as a result of the proposed A/R CDM project activity is anticipated to be over 770,000 tones of CO2 equivalent during the crediting period (between 1 April 2006 and 31 March 2036).
by the year 2017: 462,013 t CO2-e.

在2006年4月1日至2036年3月31日的计入期间，项目活动的人为净温室气体汇清除预期值超过770,000tCO2-e，到2017为462,013tCO2-e.

Years 年份	Estimation of baseline net GHG removals by sinks (tones of CO2 e yr-1) 基准温室气体汇清除	Estimation of actual net GHG removals by sinks (tones of CO2 e yr-1) 实际温室气体汇清除	Estimation of leakage (tones of CO2 e yr-1) 泄漏	Estimation of net anthropogenic GHG removals by sinks (tones of CO2 e yr-1) 年人为净温室气体汇清除	Cumulative actual net GHG removals (tCO_2-e) 累计实际净温室气体汇清除
2006	7.8	-40,647	-140	-40,795	-40795
2007	8.7	54,430	-27	54,394	13599
2008	9.5	57,858	-38	57,811	71410
2009	10.2	57,530	-6	57,514	128924
2010	11.0	61,799	0	61,788	190712
2011	11.7	72,281	0	72,269	262981
2012	12.5	77,275	-21	77,242	340223
2013	13.2	70,345	-83	70,250	410473
2014	13.9	-29,904	-1,376	-31,294	379179
2015	14.5	-7,746	-1,304	-9,065	370114
2016	15.2	-4,978	-1,317	-6,310	363804
2017	**15.9**	**98,249**	**-23**	**98,210**	**462014**
……					
2035	**26.2**	**71,398**	**0**	**71,371**	**773842**
合计	531.2	794,225	-19,852	773,842	



H. Benefit of the project 项目效益

H.1 Socio-economic benefit 社会经济效益

1)Demonstration for the implementation of forest carbon sequestration project in China and even in the world. 为中国乃到全球林业碳汇项目的实施起到示范作用.

2)Income generation 增加经济收入

- About 20,000 local farmers of 5,000 households will benefit from the project.大约5,000个农户将受益于该项目.
- The total income is estimated at US$ 21.1 million within the crediting period, including:总收入额估计达到2,110万美元，其中：
- US$ 15.6 million from employment;**劳务收益约1,560万美元;**
- US$ 3.5 million from sales of wood and non-wood products ; 木材和非木质产品的销售收入350万美元;
- US$ 2.0 million from sales of CERs. CERs销售收入200万美元。

3) Creating employment 创造就业

- The project activity will create about 5 million person-days of temporary employment opportunities; 项目实施活动将为社会提供约500万个工日的临时就业机会;
- It will also create 40 long-term job positions during the crediting period. 项目计入期内的管护工作还将产生40个长期工作岗位.

4) Sustainable fuelwood supply 可持续的薪柴使用

5) Strengthening social cohesion 提高社会凝聚力

6) Technical training and demonstration

技术培训示范

H.2 Environmental benefit 环境效益

1) **Enhancing biodiversity and ecosystem integrity;** 增强生物多样性和自然生态系统的联系;

2) **Controlling soil erosion;** 控制水土流失;

3) **Regulating hydrological flows which in turn alleviates drought risk and reduces flooding risks, Improving environmental services;** 调节气候、水文,减轻自然灾害,改善环境服务;

4) **Building incentives to people to invest in sustainable land use;** 鼓励居民投资于可持续的土地利用;

5) **Improving watershed management and contributing to the outside of the project boundary and the ecosystem improvement along the Pearl River, through demonstration and extension of the project experienceto other areas.** 通过示范，推广项目经验至其它地区，同时改善项目边界外和珠江流域地区的生态系统.

The scene of plantation site preparation
造林整地活动现场

Condition of forestland before plantation
造林前林地现状

Profile of the forestland after plantation estblished
造林后的林地概貌

The methodology “Reforestation of degraded land” (AR-AM0001): http://cdm.unfccc.int/EB/Meetings/022/eb22_repan17.pdf

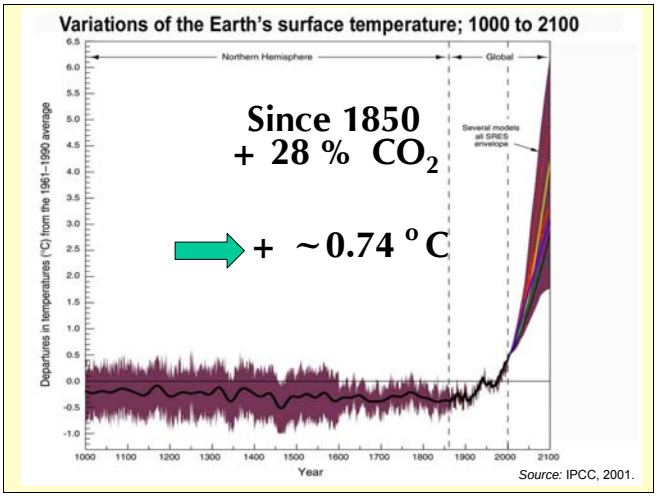
Project Design Document Of “Facilitating Reforestation for Guangxi Watershed Management in Pearl River Basin Project”: http://cdm.unfccc.int

Thank you !

Reducing Emissions from Deforestation

Wulf Killmann

Advisory Committee on Paper and Wood Products
Shanghai, China, 6 June 2007

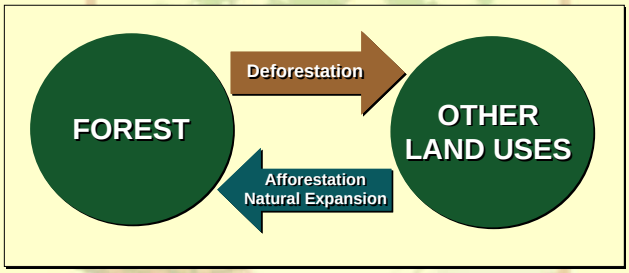


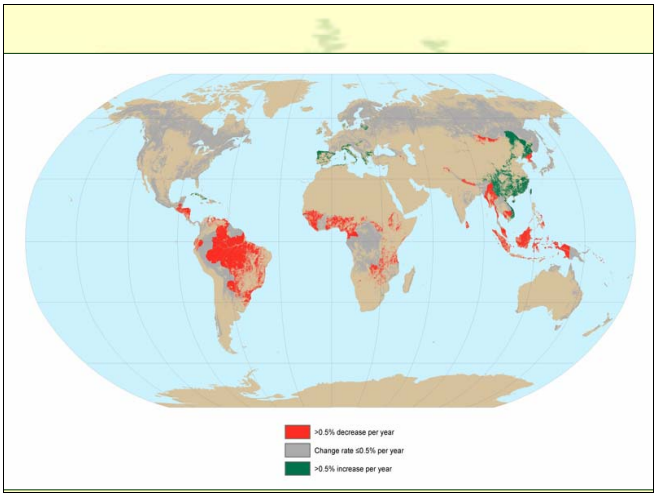
Greenhouse Gases

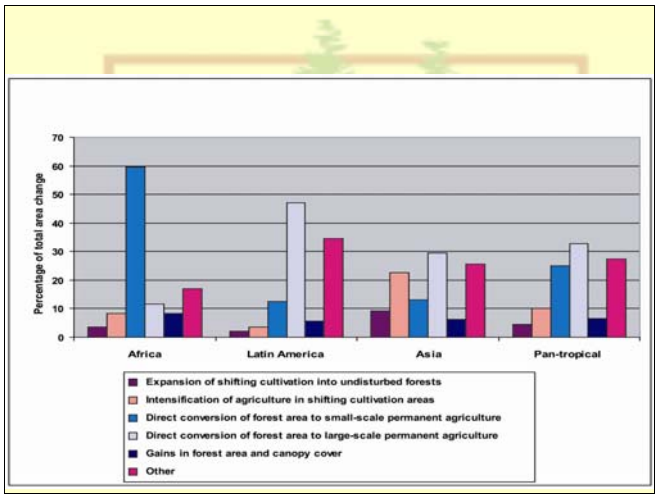
Agriculture and Forestry contribute to global anthropogenic emissions

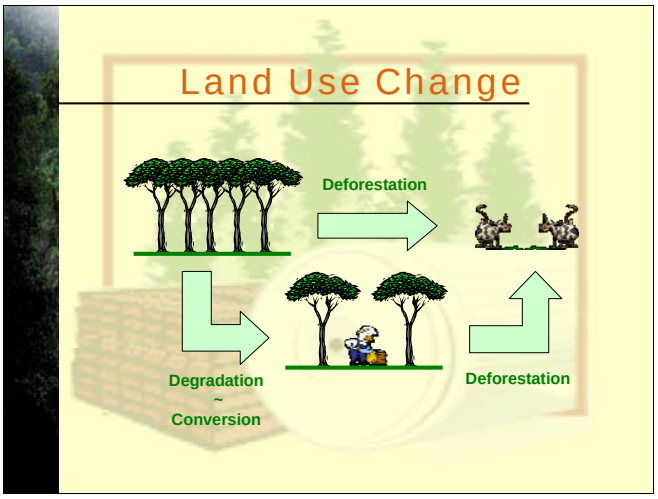
- 25 % CO_2
- 50 % CH_4
- 70 % N_2O

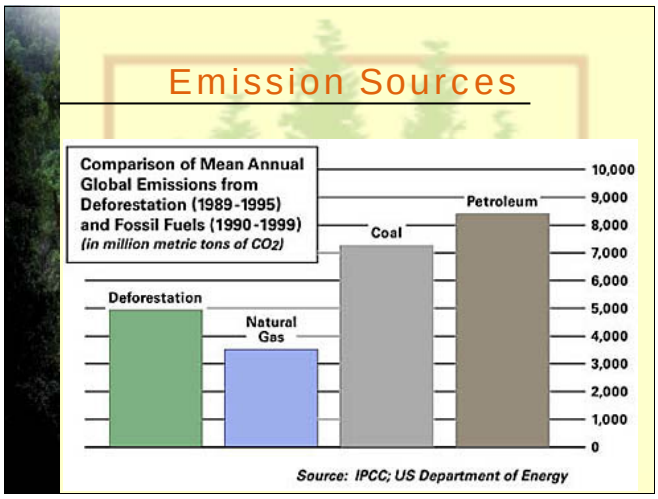
Land use change concept











Process

- Tabled at UNFCCC COP 11, 12/2005
- Submissions by countries
- FAO hosted 1rst meeting in 8/2006
- Discussed further at COP 12, 12/2006
- 2nd meeting in Australia 3/2007
- Discussed at SBSTA 26, 5/2007
- Further discussion at COP 13 12/2007

Key Issues

- Credits for developed countries
- Use market-based mechanisms?
- Compensation for carbon conservation?
- Deforestation & Degradation?
- Gross or net emissions
- Non CO_2 emissions ?

Instruments

- Bilateral Donors
- Australian Government Fund
- Forest Carbon partnership Fund (WB)
- Global Environmenatl Facility

Content

- Public Perception & Social Acceptability
- Forest Industry and Environment
- About the Image of Forest Industry
- The role of NGOs
- Forest Industry and Communication

Background

Issue:

1. Public perception: direct link between environmental risks and forest industry
2. Forest industry: not successful in communicating with the public

Objective:

Provide an understanding on the strategy of communication used by Forestry Industry and the current public perception

- *(Also provide some thoughts on how to improve it)*

Public Perception

- People believe Forestry Industry has a significant negative impact on the environment – *because the sector cuts trees.*

Public Perception

Influenced by

Science	Common knowledge
Experience	Ethical concern
Values	Attitudes
Beliefs	Individual history

Public Perception

Europe

- FAO and UNECE Forest Communicators Network review of public opinion surveys (2003) about forest industry
- Results:
  - Forests are believed to be in decline almost everywhere
  - European have mixed feelings about forestry and forestry industry

Forestry Industry and Environment

Contrary to the public belief:

- Deforestation is mainly due to factors external to the forestry sector
- Important to review the historical perspective on global deforestation

Forestry Industry and Environment

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- Deforestation is mainly due to factors external to the forestry sector
- Important to review the historical perspective on global deforestation

How to make it known ????

Forestry Industry and Environment

- Attitudes toward plantations differ among communities
- Clear cutting activities perceived as a high potential environmental risk
- Pollution

Impact of Image of Forestry Pulp and Paper Industry

- Raising funds for forestry projects in CDM is proving to be very difficult as forestry is associated with bad practices
- Afforestation programmes are not well funded

The role of NGOs

I. Significant influence of NGOs

II. Environmental movements campaigns push consumers away from renewable forest products

III. Anti-forestry groups demand restricting forest practices

The role of NGOs

Europe: Corporate campaigns to reduce paper consumption and save trees

- Corporate campaigns to reduce paper consumption and save trees, linked to NGOs campaigns
- WWF Paper Scorecard
- The Vision for Transforming the European Paper Industry: 50% reduction in paper consumption

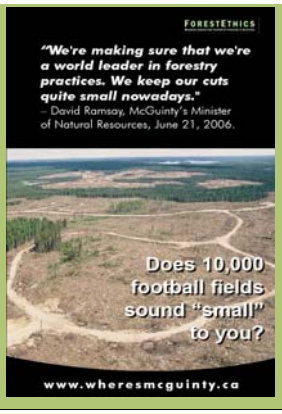
Greenpeace Tissue Campaign

Forest Ethics Campaigns

New York Times AD, September 13th, 2002

Chile's native Forests Campaign

Forest Ethics Campaigns

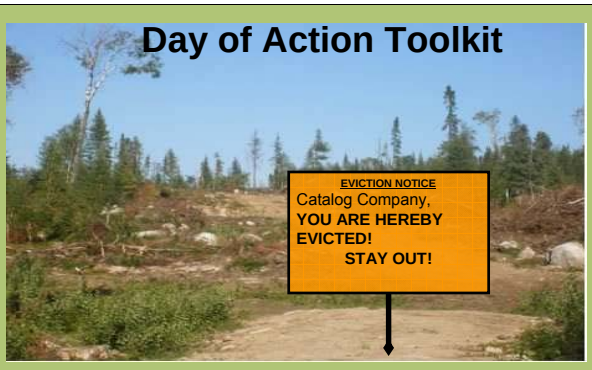


Boreal logging AD - Posted around Toronto

September 19th, 2006

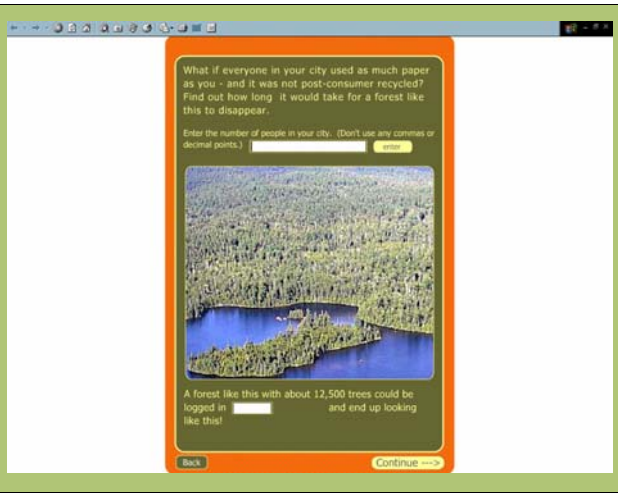
WWF Campaign

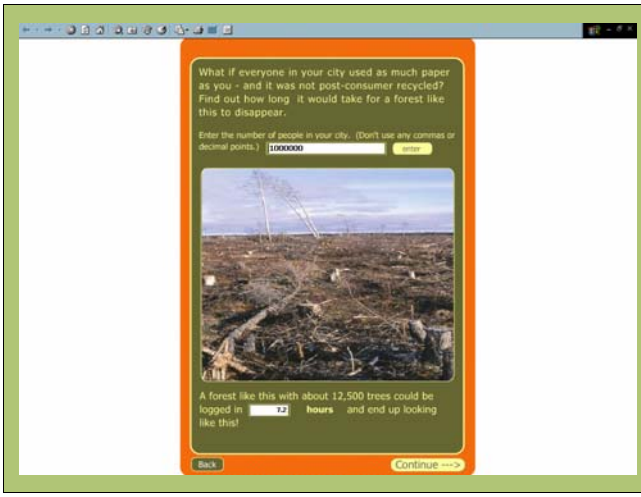
Day of Action Toolkit

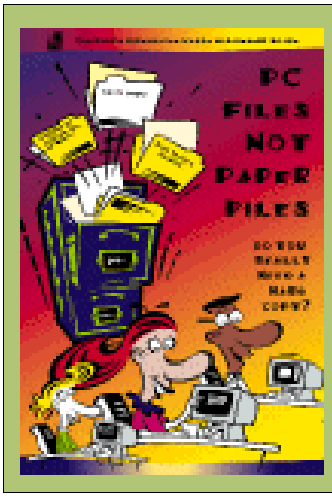


On April 21st, help us give the catalog industry an eviction notice to get them out of Endangered Forest!

FORESTETHICS
Because protecting forests is everyone's business







We use 9 million tonnes of paper and cardboard every year in the UK.

Each family uses about six trees worth of paper every year

Over the past 20 years paper consumption worldwide has doubled, putting an increasing strain on the world's forests. Even with sustainably managed forests the planet cannot support unending growth and demand.

BioRegional website

Cascades

- **Save 50,000 trees with just one roll**

Every little gesture to safeguard the environment helps. For instance, if every Canadian family were to change one roll of bathroom tissue made of 100% recycled fibers, nearly 50,000 trees would be saved across the country .

Telekom Austria
Save Paper with Online Bill

When you change over to the online bill:

- you reduce paper consumption
- make a simple and valuable contribution to environmental protection
- reduce our ecological footprint
- Telekom Austria supports the WWF's protection program for unique primeval forests with one euro per changeover

Citigroup Paper Project

Despite the revolution in electronic communications and digital business applications over the past two decades, paper use in offices across the U.S. is soaring. Environmental Defense is working with Citigroup to lower these costs and reduce the environmental impacts of copy paper used across the nation.

Cutting down paper not trees

Image of Forestry Pulp and Paper Industry

- Forest Industry not properly equipped to take care of the environment?
- No transfer of positive attitudes towards forests and forest products
- Pulp and Paper Industry under increasing scrutiny for its potential environmental impacts

Image of Forestry Pulp and Paper Industry

- Renewable resource: some target audiences tested do not differentiate this concept from recycling or re-use (US Decima for Abundant Forest Alliance, Feb 2007)
- Sustainable: research in Europe shows that the although mainly positive is not well understood and sometimes controversial (UNECE 2003)

Forestry Industry and Social Responsibility

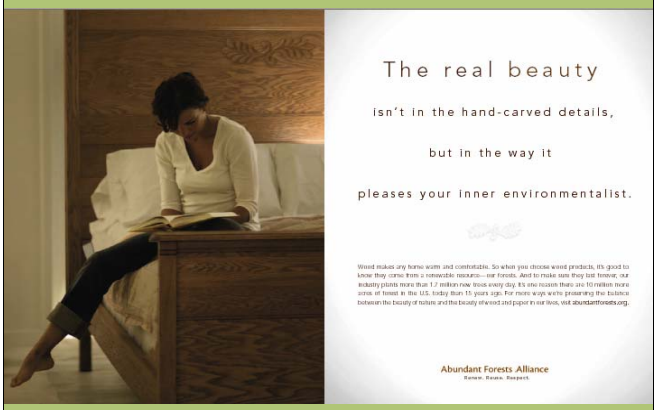
I. Growing recognition of Aboriginal rights
II. British Columbia Government Strategy
III. Australia: National Indigenous Forest Strategy
IV. CEPI Code of Conduct for Legal Logging
V. WBCSD and ProPoor (commercial forests potential for poverty avoidance
VI. Forest Certification

Forestry Industry good communication strategy

Sustainable Forestry Initiative (North America)

- Targeted campaign
- Targeted audience
- Print
- TV spot
- Online campaign
- Media kits

Output: public perception has changed



Negative aspects of Forestry Industry communication

- Language understandable to non-foresters
- Simplified statements reflect a set of values reducing the role of forests
- Forestry Industry doesn't consider the process and the context within which public understanding may occur
- Companies communication efforts with the public are reactive

Negative aspects of Forestry Industry communication?

- "For every tree cut, three are planted"
- "Annual increase of forest cover in Europe= 5 810 km2 = size of 4 363 football pitches per day"
- "Every fifth tree worldwide is used by pulp mills – usually to make paper"
- "One child in Germany has used as much paper by its first birthday as an Indian after 57 years".

The amount of waste paper buried each year could fill 103,448 double-decker buses, which if parked nose to tail would go from London to Milan.

Friends of the Earth Website UK

Recommendations

- ***Work cooperatively throughout the global industry***
- ***Involve the value chain***
- ***Long term "education" effort***
- ***The "back story": broader focus***
- ***Reliability/credibility third party endorsement***
- ***"Alliance" with media***
- ***Urgent to get the climate change story right***

ANNEX 4 – REPORT OCTOBER 2007 MEETING, ROME

Minutes of the meeting

The meeting was opened by Mr. Avrim Lazar, Chair of the ACPWP. Mr. Jan Heino welcomed the participants and recalled the important role of the Committee in providing advice to FAO work in forestry issues, from the private sector perspective.

The agenda was adopted.

1. Recommendations of the last meeting held in Shanghai

The recommendations from the meeting in Shanghai were reviewed (see Annex 2). It was agreed to reword the first recommendation into a positive statement. It should read:

"Highlight the industry's contribution to sustainable forest management and carbon sequestration"

a) Side Event

The side event is being organized by ICFPA, FAO and WBCSD. CEPI, as the organisation chairing ICFPA, has taken the lead. It will take place in Bali, as part of the "Forest Day" organized by CIFOR, on 8 December 2007. A draft agenda has been prepared and will be finalized within the next weeks.

b) Further document the social contribution of the forest products industry

The Committee took note that the study on GDP contribution of the forestry sector is being updated. It was recommended to highlight not only the economic aspect but also the industry's contribution to people's wellbeing. Wealth and the forest industry are strongly related.

It was further recommended to produce a brief country report on the impact of the forest industry to people's wellbeing. Reports to be submitted by ACPWP members by mid January 2008. FAO will produce by mid October a set of questions and outline of the report.
Title of the report: Social contribution of the forest industry.

c) Contribute to clarifying UNFCCC accounting rules for carbon sequestration by forests

The Committee was informed that after last meeting, the Executive Secretary of the UNFCCC visited FAO and a number of issues were discussed, including collaboration on forests and climate change. FAO will continue its involvement in the development of these rules.

d) Actively promote understanding of the causes of deforestation

This issue is closely related to public perception of the role of the forest industry. The Committee should highlight the main causes for deforestation, which are often related to land use change, in particular to cattle raising and large-scale agriculture.

The Committee was informed that the FAO Agriculture Department is aware of the effect of agricultural activities on forests, and the publication: "*Livestock's Long Shadow*" was distributed to participants.

The Committee recommended producing a short paper including the 10 most frequently asked questions about the causes of deforestation.

Two different versions should be produced: (1) FAQ for journalists and (2) FAQ in a language that farmers and the general public will understand.

2. Energy

a. UNECE/FAO Meeting on "Opportunities and Impacts of Bioenergy Policies and Targets on the Forest and other Sectors", 10 October 2007

b. FAO Special Event on Forest and Energy, 20 November 2007

Wulf Killmann informed the Committee about these two events whose agendas are relevant to the forest products and wood industry. The "Special Event on Forests and Energy" will take place in Rome on November 20, 2007 during the FAO Conference. High level government representatives will participate.

In June 2008, the FAO Director General will invite FAO member countries to attend a high level event on food security, climate change and bioenergy, to be held in Rome.

3. Water and the paper and wood industries

Thomas Hofer presented key issues relating to forests and water. The Committee confirmed its interest in water as it directly relates to forests, in particular to forest plantations. Water in pulp and paper production should be viewed separately, as this is a technical issue handled at the Associations' level.

4. Public perception of forest industries and the environment

Olman Serrano informed meeting participants about the new draft prepared. This includes facts drawn from experiences around the world, without analysis or conclusions. It was recommended that this paper be analysed in a small working group and the results presented at the next meeting. The proposed members of the group are: FPAC (Andrew), CEPI (Bernard de Galembert, Martyn Griffiths), BRACELPA (Ludwig Moldan) and IPMA (Ramesh Chandra Mall).

5. Agro-industries and rural infrastructure

Gavin Wall recalled the growing competition for biomass for food and industrial uses, the need to create an enabling environment to promote efficient value chains that can access markets, new roles for the state and the private sector and the need to create new jobs. The Committee was encouraged to participate in the Global Agro-Industries Forum, to be held in India in 2008.

The Committee recommended collecting information on successful experiences in countries like Brazil, South Africa and India on public private cooperation models in forestry development, as part of the agro-industry value chain.

6. Information items:

a. The World Forestry Congress, 18 – 25 October 2009

The Committee was informed about the Congress, to take place in Buenos Aires in 2009. The Committee showed interest in being involved in the preparation of the Congress and recommended including an ACPWP member in the Scientific Committee and ensuring that a high level key note speaker from the private sector is included in the programme. Private sector participation should be promoted, including the organization of a side event.

The Committee recommended holding its 2009 preparatory meeting in Buenos Aires, during the Congress.

b. FAO Regional Forestry Commission meetings in 2008

Doug Kneeland presented the structure of the different FAO Forestry Commissions and their links with the Committee on Forestry. He shared the meeting schedule for the RFC meetings during 2008, including the Asia-Pacific Forestry Week and the Pan–European Forest Week. Private sector participation was encouraged.

c. International Year of Natural Fibres, 2009

Brian Moir talked about the objectives of the International Year of Natural Fibres. He stated that this International Year will raise consumer awareness of natural fibres and strengthen demand for natural fibre products. The Committee recognized the importance of awareness-raising about the use of wood fibre as a good communication strategy. There is a huge advantage in being labelled as "natural fibres". Mr Moir explained that there are certain legal issues to consider regarding the use of the logo.

The Committee stressed its interest in being involved in specific activities during the Year of Natural Fibres. Participation in the International Steering Committee meetings was considered important.

The Committee was informed that 2011 has been declared as the International Year of Forests.

7. Any other business

The Committee discussed the issue of maintaining a global balance in the sequence of meetings. It was recommended for future preparatory meetings to conclude with the proposed agenda items for the annual ACPWP Session in June, rather than having two meetings separated by few weeks, that is, the ACPWP meeting and the European Paperweek.

One of the agenda items for next meeting should be the need to change the rhythm of meetings. At the 49th Session next June, the Committee should discuss an annual calendar of meetings, considering other important related meetings to ACPWP and ICFPA, such as the Pan-European Forestry Week, The World Forestry Congress, etc. A proposal for a working structure and long term agenda should be prepared by the ACPWP Chair and the Secretariat.

It was also agreed to develop a long-term strategy for the ACPWP and the collaboration between the private sector and FAO. Messrs. A. Lazar and W. Killmann were tasked with drafting first ideas to be shared with the Committee Members before next meeting.

Regarding the dates for the 49th Session of the ACPWP, it was agreed to hold the meeting in South Africa on the following dates:

09 June 2008: ICFPA
10 June 2008: FAO ACPWP
12 June 2008: CEO in Johannesburg

8. Closing remarks

The meeting was adjourned at 11:45 hrs

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Recommendations made at its meeting in Shanghai on 6 June 2007

1) Propose corrective measures on the perceived negative relation between the forest products industry and deforestation, in the context of the climate change debate. In particular:

   - Jointly organize a side event at the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP 13), to be held in Nusa Dua, Bali, Indonesia, from 3 to 14 December 2007;
   - Further document the social contribution of the forest products industry;
   - Contribute to clarifying UNFCCC accounting rules for carbon sequestration by forests;
   - Actively promote understanding of the causes of deforestation.

2) Undertake an analysis of the relationship between water and forestry, in the context of the increasing scarcity of water.

3) Expand work on public perception of forest industries and the environment, based on the initial work presented at the Shanghai meeting.

4) Continue to work on the nexus of forests and energy, building on the results of the IEA-FAO-ICFPA energy conference in Rome, October 2006.